

OPERATOR

February 2020 Edition



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Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA

FROM THE MD'S DESK

Welcome to 2020 and our first edition of Operator for the year. As if dealing with drought and heat wave conditions were not enough, many communities saw out 2019 and welcomed the New Year with bushfires raging all around them. With some fires still burning, the attention in many areas has now turned to managing the impact of contaminants in the runoff from storms and heavy rain. The importance of the role that our operators play in providing services to our communities is never better evidenced than by the way they are meeting these challenges head on.

The collaborative and caring nature of our industry was highlighted by the number of Members who contacted WIOA during the bushfire crisis with offers of support, either through the supply of labour or equipment. WIOA has registered the offers of support with the appropriate agencies in each State. We know our operators are a resilient lot, but we do ask everyone to keep in mind that we have access to over 4,000 members Australia wide with considerable operational expertise. We are only a phone call away if anyone, anywhere, needs help at any time.

The review of the Certificate II & III qualifications in the national Water Training Package (NWP), along with each of the units of competence, was completed in late 2019. The updates were endorsed by the COAG Skills Council in early February and are now available for delivery by training organisations. A number of WIOA members are now actively involved in the Technical Advisory Committee (TAC) that is reviewing all the material in the Certificate IV. If you would like to provide any input into the review of the qualification or any of the individual units, feel free to pass your information on to us and we'll make sure it is considered by the TAC.

Good luck is extended to the team from Mackay Regional Council in Queensland, winners of the 2019 best Tasting Tap Water in Australia competition. They have a couple of staff heading over to the USA, escorting a sample of the Marian WTP's finest drop which will represent Australia in the International Water Taste Test in late February.

After an expression of interest in late 2019, the WIOA Diversity & Inclusion Group has been established. The group comprises 10 members from 4 states and had its first meeting in early in 2020. The aim of the group is to assist the association with initiatives to ensure that we have an inclusive culture that embraces diversity, celebrates our differences and encourages and supports participation.

It is vital that all WIOA members feel respected and supported and can access and enjoy the rewards, resources and opportunities on offer regardless of gender, age, cultural norms, values, beliefs, and linked expectations. This position has been supported at WIOA's highest level of governance with the WIOA Board and Committee incorporating the following statement into our people commitment - *"We embrace diversity and inclusion and consider it is integral to our culture, our values and the way we do business."*

All the State based Advisory Committees have held meetings in early 2020 and work is well under way on a range of

activities and services for the benefit of all Members in 2020. There are a number Interest Days or other events coming up in March and April and we trust that all Members will take the opportunity to participate when something is staged in your area.

Planning for all the 2020 WIOA conferences is proceeding full steam ahead. The technical program for the NSW conference in Tamworth in April is full of interesting presentations from experienced operations staff and there is a wide range of Councils represented in the program. There is a special forum on the Thursday afternoon jointly organised between WIOA, the NSW Water Directorate and Water Research Australia. Four invited speakers will provide their thoughts on the current water scarcity issue and the theme is "all options on the table - what does it mean for Operators?". There will then be a Q & A session to discuss issues from the floor.

Delegate and visitor registrations are currently being accepted, with the program and registration forms available from the website. Along with the Best Tasting Tap water in NSW/ACT competition, the second staging of the Mains Tapping competition in NSW will also be held at the Tamworth conference. We would like to encourage as many organisations as possible to enter a team.

The Call for Papers for the Queensland conference in Toowoomba in June has recently closed, but we are still seeking more abstracts from operators in the poster paper category.

Demand for WIOA's One Day Water Quality Awareness and Distribution System Management Seminar has been strong recently with a number of seminars staged in Tasmania and many more planned for the Northern Territory and possibly South Australia for later in the year. If you are interested in the content of any of our seminars or would like to consider holding one in year area, feel free to contact the WIOA staff.

Our staff have been busy producing the 2019 Annual Review which was recently distributed to Members. We think the Review provides an excellent snapshot of our organisation and the ever expanding suite of activities that WIOA and our members are engaged in. It also provides the opportunity to celebrate the achievements of many of our members. We hope you will enjoy reading it.

As we did in 2019, and in the interests of controlling our environmental footprint, we have not mailed a hard copy to every member. For those who received the email version of the Review, printed copies are available if you would like one. Just contact the office and we'll mail one out to you.

Finally, those members yet to pay their 2020 fees would have received a reminder in the mail recently. Anyone not paid by the end of February will be removed from the member database, so please make sure you pay promptly.

Until next time,

George Wall – WIOA Managing Director

PROFILE OF A MEMBER



Name: Steve Westgate
Position: Senior Water Quality Optimisation Scientist
Employer: TasWater
Favourite team: Norwich City FC

Pets: Rabbits & Rats (well at least the kids pets)

Favourite food: Curry

Least favourite food: Honey

Favourite TV show: Any Sport especially F1

Worst TV show: Reality

Favourite movie: Shawshank Redemption

Favourite musical artist/s: U2

Ambition in life: None left - too old

Hobbies: MTB and Cricket

Best trait: Calm

Worst trait: Procrastination

Favourite saying or quote: We will get there

How long have you been a WIOA member? (your involvement)

1 Year as a member and recently appointed Chair of the Tasmanian Advisory Committee.

Your involvement with WIOA, what contributions are you hoping to be able to make?

In my role as chair of the Advisory Committee, I hope to increase the visibility of WIOA across our industry.

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

I have been in the industry on and off for around 20 years. I first came into the business via my father who was a principle engineer with Anglian Water in the UK. I was attracted to the scientific aspects of water and wastewater treatment.

What do you enjoy most about your job?

Solving problems and making positive changes to the industry in Tasmania.

What are the major challenges in your current role?

Resistance to change, and poor communication pathways.

Thoughts on the water industry at the moment

I believe this industry in Tasmania is developing at a rapid rate. A significant steep change in cultural and attitude to water quality management has been evident in the past few years.

How do you relax?

On the bike (MTB)

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

I currently live in Hobart Tasmania and enjoy the relaxed lifestyle and attitude to work this state is known for. The city and state offer endless opportunities to explore my outdoor hobbies as well many opportunities to progress in the work environment.

DISCOVERIES FROM THE FIELD

Operations staff never cease to be amazed by the lengths that some people will go to in order to get something for "free" or to break the rules because they can.

Here are a couple of water meter bypass devices discovered in the field, both designed to allow the supply of free water to the customer.

If any other Members have any photos of unusual or interesting discoveries from your worksites, send George or Craig a photo and short description, and we'll share them in future editions.



Meter bypass.



Meter bypass insitu.

SA TOP OPERATOR

Congratulations to Billy Hajek from Allwater JV (Broadspectrum) who was awarded the WIOA 2019 South Australian Operator of the Year award at the Interest Day in Adelaide in November 2019.



Billy Hajek from Allwater with Lena from TAFE SA.

Billy has grown to become a key asset to the Glenelg WW Operations team in the last two years. Prior to his current role as Process Technician at Glenelg WWTP he completed his apprenticeship as a mechanical fitter across a range of metropolitan treatment plants including Glenelg WWTP, Christies beach WWTP, Aldinga WWTP, Happy Valley WTP and Myponga WTP.

At all of these sites, Billy has offered a very dedicated and inquisitive approach to his work, blending strong operational knowledge and troubleshooting with a personable, friendly easy-going manner. He is consistently the first to volunteer for both planned and unplanned operational work and overtime, along with work well outside of core duties.

Examples of the range of extra workload items that he has volunteered for include multiple operational events such as plant shutdowns for capital delivery projects – often nightworks (starting from midnight onwards) through to the coordination of group site tours for both internal (Allwater/SA Water) and external (MFS) stakeholders and involvement in promotional video material for SA Water's social media marketing.

Further to the extra work that Billy performs, he is a high performer in his day to day tasks. His appetite for independent learning has led to countless operational improvements. The forethought and conscientiousness he applies when making operational decisions and plant changes as Process Technician at the Glenelg WWTP, always lead to a high level of plant stability.

Billy demonstrates a commitment to his role as a Process Technician and has brought about positive changes to his workplace.

For winning the award, Billy receives a Perpetual trophy, a plaque to keep and the best bit – TAFE SA as award sponsor provides an all expenses paid opportunity to join the WIOA delegation on their tour to New Zealand in May. The trip is valued at over \$2500.

WIOA TALKS RETURN

WIOA TALKS

The WIOA webinar series titled WIOA Talks will return in 2020 featuring key industry issues and the latest trends and technologies, as well as

general interest webinars on topics and issues that impact people and culture within water businesses.

The WIOA Talks will be scheduled to run for a maximum of 1 hour and will include presentations and an opportunity for a Q&A session for participants via an online chat function.

The topic for the first WIOA Talk for 2020 was a technical session examining Innovations in the Water Industry. Registration and further details on webinars being staged in the coming months will be available on the WIOA website.

The WIOA Talks will allow members from all over the country to hear the latest updates and share knowledge and experiences from the comfort of their own desk! WIOA Talks aim to provide members another way to access information and increased opportunities for collaboration.

For suggestions of future WIOA Talks topics and presentations, or to volunteer to give a presentation at an upcoming webinar, please contact George or Craig at the WIOA office.

WIOA FOOTY TIPPING WILL BE BACK IN 2020



tipping.nrl.com
CODE = 9RWEVVHL



tipping.afl.com
Coming Soon

AFL and NRL competitions return in 2020

The AFL competition code will be provided in a future edition of 'Words' and on the WIOA website.

BUILDING A CAREER PATHWAY FOR THE WATER INDUSTRY WORKFORCE

Queensland's water industry employs more than 6,000 workers to provide water and sewerage services to Queensland's 4.9 million constituents. Water service providers include large distribution retail entities, bulk water supply statutory authorities, councils (including 17 indigenous councils), and water boards along with a range of supporting service providers.

