

OPERATOR

August 2014 Edition



Inside

From the EO's Desk	2
Profile of a Member	3
2014 QLD Conference Report	4-6
Julie's Top Water Award	7
QLD Young Operator of the Year	8
QLD Civil/All Rounder of the Year	8
Distribution Seminar Wodonga	9
Birds Eye View	10-11
Modification of lifting gear	12
QLD wins Water of Origin Taste Test	13
NZ tour 2014 "The Hobbits"	14-15
"Te Oranga Wai"	16-17
Fighting Graffiti	18
Corporate Member News	19
New Members	20



Julie Smith is the Queensland Operator of the Year. Read about her on page 7.

Ben Marsden was one of the participants on the NZ tour. Read his report on page 14.



James Castle was awarded Best Paper in Queensland. Full conference report on page 4.

Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA

FROM THE EO'S DESK

The three months since the last edition of Operator have flown by and with so much happening in Queensland, I've been pretty fortunate to miss out on most of the cold winter in Victoria.

After spending a few days at Ozwater in Brisbane in late May, we headed off to Logan in early June to stage our Queensland Operations Conference. The event was a resounding success with close to record attendance and some excellent information exchanged. A full report on the conference and all the award winners appears later in this edition.

WIOA was requested to develop and deliver a "Principles of operating wastewater lagoons" training seminar tailored mainly towards operators in remote and aboriginal communities in North Queensland. The seminars were held in May in Woorabinda and in June in Napranum (near Weipa) and Yarrabah (near Cairns). It was a pleasure meeting and working with so many operators from the far north Qld region and we hope that they all got something useful out of attending the course.

We were excited to see the level of commitment that the Advisory Committee members in both New South Wales State and Queensland displayed towards their respective conferences. They arrived en masse and took over the majority of the conference operational duties along with assisting to get everything in and out of the venues.

Apart from helping at the conferences, the Advisory Committees have been active in organising and staging other events including seminars and charity days, with a lot of additional activities planned for the second half of this year. Engagement and ownership by members in all States is a vitally important part of our future plans. We hope that members will support the efforts of the Advisory Committees, attend the events and participate in all the other opportunities on offer to network and share knowledge.

After having an awesome time in New Zealand at the WIOG conference and tour in May, a report and some photos by one of the attendees is included in this newsletter. A message to all members thinking about attending next year - it is an excellent event, well organised and very affordable. If your boss won't pay, maybe you could start saving up now, pay for yourself and treat it as a working holiday. As usual, a bunch of Kiwi operators are coming over to attend the Victorian WIOA conference in September. Our thanks are extended to a number of water businesses and members who have supported us in organising an excellent itinerary for a reciprocal tour for the Kiwis where they will visit a number of Victorian treatment plants in September.

The WIOA Certification Scheme in Victoria is gaining momentum with twenty operators now certified and another 30 or so applications currently under consideration. We have spent a lot of time developing a robust recertification process and we worked with the employers of our original pilot participants to test our processes and forms. Interestingly, after being certified for only 14 months, a couple of operators have already achieved their 15 PD points and are effectively eligible for recertification. The operators and their employer have come up with a variety of ways to gain the points, totally reorganised their staff training and development plans

and overall have increased the operator engagement in the industry. This is the type of outcome we envisaged when certification was first rolled out and we intend to provide more details on these activities in future publications.

On the National Certification front, the Pilot project to test the implementation of the National Framework in Queensland, being undertaken in conjunction with **qldwater**, is all but finished and a number of operators will be certified in the near future. WIOA has also met with many water enterprises and regulators from a number of Australian States in an effort to encourage more support for implementation of the national framework.

Our attention has now moved over to finalising the arrangements for the Victorian conference in early September. The exhibition is a sell out yet again and the conference is a "must not miss" event for Victorian operational people. Registration forms or visitor passes are available from the WIOA website.

Finally, we are really excited that the second book in our wastewater series, the "Practical Guide to the Operation and Optimisation of Activated Sludge Waste Treatment Systems" is all but finished and we intend to do the official launch at the Bendigo conference. As the book is nearly 200 pages long, we have been forced to increase the sale price of just this book to \$44 (GST Included). An order form is now available from the WIOA website.

George Wall – WIOA Executive Officer

THE LIGHTER SIDE

A Well-Planned Retirement

Outside England's Bristol Zoo there is a parking lot for 150 cars and 8 buses. For 25 years, its parking fees were managed by a very pleasant attendant. The fees were 1£ for cars (\$1.40), 5£ for buses (about \$7). Then, one day, after 25 years of never missing a day of work, he just didn't show up. The Zoo Management

called the Council and asked it to send them another parking agent. The Council did some research and replied that the parking lot was the Zoo's own responsibility. The Zoo advised the Council that the attendant was a City employee. The City Council responded that the lot attendant had never been on the City payroll. Meanwhile, sitting in his villa somewhere on the coast of Spain or France or Italy... is a man who'd apparently had a ticket machine installed completely on his own and then had shown up every day, to collect and keep the parking fees, estimated at about \$560 per day -- for 25 years. Assuming 7 days a week, this amounts to just over \$7 million dollars and no one even knows his name.



From The London Times

PROFILE OF A MEMBER



Name: Noel Southern

Position: General Manager

Employer & Location:
McBerns, Sunshine Coast, Qld

How long have you worked in the water industry and what attracted you to it?

In total I have been in the industry 38 years.

I commenced work with the Albert Shire Council in 1976, they merged into Gold Coast City and I continued employment with them for the next 22 years in many roles within the wastewater industry. It has always been a challenging role but very rewarding. I had witnessed some life changing incidents with staff just prior to the implementation of WH & S and this lead me on the course of design and development of our Safety Lids. The filters were a progression from here to complete the Odour Management portfolio.

What do you enjoy most about your job?

One of the most enjoyable aspects of my job is meeting and talking with customers from all walks of life. I like hearing stories and experiences from others and like to spin a yarn or two myself. I also get a great deal of satisfaction in seeing our designs and ideas formulate into a finished product. The team at McBerns have a great camaraderie and I enjoy spending time with them, I know they are always supporting me in all the endeavours that I undertake.

What are the major challenges in your current role?

One of my major challenges is trying to keep up with technology, the older you get the harder this seems to become. I strive to keep our clients satisfied and I am always challenging myself to improve on the products that we have.

How long have you been a WIOA member?

I have been a member of WIOA for 10 years and I have been personally active within the Queensland Committee for 3 years.

How do you relax?

My family and I do a lot of 4x4ing and camping, exploring this magnificent country of ours. We are just preparing for another trip to "The Kimberley's" and we have tackled all the iconic Australian tracks. I don't mind wetting the line occasionally and also a nice meal with a good wine and friends is a great way to relax.

Where do you live and what's the best thing about it?

We live on the Sunshine Coast at Nambour. This is a quiet place compared to the Gold Coast with some awesome 4x4 tracks to explore within close proximity, and fantastic beaches. We live in a 90 year old Queenslander home that is full of character and charm.

QUICK QUESTIONS

Age: 55

Nickname: Louey

Family Status: Married

Pets: Nil

Favourite food: Everything

Least favourite food: Dumplings

Favourite TV show: Game Of Thrones

Worst TV show: Cooking Shows

Favourite Movie: Fast & Furious - All

Favourite Musical artist/s: J J Cale

Favourite book: Action 4x4

Favourite team: Cowboys

Ambition in life: Travel around Australia

Hobbies: 4 wheel driving, fishing, camping, eating and drinking

Best Trait: Easy going

Worst Trait: I tend to rush in (apparently)

Four people to invite to dinner:

Shauno (4x4 Action)

Carl Baron

Barack Obama

Donald Trump – should be interesting!!!

ODD SPOT

The US Government has passed the **WIOA** (Workforce Innovation and Opportunity Act). The bill passed the Senate in June, and is expected to be signed into law by President Barack Obama.



SUCCESSFUL QUEENSLAND CONFERENCE IN LOGAN

Almost 800 people attended the **39th Queensland Water Industry Operations Conference and Exhibition** held at the Logan Metro Sports Centre on 4 and 5 June 2014.

The technical program once again covered a wide range of relevant topics and items of interest to delegates. The conference was opened by Logan City Mayor, Cr Pam Parker.



Logan City Mayor, Cr Pam Parker delivers her welcome address to delegates.

The Keynote address was presented by Mr David Cameron from the Queensland Water Directorate (**qldwater**) who provided an insight into the findings of the Queensland pilot program to evaluate implementation issues of the national certification framework for operators within drinking water treatment systems. WIOA continues to work with **qldwater** and the Department of Energy and Water Supply on the implementation of an operator certification scheme in Queensland.

The conference culminated in the official awards Dinner on Thursday evening where Julie Smith from Isaac Regional Council was announced as the winner of the prestigious "Leon Henry Memorial - Queensland Operator of the Year" award. Julie's award was accepted by Dwayne Lazar as Julie

had unfortunately been recently diagnosed with breast cancer. In support of Julie's cause WIOA has donated \$1000 from our charity work to the Breast Cancer Network Australia and we wish Julie a speedy recovery.

Another big winner on the night was James Castle from Unity Water who was judged to have presented the paper that won both the Best Paper by an Operator and the Best Paper Overall.

The conference hosted the Orica Water of Origin Taste Test that saw the Queensland entry from Lovers Walk in the Bundaberg Regional Council defeat the sample from Kalaru in the Bega Valley Shire Council, NSW. After last year's defeat, victory was sweet for the Maroons and was duly celebrated.



The Bundaberg Regional Council Team celebrating their win in the Taste Test.

WIOA also presented a cheque to charity on behalf of members who helped raise funds through a Charity Bowls Day conducted earlier in the year and a raffle at the conference. **The Logan Mayoress' Community Service Committee** received \$1,000 to assist with the good work it contributes to the community of Logan.

2014 QUEENSLAND AWARD WINNERS

Congratulations to all the award winners from the Queensland Conference and Exhibition.

Queensland Operator of the Year sponsored by AWA

Julie Smith, Isaac Regional Council

Queensland Young Operator of the Year sponsored by qldwater

Sarah Walton, Seqwater

Queensland Operator of the Year (Civil/All Rounder) sponsored by qldwater

Matthew Cook, North Burnett Regional Council

Brian Davis Award for Best Paper Overall sponsored by Iwaki Pumps

James Castle, Unity Water

Ecolab Prize for Best Paper by an Operator

1st James Castle, Unity Water

2nd William Smith, Logan City Council

3rd Peter Kirchmann, Wujal Wujal Aboriginal Community

WIOA Prize for Best Operator Poster Paper

1st Paul Lowien, Jason Toombs & Brad Fiechtner, Toowoomba RC

2nd Peter Knihinicki, Toowoomba RC

3rd Phil Thornton, Seqwater

Ron Bergmeier Award for Best Exhibition Site sponsored by WME Media

Austeck



Queensland Operator of the Year award accepted by Dwayne Lazar on behalf of Julie Smith from Isaac Regional Council.



Winner of Best Operator Paper, James Castle (L) with Alex Maderasi from Ecolab. James also won the Brian Davis Memorial Award for the Best Paper Overall - sponsored by Iwaki Pumps Australia.



Queensland Operator of the Year (Civil/All Rounder) Mathew Cook (L) from North Burnett Regional Council with Dave Cameron from qldwater.



Winner of Best Poster by an Operator, Brad Fiechtner (L) with WIOA Chairman Jim Martin.



Queensland Young Operator of the Year, Sarah Walton (L) from Seqwater with Dave Cameron from qldwater.



Aaron Goth (L) from Austeck is congratulated by Jim Martin for winning the Ron Bergmeier Award for Best Exhibition Site.

QUEENSLAND 2014 QUOTES FROM PARTICIPANTS

I was able to talk to suppliers for a number of items that I was looking for. By attending this event I can now complete the task before end of Financial year.

William Smith, Logan City Council

Fantastic to catch up with companies from all round Australia that normally takes a while to contact these people individually and to have competitors side by side is a great concept.

Jason Vade, Gold Coast Water

I find these conferences invaluable to keep up with developments within the industry, seeing new innovative equipment demonstrated first hand is far better than looking at a brochure. I also value the exchange of information with others from within the water industry who are facing the same problems and seeing their approach to rectifying them.

Kevin Harris, Bundaberg Regional Council.

Another great event to meet up with new and existing clients. Always a great atmosphere to do business within.

Bryan Fraser, AIM Water

This was our first show to promote our product with great success. The feedback we have had is incredible with safety officers and field operator's we have followed up with leads and have our first future sale from the WIOA conference. We are pleased to say our business is now on the road.

Joseph Kearney, Platycat Snatcher



The Platycat Snatcher team at their site.

The conference brings together a lot of people in various job roles from all over Queensland. This enables fantastic conversations and discussions into sharing best practices and optimised solutions. The thoughts and ideas taken away from this event will bring a huge benefit to the industry as a whole and help us to all achieve operational excellence.

Nathan Stephens, Grundfos Pumps

Facilities at Logan and the WIOA staff where first class, the attendance was high and we had many people visit our stand and request future information and assistance.

Justin Rayner, Valspar

For us the conference was invaluable in strengthening our relationships with our customers. To have groups and individuals coming in from the length and breadth of the state was such a testament to the reach of WIOA. In just 2 days we were able to meet and talk with more people than it usually takes to meet in a year of traveling.