The sector faces complex workforce challenges including ageing, issues attracting and retaining staff, competition from other industries (particularly resources) and general skills and labour shortages. With rapidly advancing technology, ageing infrastructure and increasing community expectations, it is critical that water industry personnel have the appropriate skills and experience to protect public and environmental health in providing essential water and sewerage services to their communities.



Some of the WIW participants in action in the field.

The Water Industry Worker (WIW) Program is a custom, industry designed, competency training program focused

on the formal recognition of skills and training of employees within the civil construction and maintenance field in the water industry.

Participants in the program undertake either a Certificate II or III in Water Industry Operations and move through the program to a Certificate IV Water Operations and/or Diploma of Water Operations qualifications for supervisory staff. The program provides a practical approach to valuing existing skills and includes an RPL component, acknowledging that experienced staff in these roles typically had gained skills and knowledge equivalent to, or exceeding those gained through a recognised trade, without a structured learning framework or other formal qualification.

The program was established in South East Queensland in 2009 with a pilot involving eight local councils, supported by the Queensland Water Directorate (**qldwater**). Since the original pilot, Unitywater, Queensland Urban Utilities, City of Gold Coast, Logan City Council and Redland City Council have continued to offer and embed the program in their organisations with support from **qldwater** through the Queensland Water Skills Partnership.

Involvement in the program has led to positive improvements in workplace practices with on-call staff working across both water and wastewater maintenance teams providing increased flexibility for supervisors when planning works and managing on-call rostering.

Following the success of the program in South East Queensland, a further pilot of the program involving 30 operators was established in North Queensland, with a Project Coordinator employed for a twelve-month period to coordinate the pilot in the Mackay, Whitsunday, Townsville,

Cairns and Burdekin Shire Councils. The Project Coordinator is funded by the Queensland Water Regional Alliance Program (QWRAP) and participating councils.



The WIW Pilot group at the launch.

Training workshops are being delivered by Simmonds and Bristow at various locations among the participating councils with feedback showing that the opportunity for operators to learn from each other, compare processes and look at individual work practices has been extremely valuable.

Mackay Regional Council's Manager Water Network, Jason Cocker, said the program "benefits the individual by offering a certification for the work they are already completing and will add skills and knowledge to our existing plumbers. It also gives us a gateway to our young people in the community to take WIW as a career pathway."

From this latest regional pilot, the Wide Bay Burnett Regional Organisation of Councils, which includes Bundaberg Regional Council, Fraser Coast Regional Council, Gympie Regional Council, North Burnett Regional Council, South Burnett Regional Council and Cherbourg Aboriginal Shire Council is investigating establishment of the program in their region and exploring collaborative opportunities with the North Queensland regional pilot group.



The WIW Group with trainer Liz in the front.

Bundaberg Regional Council's Branch Manager, Water Services, Narelle D'Amico, said the program will "leverage off existing skills and provide a framework for ongoing learning and development that helps promote the value of careers in the water industry."

qldwater continues to provide strategic and implementation support for each phase of the program and hopes that with growing interest throughout Queensland, the program will ultimately become an industry standard for skilling and developing employees within the civil construction and maintenance field in the water industry.

Contributed by Carlie Sargent, **qldwater**

20 YEAR MEMBERS

WIOA recognises any Individual or Corporate members who have maintained their membership for 20 or more consecutive years, presenting them with a special Membership lapel pin or certificate.



This year there are another 14 Individual Members and 11 Corporate or Utility Corporate Members who have qualified for the 20 year recognition pin. The recipients of the pin in 2019 are: Jeremy Bell, Jill Busch, Margarita Carroll, Peter Everist, Peter Gebbie, Brendan Holt, Simon McCracken, Sandy McGregor, Ravi Raveendran, Peter Roberts, Dale Rogers, Wayne Shaw, Ivan Wild and Rodney Wubben.

The eligible Corporate Members are Central Highlands Water, GWM Water, Wannon Water, Coliban Water, Fluidquip Australia, Iwaki Pumps Australia, Jonoco, Prominent Fluid Controls, Regal Beloit Australia, Servelec Technologies and Xylem Water Solutions.

We congratulate them for maintaining their membership and hope they wear the pin with pride.

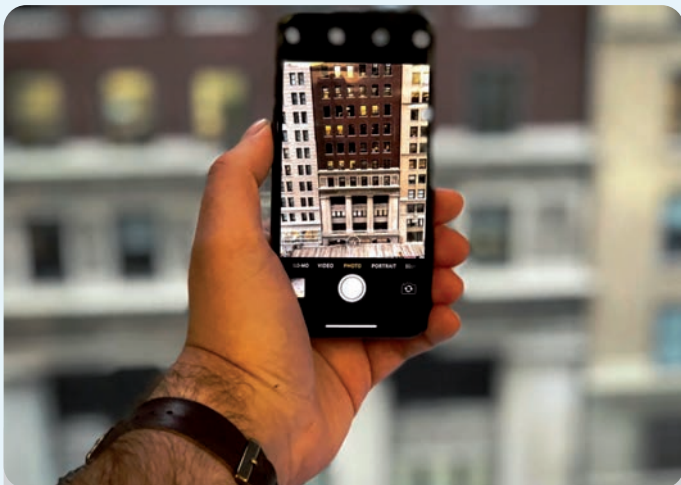
20 Years Ago – the Turn of the Century

It is hard to believe that Y2K was 20 years ago. But what is even more astonishing is how much of the technology we now depend on every day wasn't even around at the turn of the century.

Here are just a few of the things some of us now use every day that were not around on January 1, 2000.

1. iPhone

The iPhone changed everything about mobile phones which, at the time, were mostly used for actually making phone calls.



iPhone.

2. Wikipedia

Sure, you could look stuff up online before Y2K, but the place most people end up today when looking for information about everything from essential to arcane didn't come online until 2001.

3. Digital Voice Assistant (Alexa, Siri etc...)

More and more of us have come to depend on them for everything from setting reminders, checking the weather, and even shopping online.

4. Gmail

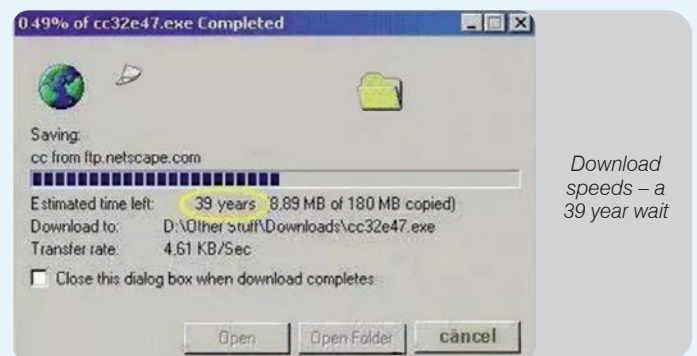
The world's most popular email service wouldn't launch until April 2004. Now it's used by more than a billion people for personal and business email.

5. Facebook

It's debatable whether we wouldn't actually be better without Facebook, but there's no question that it has become deeply integrated in everyday lives. It wasn't until 2004 that Facebook became a thing.

6. Unlimited Data

Today, of course, we use ridiculous amounts of "unlimited" data posting pictures, sharing messages, streaming video, and navigating online. Some of us even still use our phones for actually making phone calls.



Download speeds – a 39 year wait

7. Netflix

Streaming video was seven years away back in 2000.

8. Wireless Earbuds

Remember when people would walk around with big Bluetooth earpieces hanging off one of their ears?

9. Uber

It is hard to deny that ride sharing hasn't completely changed the daily lives of the younger generation in capital cities.



VALE ALLAN MCINTYRE

The WIOA community was saddened in January to hear of the sudden passing of one of our esteemed Members in Allan McIntyre.



Allan McIntyre (L), Dale Campbell and Gary Waraich

Allan worked as a Technical Sales representative at ProMinent for approx. 24 years, a vocation in which he excelled. A chemist by training, Allan had a real passion for communicating and working with operators to help them sort their technical issues.

Dale Campbell from ProMinent delivered a wonderful tribute to Allan at his memorial service in Frankston.

"He loved visiting clients, helping them with technical problems, and just talking to them about what ever popped up. All clients of Allan's that I have spoken to in the last week, have all used the same two words "GOOD BLOKE" He was very well liked by everyone in the industry.

His greatest strengths were his tenacity to know all about any new product released and be the first to sell it, or any new application that he could find, and introduce it into the market. He excelled every time, generating new business avenues in Australia and New Zealand.

He was also the go to man within ProMinent Australia, and some parts of the world, for any technical question about chemicals or chemistry. These questions always got him excited and lit his fire, got his juices flowing, and he would go on for hours and hours about chemical composition, temperature coefficients, molecules, atoms etc. At work Allan was always caring, funny and considerate towards all the staff".

From WIOA's perspective, Allan was one of those committed members who gave 100% effort with everything he did for and with the Association. At the conference or other events, everyone looked forward to catching up with Allan for a chat or to discover what's new.

Allan had a passion for golf and he is credited with helping kick off WIOA's charity fundraising endeavours way back in 1999. Every time he saw WIOA MD George, he would say "When are we having a game of golf". They finally decided to lock in a date for a game in Broadford. Once the date was set, Allan helped chase up some other Corporate Members as sponsors and the first WIOA Charity Golf Day eventuated. Fittingly, the Prominent team captained by Allan won the inaugural Tradies Cup for the best score.

Allan was a regular player at the golf day on and off for the next 20 years. Ironically, ProMinent became the naming rights sponsor in 2019 when the golf day was replaced by a charity Bowls event. True to form, Allan was there participating, sledging, laughing along and having an ale with all the attendees.