John Tusler, Elster Metering

We found that attending the WIOA conferences was important in getting our new name across in the market place as a lot of people know our equipment but as yet are unfamiliar with our new international identity.

Steve Price, Evoqua Water Technologies



Other photos of happenings from the Queensland conference.

TRIBUTES FLOW FOR JULIE'S TOP WATER AWARD

Moranbah's Julie Smith has taken out Queensland's top honour for operational employees recognising her as Queensland's Operator of the Year for 2014.

Diagnosed with breast cancer in late April and undergoing a mastectomy in June, Julie was unable to attend the Award ceremony conducted at the WIOA conference in Logan. Stepping in to accept the award on Julie's behalf was her supervisor, Isaac Regional Council Team Leader Water and Sewerage West, Dwayne Lazar, who also nominated Julie for the award.

"I really wish Julie could have been there," Dwayne said. "She came out on top of a tough field of state wide nominees and finalists and is among less than 10 percent of women in the industry."

Dwayne Lazar said Julie was not just a great co-worker, but also a close friend. "She really deserves this recognition. She's a strong, determined person, with across-the-board knowledge about the water industry and has great leadership qualities. She likes to have a plan and stick to it. And attentively guiding her staff in all aspects of the operation, she has a dedicated team."

Dwayne said learning of Julie's breast cancer diagnosis had come as a shock. "Something like this makes you feel you've been hit by a sledge hammer," he said. But to Julie's credit, she is nothing but positive about it and determined to get back to work as quickly as she can.

Julie said she was grateful for her nomination and thrilled to have won. "As far as the need for cancer treatment is concerned, I just want it to be dealt with as quickly as possible. I thought, just get it done so I can get back to my life. You need to have a good attitude – not lie around moping," she said.

Growing up in Moranbah, Julie has worked for Council for 26 years, with the past 23 at the water plant.

A typical day for Julie and work colleague, Shelley Cottam, involves the recording of plant logs, water sampling and monitoring, checking equipment, chemical vats, fluoride levels and overnight water usage - then any machinery and ground maintenance needed.

"I love it," Julie said. "Responsible for the entire operation, we do all our own testing, monitoring and maintenance – which makes it more interesting, it's a thinking job."

Earlier this year Julie and Shelley were awarded full scholarships through the state government's Supporting Women Scholarship Program designed to assist women gain qualifications in high priority and skills shortage areas that are traditionally male dominated.

Julie will receive a perpetual trophy for 12 months as well as a personal trophy and a trip to join the Water Industry Operators' Association (WIOA) delegation on a tour of water and wastewater facilities in New Zealand, as well as attending the Water Industry Operations Group NZ conference in May 2015.

At the award ceremony, WIOA also pledged a \$1000 donation to Breast Cancer Australia.



Queensland Operator of the Year, Julie Smith (c) with Isaac Regional Council Mayor Anne Baker and CEO Terry Dodds.



Queensland Operator of the Year, Julie Smith with the Isaac Regional Council outdoor staff.

QUEENSLAND YOUNG OPERATOR OF THE YEAR



Queensland Young Operator of the Year Sarah Walton.

A passion for the water industry and hard work backed by academic studies and on-the-job training has seen Seqwater Trainee Water Treatment Plant Operator, Sarah Walton named **qldwater** Queensland Young Operator of the Year 2014.

When Sarah started work at Seqwater's North Pine Water Treatment Plant in October 2013 she already possessed considerable experience in geophysics, but was keen to pursue her

interest in water. Sarah, who graduated from the University of Queensland in 2004 with a Bachelor of Science, worked in the field of geophysics in western Queensland mines for seven years. But it was her passion for water which led to Sarah securing the role of Trainee Operator at Seqwater last year.

"I felt it important to start with the basics in the water industry and to learn from experienced operators so I was happy to embark on a trainee role, despite my previous experiences," Sarah said.

Sarah began by shadowing operators and studying for her Certificate II in Water Operations (Water Treatment), and has quickly progressed to assisting run the water treatment process for the North Pine plant's day-to-day operations.

"My role includes monitoring the SCADA (Supervisory Control and Data Acquisition) systems and trends to ensure the treatment processes are running correctly and the water parameters are correct for each process. This system automates our meters and analysers, and allows us to control chemical dose rates and flow rates by computer," Sarah said.

"I take samples from key points in the treatment process and verify water quality parameters to online analysers and the SCADA system. The parameters that we test in the laboratory are pH, turbidity, chlorine residual, fluoride, colour and manganese levels. I also monitor chemical dosing to ensure the correct water parameters for each process and adjust the dosing based on the raw water conditions."

Sarah said the role also involved monitoring pumps, dosing points and valves through observation to ensure all function correctly, as well as monitoring and observing filter performance and backwash processes.

"I am also responsible for batching and ordering chemicals to ensure chemical levels are maintained in case of an emergency," she said. "Ultimately, I help ensure treated water is of the highest quality through taste testing and measurement of the previously mentioned water quality parameters."

In nominating Sarah for the Queensland Young Operator of the Year Award, Operations Supervisor Terry Martin said Sarah displayed a keen interest in learning all aspects of the water treatment industry.

"Sarah always displays a methodical approach to the water quality testing regime and her treatment processes are of the highest standard," Mr Martin said.

"She thinks and acts beyond the bounds of her role as a trainee. For example, she recently provided valuable input into Seqwater's operational reporting systems by modifying a series of Excel based pivot tables used to capture and monitor operational trend information across the business."

Having completed her Certificate II in Water Operations (Water Treatment), Sarah is now studying a Masters in Environmental Science, which she will complete at the end of the year.

Sarah's career goal is to work in water catchment management.

QUEENSLAND CIVIL/ALL ROUNDER OPERATOR OF THE YEAR

Congratulations to Matthew Cook from North Burnett Regional Council who won the 2014 Operator of the Year (Civil/All Rounder) Award sponsored by **qldwater** at the WIOA Qld Operations Conference in Logan.

Matthew was involved in restoring water and sewerage services in North Burnett during the 2013 floods, which saw five water schemes out of operation and three sewerage schemes severely affected.

Matt worked with his skeleton crew and a relief team from Townsville to restore water and sewerage services to the region. In charge of the day to day operation of seven water schemes (intakes, treatment and reticulation) and five sewerage schemes (reticulation, treatment and disposal) with water supplies ranging from artesian, ground water and surface water, Matt has achieved respect from his workforce through his knowledge and dedication to the job.

Matthew and Sarah Walton, the Young Operator of the Year, will join the WIOA delegation on the New Zealand Study Tour in 2015 which includes attending the annual conference of the Water Industry Operations Group of NZ.



Queensland Operator of the Year Mathew Cook.

DISTRIBUTION SEMINAR WODONGA

On 8 July 2014 North East Water hosted a WIOA technical workshop examining water quality and distribution system management. This workshop focused on methods of maintaining high quality water in our distribution systems in order to maintain health (foremost) and aesthetic attributes of water.

How easy is it to forget the importance of distribution systems in delivering safe drinking water! I have only been involved in the water industry two and a half years, and during this time I have thought a lot about the importance of making safe drinking water, with the underlying assumption that once made, the risk is quite small that it would be unsafe at customer's taps. We know most problems in distribution systems are taste and odour issues, but the workshop informed us that there are also many waterborne disease outbreaks that are caused by distribution system deficiencies. In fact, we learned in this workshop that the percentage of water borne disease incidents due to distribution systems has markedly increased in recent years, and that there are potentially waterborne illnesses occurring now that go undetected and unreported. We as drinking water providers might not know they are occurring!

Here is a brief summary of some of the highlights from the workshop that I came away with. They are actions we can put in place to be more proactive in managing water quality in our distribution systems.

- Find and remove cross connections,
- Ensure backflow prevention is in place at:
 - Wastewater treatment plants,
 - Industrial sites
 - Rural properties/cattle troughs and other high risk sites
- Ensure clear water storages are enclosed and cleaned, and develop inspection and cleaning regimes
- Hygienic work practices should be used during repairs/maintenance to avoid cross contamination
 - Clean equipment and tools
 - Clean materials (pipes, fittings, etc)
 - Excavate under pressure or flow
 - Risk Assess high risk repairs
 - Excavate while using a suitably sized sump pump
- Develop practical SOPs
- Know your system
 - Map distribution systems for chlorine, turbidities and complaints to determine where water quality issues exist
- Develop cleaning regime for distribution system, based on triggers, such as:
 - Inability to maintain chlorine residual,
 - Chlorine residual decreases through retic (from mapping)
 - Elevated HPC or customer complaints



Peter Mosse presenting at the seminar.



George Wall addressing the seminar delegates.

- Decide whether to flush, air scour or swab
- There must be ongoing monitoring and interpretation of the data in order to proactive approach to water quality in distribution systems.

Workshops like this are fantastic because they increase our awareness of what water quality risks can be present in our distribution systems, and because they give us actual suggestions for reducing the potential risk of the water we produce harming anyone!

Contributed by Pat Rokhar – North East Water

ANOTHER AWARD FOR MICHEAL



Another award for Micheal.

In 2012, Junee Shire Council's Wastewater Operator, Michael Summerell, did a presentation to the Junee Branch of Rotary entitled 'Biodiversity at the Junee Wastewater Treatment plant and Reuse Facility'. It was this experience, and the positive feedback he received following his presentation, that inspired him to formalise the paper and present it at the 2012 WIOA NSW Conference held in Tamworth. Members may recall that Micheal was awarded both the Ecolab and Iwaki awards for the Best

Operator paper and also the Best Paper overall. Michael then travelled up to the Gold Coast and did the paper again at the Qld conference.

Following on from his success at the WIOA Conferences, at their 2014 Annual Changeover, the Junee Rotary Branch presented Michael with their Vocational Award for 2014. The Vocational Award recognises those in the community who go above and beyond and do that extra work. To this end, not only has Michael achieved this with the paper and presentation's he has made to various forums, but he has continued to do so with his presentations to school classes, hosting educational visits to the Facility and generally championing the importance of biodiversity and it's place within the community. Well done Micheal.

BIRDS EYE VIEW - Facilities Members Operate

Shepparton Wastewater Management Facility

The Shepparton Wastewater Management Facility (WMF) is one of Australia's largest inland treatment complexes. It is located north of Shepparton and comprises 20 lagoons covering 155 Ha, 65 Ha of tree plantations and 310 Ha of irrigated pasture and cropping land.

The urban population serviced by the plant is around 40,000 people. With loads from industry, predominately from food processing, the plant handles a peak wastewater load of 1.1 million EP.

The High Rate Anaerobic Lagoon (HRAL) is one of the largest plants of this design in the world. The surface area is ~5 Ha. The HRAL generates methane as a by-product. The methane is captured under a cover and converted to green power through a generator.

Reclaimed water is irrigated onto pasture to produce prime lamb. Excess reclaimed water is tertiary treated and discharged to the Goulburn River.





MODIFICATION OF LIFTING GEAR AT MIDCOAST WATER SEWER TREATMENT PLANTS

After an accident at the Old Bar Sewer Treatment Plant we decided to replace all our steel wire ropes on our diffuser racks to stainless chain on all our plants.



One of the steel wire ropes that snapped.

Constant friction on the ropes at Old Bar had caused one to snap during lifting. This could have been a serious accident if anybody was within 10 meters of the rack during lifting.

Replacing the wires to chains on the diffuser racks.



Extra lifting points were added.



Extra lifting points.

We added an extra lifting point in the form of a stainless pole braced to the rack as well as extra bracing on the existing lifting pole which was also the aeration delivery pipe.

Chains were secured well above concrete walls where no friction will occur.

Since Old Bar was completed we have modified the Wingham and Dawson River Plants.



Modification project completed.

The cost was around \$5000 per plant, but when compared to the cost of an injured worker we reckon that is a pretty fair price.

Contributed by Lindsay Walsh, MidCoast Water

LAGOONS SEMINARS

After 6 six weeks of unseasonal miserable rain, Yarrabah turned on the sunshine for the start of another extremely informative seminar from WIOA.

Attendees were plenty, from Cassowary Coast Council to our near neighbours on the tableland, through to the Gulf, Cape and even some Torres Strait Island colleagues.

The day started off with a very warm Welcome to Country from Vince Schreiber (Team Leader Water and Waste, Yarrabah) where he explained the high importance of proper wastewater treatment not only to him but to his community, culture and the environment for generations to come. From there George Wall (WIOA) took over, thoroughly discussing all components and types of waste water lagoon systems, with plenty of time made available for Q and A and trouble shooting.

The day concluded with a tour of the Yarrabah wastewater lagoons hosted by Harry (operator Yarrabah Council) who was happy to share all his knowledge of their lagoon system.

A great day and plenty learnt by all. Look forward to the next WIOA seminar up this way.

Editors note: other seminars were also held in Woorabinda in May and Napranum in June.

Contributed by Graham Moroney, Assistant Operator Cairns RC



Some of the seminar attendees inspecting the Napranum lagoons.

QUEENSLAND WINS WATER OF ORIGIN TASTE TEST

Queenslanders can revel in the knowledge that they have some of the best tasting water in the country.