Allan will be greatly missed by everyone who knew him.

FLUSHABLE PRODUCT STANDARD

I have been involved in the Australian Standard WS-041 and WG 10 Committees including the Flushable Products Standard working group for the past year representing WIOA. The brief of the working group is to develop an Australian Standard that describes how to identify, test and label consumer products relating to their suitability to be flushed into a sewer network and those that are not.



Developing an Australian standard is a process consisting of 6 main stages:

1. Project proposal
2. Project kick off
3. Drafting the standard
4. Public comment
5. Ballot
6. Publication

The project team started work in May 2018 and I joined the working group during January 2019 with the existing committee up to the 3rd stage - drafting the standard. This is the longest part of the process. The working group consists of representatives from 14 different bodies including packaging, manufacturing and water industry from Australia and New Zealand.



Replica sewer network at the QUU Innovations Centre where trials are undertaken

The committee has worked extensively to develop a test that is relatively easy to perform and is repeatable that can mimic the properties encountered when a product is flushed down a sewer. An international paper industry test was found that will likely be the basis for the flushability test. Another area that the committee has looked at is how these products are labelled.

After the public comment period it is likely the standard will be completed by October 2020

Contributed by Darren Sharman

QUEENSLAND INTEREST DAY

Aquatec Maxcon Group (AMG) were the proud hosts of the WIOA Queensland Interest Day held on 7 November 2019 at their Ipswich premises. Over 60 attendants came from across the state (and beyond!) including operators, engineers and managers.

The focus of the day centred on innovation in the water industry and kicked off with a number of excellent presentations. Peter Ferrando (Managing Director of AMG) delivered the opening presentation covering the history and a general overview of AMG.

Papers were presented by Andy Watson (from the South Burnett Regional Council), Terry Heness (Toowoomba Regional Council) and Gary Hargreaves (TAFE Queensland). The speakers covered topics including: Significant success from the South Burnett Regional Council as a result of using recycled water from their Nerreda Treatment Plant in the growing of cattle feed and for use in irrigation; Toowoomba Regional Council discussed the case study of a water treatment plant currently undergoing trials in order to improve operations; Innovative headset equipment from TAFE QLD demonstrating the future of water technology.



Terry Heness presenting.

To conclude, Jason Lee (QUU) hosted a panel discussion with Tim Hardcastle (QUU), Shannon Thomas (Unity Water) and Marcus Boyd (Toowoomba Regional Council). The panel covered topics including: Future technologies; budgeting and funding; encouraging the next generation to get involved in the water industry. Craig Mathisen also provided an update on developments and what is new in the world of WIOA.



Gary Hargreaves showing off the innovative headset equipment.



Jason, Tim, Shannon and Marcus during the forum.

After enjoying a hearty lunch, attendees were invited on guided tours of AMG's premises. Aquatec Maxcon Design was showcased in the design and drafting area demonstrating how the Company effectively integrates process engineering, mechanical and electrical design. Maxcon Industries specialist steel fabrication was proudly exhibited, with a tour of the workshops. Inside the MPA Engineering workshops, tour groups were shown how the complex design and construction process for an entire switchboard is undertaken.



Inspecting the engineering workshop.

Feedback has been very positive and the day has been described as a great learning opportunity for all involved.

Contributed by Zak Floyd Smith

SA OPERATIONS INTEREST DAY

SA Water hosted an Operations Interest Day at their head office in Adelaide on 21 November 2019 which gave members an opportunity to tour the state's water supply Operations Control Centre (OCC) and the AWQC laboratories. A great roll up of 35 attendees were treated to an excellent range of presentations on a wide variety of topics across both water and wastewater treatment.



SA Advisory Committee Chair, Robran Cock welcomes attendees to the interest day

Presentations were given by Craig Murnane from SA Water who talked about moving to a mobile based works management system & automated dispatch at SA Water/Allwater. This included a demonstration of the SA Water dispatch system which gave attendees an opportunity to see the workflow in the field. Craig was followed by Suzanne Hayes from AWQC who gave a very informative talk on monitoring *Cryptosporidium* in water and recycled water supplies which described a number of the nuances in monitoring *Cryptosporidium* including just how complicated the analysis is.

SA OPERATIONS INTEREST DAY

Dale Osborne from WIOA provided an update on activities and initiatives by WIOA and he was followed by Kym Butcher from SA Water who spoke about the use of smart meters for monitoring water use within SA Water areas and the benefits they were providing in the management of the water distribution system for both SA Water and the customers.

The highlight of the day was the awarding of the 2019 South Australian Operator of the Year award. On behalf of SA TAFE as award sponsor, Lena Marchesan announced Billy Hajek from Allwater as the winner. Steve McMichael from SA Water talked about the Operational Control Group and its function as well as the outlining the OCC.



Steve McMichael from SA Water talks about the Operational Control Group and Control Centre.

After enjoying a hearty lunch, attendees then participated in a guided tour of the Operational Control Centre or the AWQC laboratory. Some lucky attendees even got to do both!



Tour of the AWQC Micro Lab.

Our thanks are extended to SA Water and AWQC for their support of the day. The feedback from participants was that the presentations were excellent and it was a very valuable opportunity to be exposed to so many different aspects of operations in a single day.

Contributed by Robran Cock, SA Advisory Committee Chair

WATER UTILITY IMPROVEMENT PROGRAM

Three Australian water authorities are making a difference to the lives of millions of Indonesians by sharing expertise and staff through a utility twinning program. Despite being home to Southeast Asia's largest economy, Indonesia is still striving to provide clean water and sanitation to its population of 264 million people.



SGW first visit to Jakarta at their new MBBR Plant.

With just 20% of Indonesians able to access a piped water connection and 45% of the country's rivers categories as heavily polluted, the Indonesian Government is taking steps to address the problems, but much remains to be done.

The Australia-Indonesia Water Utility Improvement Program (WUIP), run by the Australian Water Association in partnership with the National Water Supply Association for Indonesia (PERPAMSI) and with support from the Australian Water Partnership (AWP), pairs an Australian water utility with an Indonesian counterpart to help address these challenges.



PD Pal Visit to SGW.

The matched utilities for the Indonesia program are: Yarra Valley Water and PDAM Kabupaten Gianyar; South Gippsland Water and PD PAL Jaya; and Unitywater and PDAM Surabaya.



PD Pal team and SGW team at the Jakarta MBBR plant.

South Gippsland Water's Twinning Partner is a wastewater company in Jakarta where only 10% of the city of 10 million persons is sewered. South Gippsland Water staff have visited PD Pal and determined that Asset management, customer relations and SCADA systems are what they want to improve as part of the twinning program. PD Pal staff have also visited South Gippsland Water in November 2019, a very successful trip with lots of knowledge sharing and training. This is a great program with so much been learned by both parties, and we hope this continues to grow over time.

Contributed by Tom Robinson – South Gippsland Water

WIOA worked collaboratively with AWA to conduct an interest day with a difference in NSW on 29 November 2019. Titled “Does Bias Road Block Your Operations”, the day was focussed on diversity and inclusion, with attention on unconscious bias.

Around 25 people from across NSW came together at the Hunter h2o offices in Newcastle to hear about unconscious bias and diversity and inclusion in the workplace from Lisa Warren from Hunter Water. AWA National President Carmel Krogh delivered a heart-warming presentation, sharing her journey through the water industry which included many anecdotes and stories of arrogance, ignorance and cronyism.



Carmel Krogh shares her journey as a woman in the water industry.

The group was fortunate to be able to spend the afternoon with experienced facilitator, executive coach and keynote presenter, Susan Judd from HRCulture. Susan took attendees on a journey examining potential blind spots that may be present in the workplace, such as diversity, stereotyping of individuals or groups, the use of labels and how the language we use may contribute to bias.



Susan from HRC talks about the ladder of inference.

The day included several workshop activities and even a game that brought attendees together sharing information, making the day a memorable one.

A participants view

One of the attendees at the day was Jack Roberts who was on practical placement with Hunter Water from the University of Newcastle

The WIOA Diversity & Inclusion Interest day held at the Hunter Water office in Newcastle in November 2019 was a great opportunity to meet many individuals from a variety of backgrounds in the water industry. The day provided an amazing networking experience as well as an exposure to our own unconscious biases and how they can surface as a few strategies to combat them.

A lot of the information discussed was not only useful for working in the industry, but is also transferrable to many areas of life.



Belinda Green and Jack at the Interest Day.

Contributed by Jack Roberts

Jack is studying commerce at the University of Newcastle and is undertaking practical placement at Hunter Water.

HANDY HINTS

Computer Shortcuts

Once you try this, you'll use it repetitively every day.

Anytime you want to create a “NEW” item –an email, a document, a new Chrome window, Excel or PowerPoint, just click Control + N (PC) Command +N (Mac). It will create a new “one” of what ever program you're in.

Great Google Searching Tip

Reading something online? Want more information? When in Chrome, highlight any text and right click it.

NETWORKS INTEREST DAY GISBORNE

On Wednesday 13 November 2019, 33 like-minded water industry operational people gathered in Gisborne for a WIOA Networks Interest day.

The key topic of the day was "Safe Water Main Repairs". This involved a morning session at Gisborne town hall where we were all privileged to a short but very informative presentation from Peter Mosse. Peter is highly regarded in the industry for his knowledge and experience in managing microbial risks associated with water networks; safe water main repair procedures and managing waterborne illnesses.

Stephen Hunter then explained the advantages of the Aquadiag Monitoring System. These advantages ranged from cost saving, reduced resource requirements and higher quality, safe drinking water.

The final presentation for the morning came from Arthur Kokolekos from LuminUltra where he gave a quick rundown of the equipment that is available to complete microbial tests in the field. Arthur explained the advantages of the equipment with its speed, versatility, accuracy and portability.



Arthur Kokolekos presenting.

After lunch, provided by Veolia, we all made our way to the Gisborne Water Treatment Plant where Western Water made available a live water main for training and demonstration purposes.



Western Water team undertaking the repair.

The Western Water staff then completed a water main repair demonstrating the safe water main repair practices. This included demonstrating the following:

- A take 5 or SWMS was completed by all in attendance.
- PPE was worn by all Western Water staff involved in the repair.

- Clean and safe excavation ensuring a sump to continually pump the water level at a clearance of around 100mm below the pipe to be repaired.
- All fitting disinfected with 4% Hypo.
- New section of pipe previously disinfected and kept from contamination by keeping it of the ground.
- All tools used where also disinfected to prevent introduced contamination.
- Flushing repair and then completing a microbial test using the LuminUltra kit.



Testing the quality of the water in the field.

The day was a huge success and I'm sure I speak on behalf of everyone in attendance in saying we all learnt heaps from the day. The industry is moving in the right direction with the steps that are being taken in the networks area to ensure the health of everyone consuming our great product - WATER.

Contributed by Andrew Povey, Civil Maintenance Team leader, Wannon Water



Reigning NSW Champions Daniel & Adam from Orange City Council.

Are you the next NSW Main Tapping State Champion

The WIOA NSW Main Tapping Competition will return to this year's NSW conference in Tamworth. Held over the morning tea breaks in the conference the event will culminate with one of the teams being acknowledged as the NSW State Champion for 2020.

The winning team will have the opportunity to nominate a charity to receive a \$1,000 donation, courtesy of the event sponsor Reece Civil.

Register your team by email before Thursday 19 March to: Craig Mathisen at WIOA craig@wioa.org.au

More information can be found at:

<https://wioaconferences.org.au/nsw-2020/nsw-tapping>

BIRDS EYE VIEW - Facilities Members Operate

Marian Water Treatment Plant - Mackay

The plant has the capacity to produce 4 million litres a day from water sourced from the Pioneer River, which originates in the tropical rainforests of the Eungella National Park and the Crediton State Forest. It is treated and distributed to more than 6,000 residents.





- 1 River Water Intake Pumps** Sourced from Pioneer River, surface water is pumped from the Marian Weir.
- 2 Raw Water Tank** Buffer storage and hydraulic detention time for dosed Potassium Permanganate or Pre-Chlorine in the first section of the tank and for Powder Activated Carbon in the second section of the tank. Raw water flow monitoring provides flow pacing signal to Aluminium Chlorohydrate and Polymer dosing.
- 3 2 x Packaged Treatment Trains (Flocculation, Clarification and Filtration)** Gently mixes the dosed water in two stages, to promote agglomeration and growth of floc, separates the majority of flocculated solids from the incoming stream by gravity sedimentation, assisted by high-rate inclined settling plates, separate the remaining flocculated solids from the clarified water stream by gravity, dual media, and constant-level filtration.
- 4 Filtered and Clear Water Storage and Pumping** Filtered water goes to clear water storage via pre-storage chlorine gas disinfection point, and clear water transfers as potable water via post-storage chlorine gas disinfection point to the Marian Ground Level Reservoir.
- 5 Wash Water Storage and Pumping** Clarifier sludge, backwash water and filter to waste is gravity fed to washwater tank for transfer to the Residual Handling System.
- 6 Residual Handling System** Separate solids from the liquid in the washwater and return the settled water in the thickener as supernatant return and for irrigation.
- 7 Geobags and Emergency Storage Lagoon** Separate the liquid stream further from the sludge and increase the dryness of the sludge up to 20% and emergency storage.
- 8 Polymer Storage and Dosing** Coagulant aid/flocculant aid, filter aid, thickener aid, geobag flocculation.
- 9 Chemical Dosing**
 - Potassium Permanganate storage and dosing - for oxidation of Manganese on seasonal basis;
 - Powder Activated Carbon storage and dosing - for algal toxin, taste and odour treatment
 - Chlorine storage and dosing - heavy metals oxidation, pre-filter chlorination, pre-storage tank disinfection and post-storage tank disinfection
 - Aluminium Chlorohydrate storage and dosing - for coagulation of raw water
 - Sodium Hydroxide storage and dosing – for pre and post pH correction
- 10 Site Facilities and Services** Workshop, switchroom, generator, administration building, control room, operator laboratory and carpark.

MYRTLEFORD WWTP – UPGRADE INCLUDING CONSTRUCTED WETLANDS

Following a period of consistent non-conformance with EPA Licence parameters, North East Water (NEW) invested in upgrading the Myrtleford WWTP. The existing plant was a lagoon based system with surface aerators and two maturation lagoons. In 2011, one of the two parallel facultative lagoons at the site was converted to a temporary Chemically Assisted Sedimentation lagoon to reduce TP and SS. Limiting the plant to only one facultative lagoon and one CAS Lagoon created desludging and maintenance accessibility issues.

In 2019, NEW engaged a contractor to perform upgrades to the plant to improve the treatment performance and capacity. The new plant has a dedicated primary lagoon with surface aerators for aeration and subsequent nitrification. The flow from here is dosed with alum before being split evenly between two facultative lagoons for further nutrient and microbial reduction. The flow then gravitates into an existing maturation lagoon which has been utilised to improve capacity and detention time.

To provide a sustainable treatment process, modifications were made to create two parallel polishing wetlands downstream of the 65ML Maturation Lagoon, followed by two parallel CAS Lagoons. The wetlands and the CAS lagoons can be operated in duty/standby mode to allow for maintenance and desludging activities. Desludging occurs via a lobe pump that periodically removed settled sludge from the lagoons to the newly constructed drying beds.

The Wetlands were planted out with six different species of aquatic reeds and rushes to maximise the chances that suitable species would be present throughout the four seasons. It is expected that 2 or 3 species will dominate upon maturity. The initial planting density was 3 plants per square metre and it is expected they will multiply to 500 to 1000 stems per m² over a 12 to 24 month period. During the establishment period the water depth must be maintained at approx. 50mm to promote vigorous growth. After this period the water level can be increased by using weir boards to the operating depth of 300 mm.



Myrtleford WWTP.

Once fully established, it is expected that microbial action over the large surface area created by the wetland plants will reduce TP and TN while the filtering effect of passing through the mass of plant stems will reduce SS. The new CAS lagoons downstream of the wetlands can be used if further treatment is still required to meet the EPA licence conditions.

North East Water staff will be assessing the effluent quality throughout the coming months as the wetland germinates to monitor the effectiveness of the new treatment process and utilisation of a wetland for a polishing step to lagoon based wastewater treatment systems. If successful, NEW will be investing further into this option to improve their other lagoons based treatment systems.

ALI S – ANYTHING IS POSSIBLE

Ali Sacipovic from the Fraser Coast Regional Council was recognised for his water industry talents, as the winner of the 2019 Queensland Young Operator of the Year Award. He shares his passion for water with country music under the name Ali S.

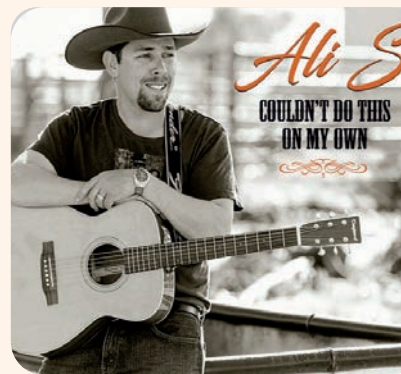
Ali S is an Indigenous Country Music Singer/Songwriter from Boulia and a descendent of the Yulluna Tribe. The Yulluna people are the traditional Indigenous owners of the land surrounding Boulia, one of the most isolated places in the world.

The last 18 months have been incredibly busy for Ali, with his 1st album "Couldn't Do This On My Own", debuting at Number 2 on the Australian iTunes Country Charts. His debut single, 'I Need A Beer', hitting number 3 on the Australian iTunes Country Charts and his second single, "Talking Bout Brooks and Dunn", receiving recognition from Kix Brooks who publicly announced his love of Ali's tribute song to the great duo.

Ali S has a voice that is likened to Buck Owens and Brooks and Dunn. Ali was invited to officially open the Tamworth Country Music Festival in 2017 on the main stage in Bicentennial Park with the graduates of the 2017 CMAA Songwriting Academy. He has performed with his 5-piece band at numerous festivals across Queensland, and was nominated for 5 People Choice Awards, 3 Australian Songwriter Awards as well as named My Country Australia's Album of the Year.

Ali S was recognised internationally with 'Girls Beers Utes & Rodeo' reaching over 230,000 streams on Spotify and receiving airtime on various international radio stations. Ali has continued writing songs with Australia's greatest songwriters with his second album set to be released in 2019.

Ali S wants to showcase Boulia to the world and show the beauty of this truly unique Outback Queensland town. He also wants to inspire people from remote outback towns to believe that even the biggest of dreams are possible. He wants the younger generation to believe that with hard work and determination anything is possible!



Ali Sacipovic
Record Cover

Ali S belting out a tune on stage



REPAIRING A 500MM MAIN

In June 2019, myself and other Central Operations team members from Goulburn Valley Water attended a leak on the corner of St George's Road and Hayes Street in Shepparton. On reaching the site, there was a large amount of water coming up from the road in the middle of a lane in the roundabout. GIS showed that there was a 100mm AC main and also a 500mm concrete trunk main in the area. As we were unsure which main was causing the problem, we had to isolate valves to figure out which main it was.