For the second year in a row, WIOA brought together award winning water samples from both NSW and Queensland for the 2014 Orica Water of Origin, Taste Test. The samples were provided from the Bundaberg Regional Council and the Bega Valley Shire Council water supplies.

Conference delegates did a blind taste test of both samples and placed their vote in the tub corresponding to the one they preferred the most.



Kim and Whitney casting their votes with Michelle (R) from qldwater.

Queensland Water Directorate (*qldwater*) CEO Dave Cameron agreed that taking advantage of strong interstate rivalry to promote the industry, with support from Orica to run an event like this is very important but a bit of good fun at the same time.



Water of Origin Reps David Oxenham NSW (L), George Lech and David Cameron Queensland (R).

After the devastating loss in 2013, Queensland redeemed itself this year. "The winning sample from Bundaberg's "Lover's Walk" scheme was a last minute entry due to unfortunate difficulties in transporting the sample from 2013 state-wide winner Cooktown, however as Bundaberg was last year's state-wide runner up and winner of two regional finals we knew we had something good."

"In the 2013 Origin our sample from Ayr went down to Taree by a whisker and with due respect to our colleagues in NSW, even NRL refereeing couldn't have made a difference to the result with a margin like this year's" Mr Cameron said.

With the score now tied at one win apiece, the competition to take the lead in 2015 will be immense.



On behalf of the Queensland water industry, Dave Cameron lands the knockout blow to NSW.

FNQ INTEREST & BOWLS DAY

Around 40 operators from the FNQ region attended a water interest day held at Barlow Park in Cairns on 24 June. The day included a presentation by Michael ten Lohuis from Water Treatment Services in Townsville covering laboratory testing for coagulation, flocculation and jar testing. Tony Shiels and Jack Maull, Cairns Regional Council then discussed the calibration processes for ABB flow meters and also demonstrated some level measurement systems used at a reservoir. Finally, George Wall from WIOA gave a report on the progress of the Queensland Pilot project relating to the national Operator Certification Framework.

Everyone then headed off to the Cairns Bowls Club for lunch and a social afternoon of bowls. After a rapid fire round robin tournament, the team of Robert Davies, Paul Watson, Aron Smith and Paul Harrison representing Trility were awarded the Tradies Cup.

Thanks to very generous support for the Day from Cairns RC, Water Treatment Services, WIOA, Xylem, McBerns, Thermo Fisher Scientific, Hydramet, Parasyn, Royce Water Technologies, Trility, Automation Group and Bilfinger Water Technologies, the sum of \$800 was raised and will be donated to charity.

I myself found the day interesting listening to speakers in their field. It was also good to talk with staff from other councils and how they operate and the bowls afternoon gave me a chance to meet more of them. I appreciate all the efforts the group put in to make the day happen, and look forward to more events like this in the future.

Contributed by Alan Wilson, Cassowary Coast RC.



Tony Shiels from Cairns RC presenting.



Bowls day participants.



Winners of the Tradies Cup - the Trility team.

NZ TOUR 2014 “THE HOBBITS”

What do you get when you take 10 Aussies and one Kiwi, put them all together in the small confines of a mini van and then drive them around New Zealand treatment plants for 8 days? No it's not a Contiki tour (although it sounds like one), but a real educational work tour.

Thanks to the fantastic organisation of the Water Industry Operations Group NZ (WIOG) team, WIOA was once again able to take a bunch of operators from across Australia on an 8 day tour around the northern part of the North Island of New Zealand. This tour included the 2 day WIOG conference, this year held in Wairakie, close to the beautiful Lake Taupo.

Our tour bus, complete with emu emblazoned trailer to make us feel at home, departed Auckland on 3rd May 2014.



Mini van, complete with emus heads off on our journey.

We traveled south west to the Ardmore Water Treatment Plant (WTP), the biggest water treatment plant that we would see on our tour which supplies much of the water to Auckland.



Stu Urqhart showing us around the Ardmore WTP.

The second stop of the day found us in a beautiful little town called Kawakawa Bay and visiting their membrane bioreactor plant. After visiting this waste plant it was the perfect time to have some lunch. We were told by our illustrious bus driver that the place we were going to stop for lunch had the best ‘fush and chups’ in New Zealand, and he wasn’t wrong. Kaiaua Fisheries was the name, and if you get a chance to go there, I would suggest you try their grub.

After lunch we visited Kerepehi WTP and had a look at their water treatment plant with microfiltration units, UV disinfection and chlorine disinfection that provided water for 4,000 residents and 20,000 cows! We spent the night in a nice town called Thames where we stayed at a backpacker-style hotel and were entertained by both local and Aussie entertainment (the Aussie entertainment was in the form of our group).

Day 2 and 3 saw us follow the mighty Waihou River upstream from where it enters the sea at Thames to its head works. The township of Te Aroha was our first stop where we were first taken through their flat sheet membrane waste water plant and then their tube settler and rapid sand filter water treatment plant, nestled up in the hills with a breathtaking view.



Te Aroha STP.



Murray Clayton explaining tube settler theory.

Murray and the boys from Kaimai Valley Services cooked up a beautiful BBQ lunch for us while we sat and looked out over the valley. Our accommodation that night was in the peaceful town of Matamata where we got to jump on the 3:30 bus to “Hobbiton”, the film set to some of the scenes of Lord of the Rings. This was an amazing experience to get to see where some of the actual movies were filmed and the amount of detail that they went into to create the backdrops. We even got to partake in a local brewed complementary ale (or cider) at the Shires Rest pub.



All the Hobbits at the movie set.

NZ TOUR 2014 “THE HOBBITS”

Day 3 started off with a quick breakfast and then back on the bus off up into the hills and the head waters of the Waihou River. This morning New Zealand got to show off some of its breathtaking countryside as we wound our way through the hills to our destination, a crystal clear stream that was the location of the “Te Waihou walkway” pump station. Our hosts John and Graham from South Waikato District Council had hot cappuccinos and pastries waiting for us. This stream was so clear the avid fisherman amongst us could spot the good sized trout swimming around.



The crystal clear headwaters of Waihou River complete with rainbow trout.

After our tour of the microfiltration and UV pump station we headed to Rotorua. This is where the weather finally gave up on us and started to pour with rain. However the rain did not stop our group from partaking in one of Rotorua's daredevil attractions - the gondola up and the luge ride down the mountain. Although it was raining we all had several trips down the mountain on luges enjoying the wet slippery tracks (there was only a few cuts and abrasions). Once we had arrived at our hotel (a quick shower and change into some dry clothes) we were off to a cultural dinner and show at the Mitai Maori Village. This was a really interesting night where we were treated to a native Maroi dance and ceremony where one of our group (WIOA Pres Russell Mack) was picked (Dobbed in by Damian the bus driver) to be the chief of everyone who had come to see the show. An authentic Maroi dinner that was cooked in a traditional Hangi followed the presentation.

Day 4 and the weather had let up again. Today we change our focus a bit and were lucky enough to be guided through the very new and very shiny Ngatamariki Geothermal Power Plant. This was an amazing experience as geothermal power is a concept that is not that common in Australia.



Ngatamariki Power Plant.

After checking out the power plant, we headed to the conference venue and the beautiful lake Taupo. On the way we visited the 12pm opening of the Aratiatia floodgates. The lake holds all the excess water released from Lake Taupo which is not used by a large hydro power station on the Waikato River downstream of the lake. The flood gates open every 4 hours or so. We also got to view the awesome power of the Huka falls at the head of the Waikato River.



Aratiatia flood gates opening.

Days 5 and 6 were spent at the 2014 WIOG 'Strategy Through Innovation' themed conference where we joined the other 200 or so delegates. I must say that water industry operators face the same challenges and have the same knowledge no matter whether they were Aussie or Kiwi, and it was great to hear some of the presentations of how operators have been able to find solutions to their problems. I also noticed that they are all a tight, friendly group of people and made us feel very welcome.

Day 7 with the conference all wound up, it was time to head from Taupo back to Auckland ready for flight back to Australia the next day. With a big night at the conference awards dinner the night before, and a few drinks still left over, it was a long trip back in the bus, full of Aussie rock music, bad singing and plentiful pit stops.

The last day, the Saturday morning, we visited the Mangere STP a massive activated sludge plant that treats most of Auckland's wastewater, a very impressive site indeed. Saturday arvo we flew back to Australia and parted company with a bunch of new friends but all with great memories.

I would like to take this opportunity to firstly thank the many people that took time out of their weekends and work days to take us through their plants. The tour at each and every site was informative and it was evident that the operators know their plants very well. I would also like to give a big thank you to the committee of WIOG for putting this tour together for us - we all had a ball. My next thank you goes to our bus driver Damian Lawsen; he made the tour with his jokes and brilliant tour guide skills (although we should have followed the GPS a few times). Lastly I would like to thank Russell Mack and George Wall and WIOA for giving us the opportunity to join this amazing tour. I would recommend to anyone if you have the opportunity to attend, have a go because it is an experience you won't forget.

Contributed by Ben Marsden, Wannon Water

“TE ORANGA WAI”

The Te Oranga Wai is a Thermo Fisher Scientific sponsored Award towards a Water Industry project in New Zealand. This award is the “sister” award to the Kwatyte in Australia.

Interested Water Industry Operations Group (WIOG) members must submit an application on their proposed project. It is then judged along with other applications and the successful applicant is chosen. This award also acknowledges contribution, education and commitment to the water industry.

I am hesitant to call it an award as it has become its own entity in New Zealand and is now very culturally and spiritually significant. The essence of Te Oranga Wai represents the WIOG industry culture and all those whom are involved with water, observed via Maori protocols.

This year’s recipient is Damian Lawsen, Damian is a WIOG committee member, tour bus driver, business owner and most importantly friend not only to me personally, but to WIOA. Damian’s project is based on providing remote communities, mostly indigenous Maori people, the skills, knowledge, and independence to better develop, construct and manage their own water supplies and systems. The particular community that Damian is working with is the heart of the TUHOE IWI (tribe). Known as ‘The Children of the Mist’.

I was privileged to be able to make the trip to New Zealand to represent WIOA in the presentation of the Te Oranga Wai. I flew into Auckland on Thursday the 19th of June and then onto Whakatane where I was met by Damian and whisked away to a restaurant in town where I got to meet Damian’s family, friends, and work mates.

I stayed the night at Damian’s and in the morning we were up bright and early and off to Ruatahuna (in the Eastern Bay of Plenty) for the Te Oranga Wai Powhiri (a welcome onto the Marae). We ventured up into the Te Urewera’s (forest covered mountain ranges), which is about an 90min drive through some spectacular remote country. At Murupara, we met up with a number of people including WIOG Chairman Mike Monaghan & EO John Clemens who had travelled from all parts of NZ who were heading up to the Powhiri. From there we continued up to the Ruatahuna general store, where we were welcomed with a hot cup of tea and biscuits and met up with Peho Tamehana who was our guide/interpreter.

At precisely 1pm we were welcomed onto the Marae by the elders and leaders of the sub-tribe (Hapu) belonging to this

Marae. There were many passionate speeches of welcome by all, and these were translated to us to give us better understanding.



All the gathered dignitaries.

What was very special for me was seeing the framed replica of the Kwatyte that we had presented to the Ruatahuna locals 4 years previously on one of our tours sitting up proudly at the front of the Wharehenui (meeting house). On that visit I had made many friends and had an experience of a life time!

After the Powhiri we headed off for the Mihi in the Wharehenui (speeches pertaining to Te Oranga Wai in the meeting house), the order of proceedings was:-

- Karakia/Blessings and Prayer
- Mihi/speeches – Tangata Whenua/locals
- Mihi/speeches – Manuhiri/visitors
- Whakatane District Council Mayor – Tony Bonne
- Te Oranga Wai recipient 2010 – Bruce Nesbitt shared his Hikoi (walk/journey)
- WIOG NZ Chairman – Mike Monaghan
- WIOA President – Russell Mack
- DWAP Facilitator – Raelyn Rika who has been involved in the project from the beginning.
- Finally, Damian Lawsen – brief on Kaupapa (project objective) and do PowerPoint presentation on whole journey to date.

I spoke of the strong relationship between WIOG and WIOA and of the significance of the Kwatyte and Te Oranga Wai awards. I also made mention of the significance of returning to Ruatahuna after our visit in 2010 and the effect that visit had on everyone that was part of that trip.



Damian Lawsen with the Te Oranga Wai entity.



Russell Mack delivering his address on behalf of WIOA.

“TE ORANGA WAI” CONT.

After the presentation we headed off for the Hakari (luncheon/dining) where we were treated to a great feast and a lovely welcome song.



Enjoying the feast.

This was the end of the official proceedings but the beginning of catching up with people I hadn't seen for 4 years. There was quite a bit of socialising done into the wee hours of the morning! Damian, Damian's Mum, his mate Andrew, Alison Young (Thermo Fisher) and I spent the night in the Wharenuī. We woke up to a very frosty morning and a lovely cooked breakfast.

I was lucky enough to spend some quality time with Damian over the next couple of days and we managed to squeeze in some sight seeing and even a fishing trip thanks to Pete and his boat! The conditions were perfect and plenty of fish were caught.



Te Oronga Wai and Kwatie awards together.