We had trouble isolating the 500mm main and after much trial and error, we went back through all the smaller 100/150mm valves connecting onto side streets and worked them numerous times as well as working past them to make sure that they were shutting down the main. We then had to go back to Welsford St (525mm butterfly valve) and the Wyndham St/Sobraon St valves (2 x 150mm valves, 1x 300mm valve) to get a shutdown. With some staff shutting valves down, others started cutting into the road after coordinating the setup of traffic control and shutting down lanes leading to the roundabout.

Once the road surface was opened up, a Hydro Vac was used to expose the main to allow us to figure out which one was leaking and to determine how to fix it. After digging down to the main and using flex drive pumps to pump excess water away, we discovered that a collar on the 500mm main had failed and blown out. To add to the already serious and tough nature of the job, there was a large stormwater pipe directly under the main. A decision had to be made on a solution to fix the blown collar. It was decided that repairing it with a bell coupling would be the best way to fix it.



Failed collar on 500mm main.

After searching the depot yard for a while, we realised we didn't have a bell coupling big enough to fit the pipe to repair the leak. We were then back to square one. After much discussion, we decided to do some leading on the collar to slow the leak down, then also fitted a 500mm repair band with a rubber ring to push up against the lead to stop it from blowing out until we could make further repairs. The main was still leaking slowly, so it was decided to dig further along the pipe and underneath to create a sump for the water to pool. A hole was then made in the stormwater drain under the main to allow the leaking water to drain away. As the road was still closed off and a big hole in the road needed covering, we filled the hole with 20mm aggregate rock and placed normal rock on top of that to road level.



Hole in stormwater to drain water away.

Two big steel plates were then placed over the hole so we could reopen the road and let traffic through while we made plans to repair the section leaking permanently.

After more planning and discussions, it was decided to replace a section of the main which required cutting out the collar and replacing a section with 2 Gibbo joiners and pipe. Veolia and NL Drainage conducted the works on the section of main which required Goulburn Valley Water staff to pump out the water in main itself from a swabbing point on Hayes St. The repairs were completed and was a successful job with no injuries occurring or customers affected by low water supply.



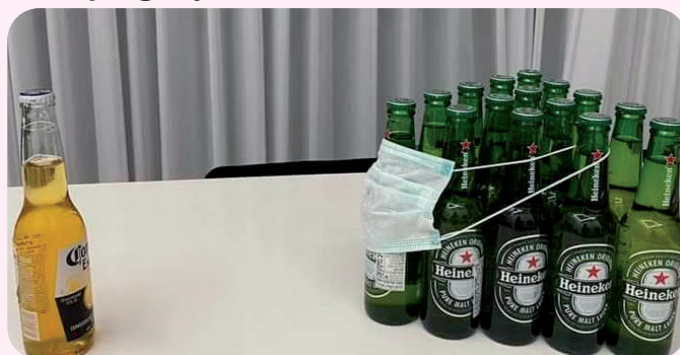
Repairing the section of main.

I found as an operator relatively new to GV Water, I gained valuable experience and knowledge in problem solving, quick thinking and also being calm and not get stressed in a big situation like the one we faced. I was supported by three of our most senior and experienced operators on the job, which also made life a lot easier.

Contributed by Cody Vincitorio, Central Operations, Goulburn Valley Water.

THE LIGHTER SIDE

Keeping my beer safe from Caronavirus



AUSTRALIA'S HOTTEST AND DRIEST YEAR ON RECORD

Last year was officially Australia's hottest and driest year on record, according to the Bureau of Meteorology.

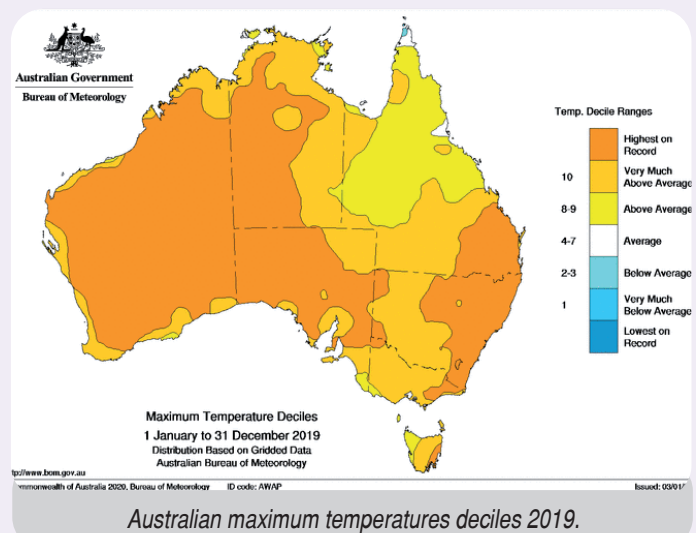
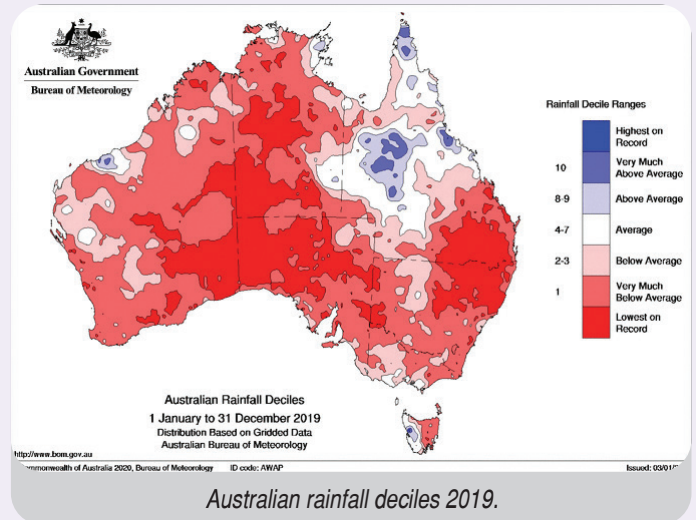
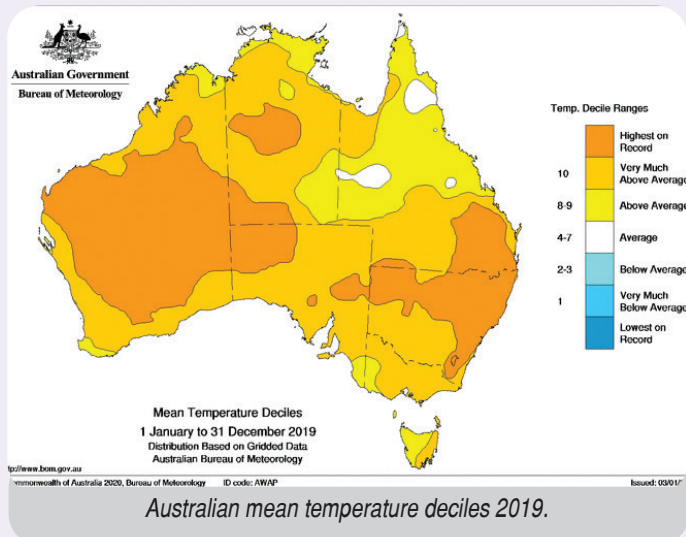
The weather bureau has just released its climate statement for 2019, showing annual rainfall was "very much below average" across the country last year, while the national mean temperature was 1.52 degrees Celsius above average

Annual rainfall in 2019 was very much below average over much of Australia, although parts of Queensland's northwest and northern tropics were wetter than average. The national total rainfall for 2019 was 40% below the 1961–1990 average at 277.6 mm (the 1961–1990 average is 465.2 mm). This makes 2019 the driest year in the 119 years since 1900.

Australia's climate in 2019

- Australia's warmest year on record, with the annual national mean temperature 1.52 °C above average
- Both mean annual maximum and minimum temperatures above average for all States and the Northern Territory
- Annual national mean maximum temperature warmest on record (2.09 °C above average)
- Widespread warmth throughout the year; January, February, March, April, July, October, and December all amongst the ten warmest on record for Australian mean temperature for their respective months
- Significant heatwaves in January and in December
- Australia's driest year on record
- Nationally averaged rainfall 40% below average for the year at 277.6 mm
- Rainfall below average for most of Australia
- Rainfall above average for parts of Queensland's northwest and northern tropics
- Much of Australia affected by drought, which was especially severe in New South Wales and southern Queensland
- Widespread severe fire weather throughout the year; national annual accumulated Forest Fire Danger Index highest since 1950, when national records began

Sourced from the Bureau of Meteorology website www.bom.gov.au



WIOA 2020 ANNUAL GENERAL MEETING



The WIOA Annual General Meeting (AGM) for members will be held online on Tuesday 21 April 2020 from 2pm to 3.30pm AEST.

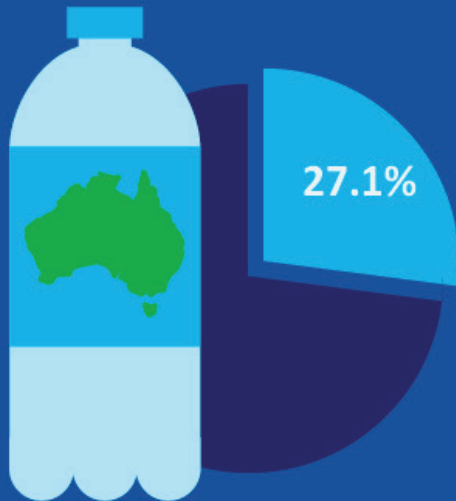
The online platform enables all members to be a part of the meeting and have your say on the direction of the association.

Nominations are sought for members to be part of the WIOA general committee. Five elected positions are available to allow members the opportunity to contribute to the association.

Have your say, get involved, nominate, and register to attend the AGM at: wioa.org.au/about-wioa/agm/

SINGLE USE PLASTIC BOTTLE BAN AT WIOA CONFERENCES

You may not think twice about picking up a plastic water bottle at the airport or a concert and then tossing it in the recycling bin whenever you finish hydrating. After all, plastic water bottles are easy to use and accessible - you can find them pretty much anywhere you go.



27.1% of Australia's population, or 5.3 million people, drink bottled water in any given week.

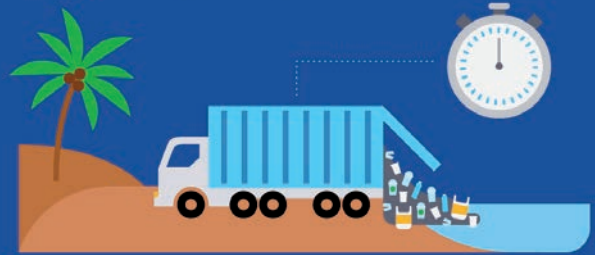
But all this convenience comes at a major price for the environment on which we all rely. Single-use plastics (such as plastic water bottles) add to our landfills, pollute our oceans, and cause untold devastation to wildlife and the environment.

The good news? There's a straightforward solution to the plastic water bottle conundrum. We simply need to use less of them. Single use plastic water bottle bans in cities, states, and entire countries have made major strides, along with people converting to reusable bottles.

In 2020, single use plastic water bottles are banned from WIOA conferences. Thanks to the support of Alternative Lining Technologies, WIOA will supply all attendees with a refillable drink bottle and will have tap water available on site to allow for the hydration of event attendees.

If humans don't take steps to curb plastic waste, plastic will continue to wreak havoc on ecosystems around the globe. Some estimates suggest that by 2050, there may be more plastic than fish in the world's oceans.

A whopping **32% of the plastic packaging produced each year** ends up in our oceans.



That's the same as **dumping one garbage truck full of plastic into the ocean every minute**, and that number is only expected to grow.

That has devastating implications for wildlife and the water resources on which all people and animals rely.

Make no bones about it, plastic water bottles wreak havoc on ecosystems around the globe. But whenever possible, people can choose not to utilise single use plastic water bottles and opt for reusable options instead. In the process, we can all play a part in saving our planet.

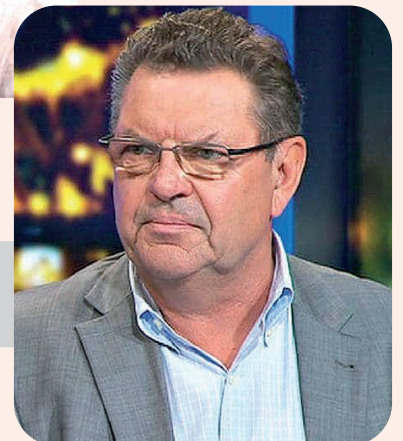
Recycling is not enough. Make the change to reusable today.

WIOA LOOK-ALIKES

We couldn't help but notice that Mike Rankin from Water Training Australia, bears a remarkable resemblance to media personality and Project panelist Steve Price. You be the judge.



Mike Rankin
Water Training Australia



Steve Price
Media Personality

If you know of a WIOA member who has a look-alike send us a photo.

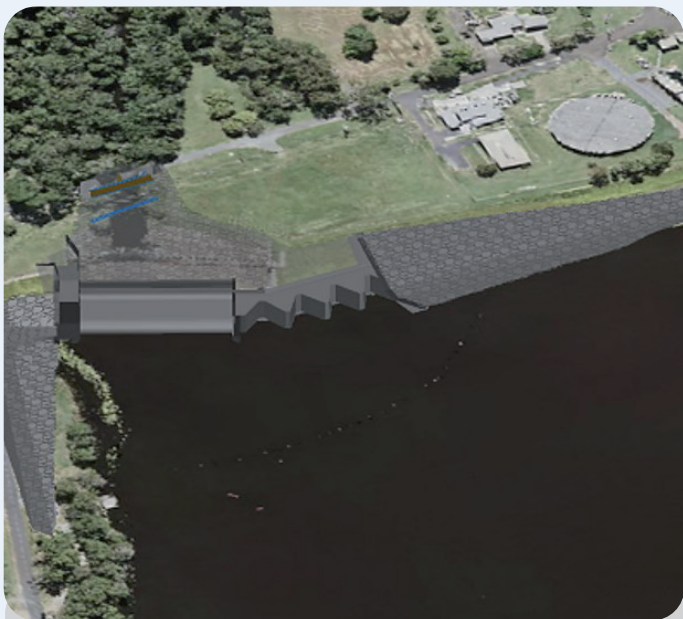
LAKE MACDONALD DAM UPGRADE

The Lake Macdonald Dam is scheduled to be upgraded as part of Seqwater's Dam Improvement Program and the redesign will reduce environmental impacts and protect aquatic life.

It will be the first major upgrade to the dam since the wall was raised in 1980. The upgrade will involve building a new concrete spillway and reconstructing the embankments to better protect the structure against extreme events of nature.

Seqwater has been looking at ways to reduce the environmental and social impacts of the construction project and redesigning the spillway to better protect aquatic life. The new design includes an 'ogee style' spillway which will improve the passage of fish and turtles downstream when the storage is full. Ways to reduce construction traffic during project implementation are also being investigated.

Construction of early works for the project will commence in 2020, including replacing the existing bridge to the Noosa Water Treatment Plant and relocating existing services and utilities. Improvements to the SEQ Water Grid will also be undertaken to continue to provide water to the Noosa region during the construction period. These upgrades will deliver the long-term benefit of permanently improving water supply security for Noosa and the Sunshine Coast.



Lake Macdonald Dam revised spillway design.

To safely build the new dam, the water level in the lake will need to be temporarily lowered. The lake lowering is scheduled to take place in 2021, weather permitting. However, should the current dry conditions continue, the lake lowering and overall project timing will be subject to further water supply security assessments as required. An aquatic management plan is being developed to prepare for the relocation of aquatic life during the lake lowering timeframe.

The lake will now remain open to recreation activities in 2020, including fishing and paddling.

More information is available from Seqwater at seqwater.com.au/lake-macdonald-dam-upgrade

NODP 2020 UNDER WAY

The fourth staging of the Network Operator Development Program in Victoria got under way on 12 & 13 February with the first session held in Melbourne. The 2020 cohort totals 14 with participants from 10 Victorian water utilities and one from Albury City Council in NSW.



2020 Program participants.

This was the first of seven sessions to be held between February and September 2020 at different locations across the State. This session covered leadership issues along with a helicopter view of regulation in the water industry from a variety of perspectives.

Mike Rankin exposed the participants to a variety of leadership topics, covered personality traits and what makes people tick, and started to describe the importance of promoting teamwork, communication, and understanding how to lead and drive change. These and a range of other leadership topics will be further developed across the course of the year.

Also on the program were a number of invited guest speakers. Andrew Lanchbery from the Victorian Department of Health and Human Services (DHHS) and Daniel Hunt from the Victorian EPA talked out the role of the regulator in protecting public health and the environment. Craig Mathisen from WIOA talked about our Diversity and Inclusion journey and Jeff Rigby spoke on the WSAA WHS initiatives designed to help incorporate a safety focussed culture into water businesses.

Participant feedback again highlighted that the candid discussions under "Chatham House Rules" where Peter Quinn and Jeff Rigby, Managing Directors of two Victorian Water Corporations, discussed leadership and a range of other operational issues from their perspectives, was a real eye opener.



Peter Quinn (L) and Jeff Rigby addressing the participants

KWATYE AWARD – CHINA EXCHANGE TRIP

In July 2019 I was honoured to receive the prestigious Kwatye award at the WIOA conference in Murray Bridge South Australia. Winning this award was a privilege, providing me with the reward, recognition and satisfaction for my long hours spent working with some wonderful people in the remote parts of the Kimberley.

But the reward didn't end there, the award sponsor TRILITY had arranged an exchange trip to Beijing Water Group in Beijing China, the following are some highlights from that once in a lifetime trip.



Craig Vallance not too sure about some of this Chinese food.

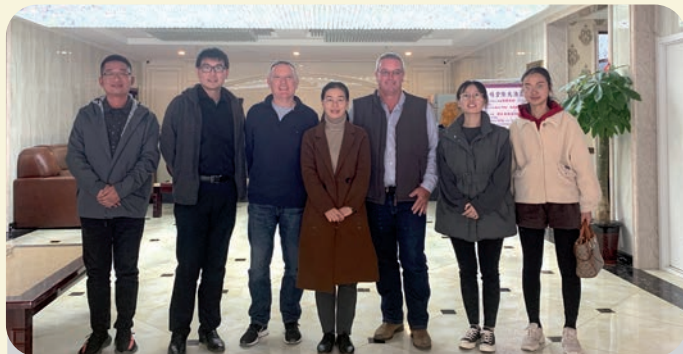
My travel buddy Craig Vallance (TRILITY) and I arrived in Beijing China on Sunday 3rd November and were greeted by our knowledgeable guide and friend for the week, Meng. Our base was the Baifuyi Hotel in the centre of Beijing's buzzing Embassy Precinct.

My first impression of China was nothing like I had expected. What I thought would be congested and dirty, was actually lusciously green and clean, with workers on every corner sweeping up the autumn leaves. It was bloody cold for a lad from the Kimberley.



Paul Beard and Craig Vallance visit the BEWG headquarters in Beijing.