Damian & Russell showing off their catch.

I would like to thank Damian for the accommodation and his friendship while I was there. The relationship between WIOG and WIOA is very strong and it is due to the people in both organisations, as we have similar goals and ambitions. While the rivalry between our countries is there, the friendships are strong and cherished.

Contributed by Russell Mack, WIOA President

WaterAid FUN RUN

It's a great time of year to get off the couch, pull on your running shoes and head out into the winter sunshine for a good cause. Whether you're a Sunday stroller, a fun runner or mad for marathons, you can raise vital funds for WaterAid by joining an organised fun run in your area.

As well as enjoying the buzz of a big race you'll be helping us transform lives in the world's poorest communities. The amount you raise will go directly towards improving access to clean, safe water and toilets in countries like Timor-Leste and Papua New Guinea. We think that's worth a medal alone.

And to show our appreciation for your support, we'll give everyone who raises over \$100 for WaterAid a free running singlet! Here's how to get started:

1. Sign up for the event you want to join.

Join Team WaterAid and run with us!

VIC 12 Oct Melbourne Marathon: 3km, 5km, 10km, half or full marathon.

NSW 10 Aug City 2 Surf: 14km
2 Nov Rebel Run Sydney: 3km, 10km or half marathon

SA 21 Sep City-Bay Run: 3km, 6km, 12km

QLD 31 Aug Sunshine Coast Marathon: 2km, 5km, 10km, half or full marathon

7 Sep Bridge to Brisbane: 5km or 10km

WA 31 Aug Perth City to Surf: 4km, 12km, half or full marathon

ACT 7 Sep Canberra Times Fun Run: 5km, 10km or 15km

TAS 16 Nov Point to Pinnacle: half marathon

2. Create your online fundraising page. The easiest way to collect sponsorship for WaterAid is through an online fundraising page. It's simple to set up and you can add your own photos, share your training stories, and link it to the Map My Fitness smart phone app. Set up your fundraising page by visiting www.everydayhero.com.au/charity/view?charity=311

3. Spread the word to raise money. Once you've created your online fundraising page, send the link to your friends and family by email and social media and ask them to sponsor you.

4. Have fun and good luck!

If you've got any questions contact Kathryn our Community Engagement Coordinator, on 03 9001 8254 or email: events@wateraid.org.au

Thank you for your continued support of WaterAid. Together, we can achieve our vision of a world where everyone has access to safe water and sanitation.

If a run isn't quite your thing, there are plenty of other great ways that you can support WaterAid at work, school or with your friends. Visit www.wateraid.org to discover 10 ways you can support WaterAid.

Cheryl Pultz, WaterAid Australia

Run for fun...
and for water!



FIGHTING GRAFFITI

Fed up with the recurring graffiti on their water reservoir in the outer Brisbane suburb of Ferny Hills, Unitywater invited the community to come along and help paint a mural on its walls last week.

Students from Ferny Hills State School and Patricks Road State School joined local residents and Cr Brian Battersby to finish a colourful nature scene chosen by the community for the large water reservoir.

Unitywater Acting Executive Manager, Infrastructure Services, Stephen Jewell said the Hutton Road Reservoir had suffered from recurring graffiti and, as a highly visible landmark, a positive change was needed. "It costs Unitywater between \$200 and \$1500 to remove graffiti from our infrastructure and over the years these costs soon add up," he said.

"Murals have been used by our industry peers and have proven successful in deterring repeat tagging, replacing blank walls with community art. "This is one of the ways we are reducing our operating costs to keep bills as low as possible for our customers."

To deliver the eye-catching artwork, Unitywater partnered with not-for-profit mural expert, Phantast. President of Phantast, June Hintz, said their success in deterring future graffiti on their murals is down to using local disadvantaged youth and known taggers in the projects, working side-by-side with trained local artists.

"We find that graffiti artists are less likely to tag another artist's work because they believe it should be respected," she said. This mural is the first in a series on Unitywater infrastructure to be rolled out across the Sunshine Coast and Moreton Bay regions.



For more information on Unitywater's Mural Project visit: www.unitywater.com/muralsproject



Editors Note: Our Kiwi counterparts have come up with a similar idea. One of the water reservoirs near Rotorua has had an amazing landscape mural painted on it.

HOW THE INDUSTRY HAS CHANGED IN 10 YEARS

At the end of 2004 WIOA's membership had grown to 477. My Space was one year old and this new thing "facebook" was registered in February. Steve Waugh retired from Test cricket, John Howard defeated Mark Latham in the Federal Election, the Canterbury Bulldogs defeat the Sydney Roosters in the NRL, while Port Adelaide wins their first AFL premiership

WIOA asked a number of members how the water industry had changed over the last 10 years and not surprisingly the technological boom were well represented. Here are some of their thoughts:

We had very limited remote access to our computer systems. Most access was via a computer and a phone at a blinding speed of 56kbps. Nowadays we can use a tablet or laptop connected at 20mbps or faster. This change has allowed water businesses to be more responsive and increased productivity. Operators on call can now view the status of their plants before they even leave their home and in some cases resolve issues on the spot. **Ryan McGowan**, Manager Information Systems, Goulburn Valley Water

Remember your telemetry system back in 2004? Just an alarming system and likely a desktop personal PC sitting in the corner of the water plant gathering dust... Nowadays your telemetry system is integrated into your business management and IT systems, providing data directly to various areas of your organisation and wirelessly accessed by your smartphone or tablet while you sit in the car or next to the switchboard. What will the next 10 years bring? **Adrian Nisbet**, Automation Group

The basic principles of operation of the Vacuum Chlorine Gas Regulator for the Water and Waste Water Industry has not change but the design, materials of construction, ease of maintenance and system controls for the safe injection of chlorine have come a long way. Acromet has been a leader in Vacuum Chlorine Gas Injection and will seek to continue to develop innovative solutions into the future. **Tim Rounds**, Acromet

Assets in the water industry have always been prone to corrosion and damage. It has been predominant in live sewers and WWTP's dealing with Hydrogen Sulphide, worse as a result of odour control and lids containing the corrosive environment. As great is the variety of materials claimed to be fit for purpose in protecting against corrosion, High Build Epoxy's offer the most important protection. Over the last 10 years the thickness that is able to be applied in single "fast" application has increased from 0.5mm to now over 15mm - allowing refurbishment to be able to be completed in less than 12 hours. **Nick Subotsch**, Peerless Industrial Systems

SEWER DOSING AT GRIFFITH

In January 2014, Biosol won the contract to treat the total Griffith City Council Sewer system with Biosol BRX 2DE and BRX 1CN products for odour and corrosion control.

The Griffith City Council sewer system is characterised by long detention times and high ground temperatures, all of which lead to high sewage odour levels and rapid infrastructure corrosion.

To control sewage odour and infrastructure corrosion, the Council has dosed the sewer with both Magnesium Hydroxide and Ferrous Chloride. Additionally, some of the industrial effluent, principally from wineries, has been removed from the sewer system over the last few years. Sewage odour levels however remain high.

The Council had concerns about continued dosing with Ferrous Chloride which is classified as a dangerous good. Additionally Ferrous Chloride is corrosive, creates a black sludge, and is believed to increase sludge volumes.

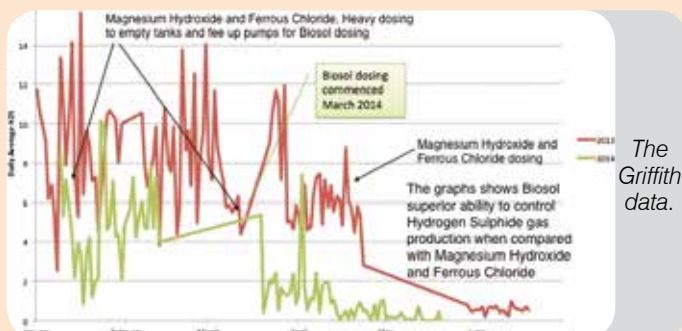
Magnesium Hydroxide has proven difficult to dose with endless blockages, creating a high work load for the operators.

The council released a tender to supply existing chemicals or an alternate solution. Biosol was chosen because:

- Previous work had shown Biosol's ability to remove biofilm/sediment from the sewer pipes and thus the cause of sewage odour and corrosion.
- References from other sites indicated excellent odour control as well as likely process improvement.
- Biosol was cost competitive with alternative products.
- Biosol dosing has a much smaller footprint than Magnesium Hydroxide and Ferrous Chloride dosing.

Biosol has now been dosing since March. The results to date show:

- Significantly better odour control (OdaLog results).
- Substantially reduced operator work load.
- Deceased OH&S risk.
- Treatment plant results:
 - The sewage is now brownish grey not black.
 - There have been no operational problems.
 - The plant complies with its license.



Wayne Jonas changing the pump setting from Magnesium Hydroxide dosing to Biosol.

SARINA PRE TREATMENT PACKAGE INSTALLATION

The relocation of the Sarina Wastewater Treatment Plant is a significant project that provides better protection of the environment and allows for a more robust wastewater treatment system for the Sarina area.

In order to meet the requirements SPIRAC provided an inlet flow splitter where the raw sewage passes over a fixed weir into a chamber feeding two fine screen channels. The fixed weir is high above floor level to create an inlet chamber to dissipate the energy of incoming sewage.

The two drum screens work in a duty/standby configuration to remove solids larger than 2.0 mm from the incoming flow and are connected to SPIRAC screenings conveyor system, for reliable and maintenance-free solids transport. The screenings conveyors transport screenings to the screenings washer/compactor via a drop chute. The SPIROWASHER washes out the organics from the screenings and reduces the volume and the weight of the screening and compacts them. The screenings washer/compactor wash and compact the screenings before depositing them into a combined screenings and grit bin.

Screened sewage passes from the fine screen channels to the SIRAC GRIT VORTEX tank. SPIRAC Grit Vortex unit is designed for separating high density grit particles from lower density organics. The installed grit pump withdraws grit slurry from the grit tank and pump it to the SPIRAC GRIT CLASSIFIER which washes and separates the grit, and transfers it to the combined screenings and grit bin. The SPIRAC Grit Washer makes sure that all visible organics on the grit is removed.

Project Outcomes

- Improved quality of effluent being released to the environment.
- Increased system capacity to cater for expected growth and development in the area.
- The new system provides significant improvements and is more reliable.

New site has less impact on the Sarina township.

Learn more from: www.spirac.com/news/



Spirac equipment at the Sarina WWTP.

NEW MEMBERS

Welcome to the following people and companies who have recently joined our Association as a Member or Corporate Supporter.

New **Individual Members** include:

Peter Knihinicki, James Castle, Robin Cherry, Bradley Pinches, Cyril Smith, Ken Goodall, Kevin Harris, Gerry Bateman, Robbie Clark, Doug Ghiggioli, Gary Maybury, Stephen McCarthy, Daniel Visser-Baxter, Phillip Cook, Matthew Smyth, Ian Bulmer, Isagani Rosales, Martin Coromandel, Wayne Smith, Tony Brown, Bernard Maher, Dave Carroll, Robert Jones, Todd Morrah, Matthew Cousins, Phillip Smith, Daniel Pymble, Robert Martinovic, Steven Evans, Brian Tuohy, Shannon Chapman, Scott Cunningham, Kyle McCarthy, Travis Moore, Darren Sutherland, Rick Warren, Ravin Appathurai, Geoff Phillips, Matthew Copeland, Michael Murphy, Keith White, Stephen Muir, Josh Rogers, Rob McKenzie, Simon Uren, Ryan Johnston, Arthur Poulos, Arnold Sabalburro, Kritin Kumaran, Mario Ramov, Mark Abraham, Julian Pastore, Andrew Young, Eliza Forster, Amin Malekizadeh, Trevor Gray, Ian Mackenzie, Jim Kear, Andy Toomes, Wayne Ammee, Phil Wootton, Tessa Qiu, Stuart Walsh, Steve Bradley, Leith Garrick, Tom Trezise, Andrew Hawley, Daniel Squire, Darren Wesley, Jim Rozakilis, Tim Mengler, John Purdy, Darren Francis, Aaron Posad, Dan Ford, Nick Martin, James Thonder, Uwe Kaeding, Todd Lowe, Jim Annandale, Paul Liccione, Steven Blum, Barry Walsh, Chris Copley, James Laube, Tony Victory, Jamie Sim, Neil Parker, David Lowe & Helen Beard.

New **Utility Corporate Members** include:

Tenix & Allwater.

New **Corporate Members** include:

Civil Pipe Supplies, Hydro Flow, TAFE SA, Applied Filters, PR Power, UVS Trenchless Technology, George Bourne & Associates, Ebro Armaturen Pacific, Rezitech Services & Pacific Controls.

2014 DATES TO REMEMBER

- 3 & 4 September** 77th Annual WIOA Vic Water Industry Operations Conference, Bendigo
- 23 September** NSW Water Interest Day, Port Macquarie
- 19 October** Victorian Charity Golf Day, Euroa Golf Club
- 22 October** Tasmanian Wastewater Interest Day
- Venue TBC
- 29 October** Victorian Water Interest Day, Wurdee Buloc, Geelong
- 13 November** NSW Wastewater Interest Day, Young



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NEXT EDITION

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THE LIGHTER SIDE