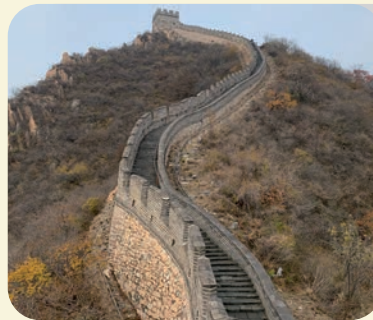
Our first outing was a visit to Beijing Water Groups headquarters for a meet and greet with Mr George Law, who welcomed us with the best coffee I have ever tasted. I was presented with Beijing Water Groups business structure and vision for the future. As the third largest utility in the world with 50,000 staff across the globe; it was impressive to see that Environment was one of the hot topics and business units within the company.



China PB1.

Craig and I were then given a tour of a waste water treatment plant and an award winning water treatment plant in Raoyang, I was most impressed with the dedication of the staff that worked in these two plants, who all took pride in their work area. The General Manager of the Raoyang Water Treatment Plant runs a very tight ship and whilst the language barrier was a challenge, it was evident that we operate in a similar style and share the same vision and values.

In between business activities Craig and I were whisked along freeways to some of the most mind-blowing world heritage sites you could think of. These included the Forbidden City, the Temple of Heaven, Tiananmen Square, Jingshan Park and most excitingly the Great Wall of China.



A visit to the Great Wall.

On our arrival at the Great Wall we (in our wisdom) decided we would climb the steep side because it wasn't as busy as the not

so steep side. After reaching the summit and descending to the bottom for an ice-cream, somebody mentioned that we should climb the other side; no one was game to give in so up we went again.

The trip was nothing short of sensational and it was refreshing to see how water and waste water services have synergies, but can also differ, from one country to the next. I would like to thank WIOA for the award and TRILITY for the amazing prize, this really was a once in a lifetime experience and I am extremely grateful for the honour.

Thank you to Craig and Meng for all of the memories and the fun and laughs we had along the way.

THE LIGHTER SIDE

One of those uuooh moments



TIPS FOR LOOKING AFTER YOUR MENTAL HEALTH



One in five Australians are affected by mental illness annually, yet many don't seek help because of stigma.

1. Find your tribe

Joining a community and building relationships with others is proven to make you feel good. Gaining a sense of belonging, involvement, and purpose can give further meaning to your everyday life.

2. Befriend your body

Exercise is a great outlet for stress release, plus it makes you feel good. When you exercise, endorphins are released through your body and blood is pumped to your brain, which lifts your mood and helps you think more clearly.

3. Food for thought

Your diet and mental health are closely related. Eating quality foods such as vegetables, fruit and lean protein helps to lift your mood, energy and concentration levels.

4. Get a good night's sleep

When it comes to mental health, sleep is a game changer. A good night's sleep helps you feel refreshed. It also boosts your mental and emotional resilience, helps you deal with daily challenges and improves the relationships you have with the people around you. Try to practise good sleeping habits, like going to bed at a regular time each night.

5. Keep your cool

Stress affects people in different ways. While it's normal to feel stressed sometimes, severe and ongoing stress can lead to mental health problems.

6. Be mindful

Mindfulness is focusing on the present. It's about having awareness of your thoughts and learning to focus your attention to where you want it. Practising mindfulness in your day-to-day life can reduce stress and improve your physical and mental health.

7. Reach out for help

If emotional or behavioural problems are significantly disrupting yours or a loved one's life, it's important to get help from a professional early. Any ongoing and significant changes can be a sign that you or them may have, or are developing, a mental health issue.

Signs of mental health issues are different for everyone but here are some of the common ones that can be detected early:

- feeling unusually stressed or worried,
- feeling depressed, unhappy or grumpy most of the time,
- feeling restless and tired a lot of the time,

- feeling things have changed or aren't quite right,
- being quiet or withdrawn and losing friends,
- not enjoying, or not wanting to be involved in things that you would normally enjoy,
- having emotional outbursts or feeling sad, 'down' or crying for no apparent reason,
- increase in drug or alcohol use and/or depending on these substances to feel "normal",
- feeling guilty or worthless,
- having negative, distressing, bizarre or unusual thoughts,
- significant lack of self-care.

Counselling Services

Lifeline: 13 11 14

Beyond Blue: 1300 224 636

MensLine Australia: 1300 789 978

Kids Helpline: 1800 551 800

Source – Beyond Blue website

VIC WOW BREAKFAST 2019



WIOA hosted the first Victorian Women of Water (WOW) breakfast at the 2019 Bendigo conference. The WOW breakfast is an opportunity for women from different organisations to meet up and network before attending the main conference. There was good

representation of women working in the water industry at the breakfast, from those working in operations, technical officers/support staff, management staff and more.



Victorian WOW Breakfast.

This event is a great introduction to the conference. It allows first time conference attendees to meet other women before the event, making it a little less intimidating for them and potentially providing a familiar face to talk to if needed. It also allows those members that have been to many WIOA conferences to communicate what events are on offer at the conference ("you can't miss the tapping competition!"), and what stalls or presentations to look out for.

I'd like to thank Hanna Instruments for sponsoring the event and supporting Women of Water and look forward to attending the WOW breakfast again in 2020.

Contributed by Elise O'Keefe, Goulburn Valley Water

MYPONGA WALKWAY UPGRADE

The Myponga Reserve is a reservoir in South Australia, located about 60 km south of Adelaide. It provides about 5% of the City of Adelaide's water supply.

As part of the rejuvenation of access for personnel to maintain the pipeline, SA Water deemed the deteriorated and unsafe wooden walkways needed replacing.



Old wooden walkways.

The main challenge posed was to overcome the large spans between supporting steel work of the trestles, yet be lightweight enough to be installed easily at 10 metres or more above ground level.

Treadwell was able to provide our lightweight engineered GridEX® pultruded fibreglass grating which exceeded the load and span requirements.

Treadwell's FRP grating can simply be cut onsite for any variance on task and does not require a hot works permit which may pose a fire risk given the surroundings of the site. Once in place, these GridEX® FRP grating requires very little maintenance and upkeep, if any.



New FRP walkways.

Now completed, the access trestles will last a long time despite the exposure to the environment.

More information from Treadwell on 1800 246 800 or at treadwellgroup.com.au

LOW FLOW, LIGHTWEIGHT WASHDOWN GUN

Available in stainless steel or a brass and stainless steel combo, the Blue Princess washdown gun uses 26% less water than regular washdown guns. It's also lightweight – a real benefit for cleaning teams where washdown guns are constantly in use.

But don't be misled by its dainty name. The Blue Princess washdown gun is extremely durable thanks to its rugged construction, sturdy hinge joints and dual internal seals. In fact, it's suitable for use with a wide range of chemicals and comes with FDA approved EPDM seals.

The Blue Princess has a carefully designed nozzle tip to provide even water distribution that is simple to adjust from a wide cone to a narrow point. This versatile spray direction allows the user to easily clean in tight corners or remove stubborn material. The revolutionary nozzle design also provides a perfect spray pattern without dripping, which yields even greater water savings.



Blue Princess SS Washdown Gun.

The Blue Princess uses less than 20 L/min of water @ 4 bar. It can tolerate water temperatures up to 95°C and maximum water pressures up to 25 bar.

But the Blue Princess is more than functional. It's also extremely comfortable with its velvety soft rubber surface, trigger grip, compact size and light weight. Take cleaning to a royal standard with the Blue Princess!

The Blue Princess is exclusively available from Tecpro Australia. They have the largest range of washdown guns in Australia and New Zealand.

For more information or to investigate other water saving washdown options, call Tecpro Australia on 02 9634 3370 or visit www.tecpro.com.au

VIBRATION SENSOR SIMPLIFIES ASSET MONITORING

New wireless vibration monitor uses embedded analytics to forecast when, how, and why assets may fail, freeing up resources while enhancing insight into operational performance

Emerson has introduced the AMS Wireless Vibration Monitor, a low-cost, easy-to-deploy vibration sensor that performs prescriptive analytics on vibration data using native software to automatically identify failure modes and prevent potential problems involving rotating assets. The new compact device makes it economically feasible to fully monitor motors, pumps, fans and other critical plant equipment to reduce downtime and achieve more reliable operations.

Many organisations lack the analysis expertise to translate vibration data into asset health. The AMS Wireless Vibration Monitor provides a solution by collecting and contextualising vibration data to generate actionable information. By applying Emerson's patented PeakVue™ Plus technology, the device not only identifies when and how assets will fail, but also why. Technicians—regardless of expertise—can quickly and clearly identify and prioritize common mechanical issues such as bearing defects, gear wear, under-lubrication and pump cavitation, enabling them to focus more on operations-critical tasks.



Emerson's vibration sensor can simplify asset monitoring.

The AMS Wireless Vibration Monitor operates on a plant's existing WirelessHART® network and fully supports the vibration analysis tools included in Emerson's AMS Machine Works software. It uses a triaxial sensor to capture data in three dimensions to generate a complete picture of the machine condition.

The AMS Wireless Vibration Monitor is the latest addition to Emerson's comprehensive health monitoring portfolio, which includes the AMS Asset Monitor and AMS 6500 ATG. Together, these devices help organizations fully monitor the health of machinery equipment, from essential assets to operations-critical assets that can have immediate impact on safety and production.

For more information on AMS Wireless Vibration Monitor, please visit www.emerson.com/WirelessMonitor

KDS TECHNOLOGY DELIVERS FOR JJ RICHARDS

Waste management leader JJ Richards & Sons is proving an environmental initiative in Sydney that eliminates landfill dumping of commercial and retail food waste by transforming it into valuable green energy and fertiliser.

The company's custom-engineered waste reception centre at Seven Hills uses CST Wastewater Solutions' KDS multi-disc fine screening and compaction technology as part of its automated process that turns pulped food waste into a cake form.

The automated and processing and dispatch facility features high speed drive-in pulp receipt bays and treatment tanks for the thousands of tonnes of throughput delivered by Pulpmaster tankers.

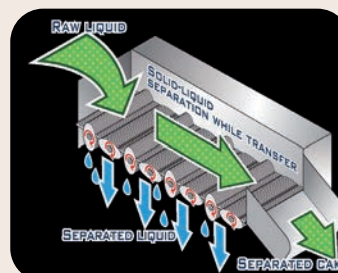
The slurry goes through ultra-fine (1mm) screening from CST Wastewater Solutions before passing through the KDS dewatering and liquid separation process. It transforms the sloppy pulp waste into a hygienic, compact and much lighter dewatered cake that is easy to handle and costs 50% less than heavier wet waste to transport to users of the output. The material is used by farms and other agricultural enterprises as high potency fertiliser and for production of biogas to reduce their environment footprints whilst simultaneously boosting their output with natural fertilisers and fossil fuel replacement green energy.

The KDS system can be run continuously and reliably with low energy consumption.

Applications for which the KDS separator is designed include:

- Food processing waste, including snackfoods, kitchen and restaurant waste, raw wastewater (primary screening) and sludge
- Sewage treatment, including raw wastewater (primary screening) and sludge to landfill
- Abattoir, feedlots, and dairy farm wastewater and sludge. Cattle manure cake dryness of 25-35 per cent is typically achieved
- Pig farm raw manure and sludge, with cake dryness of 20-30 per cent.
- Barrel polishing water, water-based paint wastewater, grease trap waste, dyeing wastewater, waste oil, and plastic recycling.
- Seafood processing

For further information contact Mr Michael Bambridge, on 02 9417 3611 or visit www.cstwastewater.com



BETTER WATER AND MORE OF IT

The Omeo WTP raw water storage reservoir draws water from Butchers Creek which has had issues with algae growth in the past. Algae would be carried from the river into the lined reservoir above the plant. The algae makes the water more difficult to treat to potable water standards. Unwanted nutrients from ducks and wildlife accessing the reservoir also compounded the algae problem. As a result, the reservoir required regular emptying and cleaning, to mitigate the effects of algae on water quality and treatment.

Aiming to reduce reservoir maintenance and the intensity of treatment required, a thorough assessment of available reservoir covers was performed. Critical factors included capital cost, maintenance cost, and effectiveness in reducing UV penetration (thereby limiting growth of algae). In this case significant evaporation reduction was seen as an added benefit rather than a critical factor. Hexa-Cover R114 tiles were determined as the preferred technology, and were used to cover the raw water reservoir at Omeo WTP. Installation was achieved by pouring shipping containers of the tiles into the reservoir.

East Gippsland Water's Coordinator Environmental Services, Jaymie Dawes says the results of installing Hexa-Covers at Omeo have been positive. "We installed 108,000 Hexa-Cover discs in June 2017, and since have seen a notable reduction in algae growth and E. coli in our raw water storage, which makes the water much easier to treat. We are now well into the third summer since installation and the reservoir has not needed to be emptied or cleaned."



Jaymie Dawes at Omeo WTP Raw Water Storage Reservoir

The hexagonal tiles float freely on the water surface and arrange themselves in a grid that self-compensates for different reservoir shapes and varying water levels. The small size of the tile is an effective deterrent to waterfowl. Up to 99% coverage of the surface area can be achieved, resulting in reduced evaporation, reduced contamination (from multiple sources) and improved water quality. Even in situations where there are exposed surface areas as the tiles blow in the wind, water quality improvements appear unaffected.

For further information please contact Paulus des Anges (Earth, Water and Infrastructure) on 0484 220 956 or email paulus@e-wi.com.au.

NEW PRODUCT RELEASE FROM SWAN ANALYTICAL

AMI SAC 254 UVT online analyser

SAC 254 is a sum parameter, which indicates the organic load in potable water, raw water, coagulation/ flocculation/ sedimentation and wastewater, as UV Absorption at 254nm which is typically dominated by organic contaminants.

The AMI SAC 254 is an online monitor for continuous measurement of UV absorption at a wavelength of 254nm. The Unique patented design allows stable measurement without drift and is insensitive to fouling. A broad measuring range from 0 to 300/m with 0.05/m detection limit or 0 to 100% UVT. The analyser also has an integrated Turbidity correction at 550nm according to DIN 38404-3 which can be turned on or off as required.

This analyser has no moving parts and only a single window in the optical path which is filled and drained every 30 seconds with a unique siphon effect. No moving parts provides reliable measurement.

The SAC 254 analyser can be correlated to TOC, DOC and BOD with laboratory tests and may be entered in the analyser to allow fast detection.

For applications in wastewater or heavy fouling potential, a chemical cleaning module may be added to assist with the analyser with automatic cleaning cycles.



SAC 254 with Cleaning option and pressure regulator fitted.

Contact Chris Wellard (+61) 0408 626 542 or the website <http://www.swan-analytical.com.au>

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:

Shannon Thomas, Paul McDonnell, Jess Thomas, Reagan Whitehouse, Mark Thone, Karl Wirth, Matthew Krumins, Elaine Ferteis, Meg Humphries, Nick Stephens, Sam Weston, Luke Finnegan, Nick Rowlands, Samuel Jackson, Akhell Soltan, Frances Bates-Crisp, Damien Baillie, Pat Sharp, Callum Mackie, Wayne Sly, Steve Shakespeare, Emily Quek, Martin Harris, Colin Arkell, Matthew Smit, Kegan Connarty, Mark Congerton, Helen Smith, Debbie Archer, Kane Barlow, Christine Bingham, Will Brooker, Rory Bull, Rod, Cogo, Craig Dunston, Shannon Dwyer, Stewart Galloway, Jackie Gaudion, Drew Hade, Cameron Hill, Benjamin Ivory, Peter Mackay, Dion Mallia, Geoff McAdam, Michael Smith, Rowena West, Jake Whitelaw, Michael Wink, Damian Yates, Ian Stewart, Steven Larsen, Alana Mulqueen, Dylan Angwin, Jordan Bell, Luke Biram, Jacob Bright, Ryleigh Coombes, Matthew Keown, Jaimelee Kruth, Paul Meekings, David Platt, Prith Roy, Darcy Tiziani, Bailey Wake, Toby Williams, Tama Whatuira, Liam Barrass, Song Li, Joseph Sydenham, Paul Hochman, Ihsan Hamawand, Tim Glover, Alexander McKeown, Mark Waldron, Jayden Butterfield, Karl Peteraitis, Shane Sumners, Oliver Joost, Nicholas Ralph, Brad Marquand, Declan Reilly, Gary Collier, Chris Jones, Glenn Harris, Brock Ivory, Matthew Cruickshank, Keith Sanders, Rod Martin, Steve Neely, Peter Sibley, David Husband, Iain Clay, Peter Dunn, Graham Richardson, Mariah Murphy, Tyler Dutton, Ferrah Mehrabi, Shashi Kumar, Hannah Norris, Bryan Abarca, Amid Akhayani, Tony Arneil, Stewart Batchelor, Al Baxter, Anthony Bowdler, Joesph Camenzuli, Conor Coleman, Matt Dasczyk, Scott Davis, Stephen Donovan, Peter Gasiliauskas, Stuart Glanville, David Green, Peter Hales, Roden Heap, Sushil Joshi, Kathryn Kacperrek, David Kemp, David Laird, Greg Mckay, Keiran O'Rourke, Glenn Phillips, Wayne Rapley, Peter Ross, Christopher Sammut, Cain Taylor, David Towle, Robert Weidemier, Enver White, Robert Wilson, Marc Avery, Alan Batchelor, Darren Bell, Damien Bourke, Joe Bowen, Jon Braund, Alan Carragher, Ian Coyne, Shaun Cupples, Roberto Da Silva, Robert Dowie, Wayne Griffiths, Glen Harris, Tim Harris, Greg Johnson, Mark Johnson, Dominique Keirens, Scott Parker, Dion Sleep, Shane Underwood, Kevin Wallace, Lewis Wells, Rob Wilder, Corin Young, Wayne Diemar, Christina Semasingha, Peter Luck, Raj Chidambara, Alex Roycroft, Taylah Jager, James Marshall and John Kay.

New **Utility Corporate Members** include:

Mid-Western Regional Council.

New **Corporate Members** include:

HyQuest Solutions, Sewerquip Group, Halgan Environmental, Pump Systems, Atlas Copco Power Technique, All Purpose Pumps, Teksal Safety, Earth, Water & Infrastructure, Seepex Australia, Emtivac Engineering, Pumps Australia, JR Richards & Sons, Inenco Group, Mullaly, Rangedale Drainage & Industrial Services, DAB, Viega, Spill Station Australia and Amtac Professional Services.

2020 COMING EVENTS

3 March	Victorian Recycling Interest Day , Melbourne
5 March	qldwater Skills Forum , Brisbane
6 March	Queensland Charity Bowls Day , Yandina
23 March	Committee Nominations close
24 March	Tasmanian Operations Interest Day , Spreyton
16 April	South Australian Interest Day , Glenelg
21 April	WIOA Inc AGM , Online
5-7 May	Ozwater , Adelaide
15-23 May	WIOA Tour to New Zealand and WIOG Conference , Napier

2020 CONFERENCE AND EXHIBITIONS

1 & 2 April	14th WIOA NSW Water Industry Operations Conference & Exhibition , Tamworth
3 & 4 June	45th WIOA QLD Water Industry Operations Conference & Exhibition , Toowoomba
5 & 6 August	3rd WIOA SA Water Industry Operations Conference & Exhibition , Murray Bridge
2 & 3 Sept	83rd WIOA VIC Water Industry Operations Conference & Exhibition , Bendigo

WIOA COMMITTEE

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NEXT EDITION

Article Contribution Deadline for the next edition is 10 April 2020

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