

OPERATOR

May 2020 Edition



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WIOA pays the MCG a visit. Read why on Page 4.

Working from home hat day.
Craig gets into the spirit
Read more on page 9.



Shannon Thomas from Unitywater was awarded the Kath Jobberns medal at the Qld Bowls day. More on Page 14.

Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA

FROM THE MD'S DESK

What a tumultuous year 2020 is turning out to be. We noted in the February edition of Operator that members were dealing with the impacts of drought, heat wave conditions and massive fires. That was followed soon after by heavy rain and associated water quality issues from ash and contaminated runoff. If all that wasn't enough, along came COVID-19 lockdowns in March to totally tip everyone's world upside down. In amongst all the challenges, operators around the country have taken everything in their stride and have adapted quickly. Most importantly, they continue to deliver high quality and safe water and wastewater services to the community.

I have been intently watching the community support and recognition of the essential workers. It goes without saying that we are all in awe of the healthcare workers and what a fantastic job they do in looking after us all. Interestingly though, I have seen truckies, supermarket workers, school teachers and even the service station attendant all receiving public media accolades for their roles. Disappointingly, I can't recall seeing anyone mention the apparently invisible water and wastewater operational staff. Rest assured you are not invisible to us, and we acknowledge, congratulate and respect you all for a job well done.

In responding to the pandemic from a business continuity perspective, water utilities quickly developed protocols to protect their key operational staff and to reduce the risk of the virus infecting a whole team. A range of measures have been implemented such as separating work teams, starting and finishing from home instead of central depots, travel bans outside of local areas and restricting access to the various treatment facilities to name just a few.

The impact of the Coronavirus is being felt across the board and WIOA has not been immune. Unfortunately, the lockdowns and new rules on social distancing, gatherings and close personal contact forced us to cancel the NSW, Queensland and South Australian conferences, along with quite a few other planned face to face events.

The cancellation of the exhibitions and the facility lockouts has also had a major impact on WIOA's Corporate members, many of whom rely on our exhibitions to showcase their new products, services or technology. In response, we are excited to announce that after extensive discussions with our Members, WIOA will launch **Virtual Water**, our online conference and expo platform on Wednesday 22 July 2020. Virtual Water is a visually rich and highly interactive 3-D virtual experience, that recreates the feel of a physical event. This platform and all the information included within it, will be accessible 24/7 for a 12 month period and access will be free for WIOA members. There is more detail about Virtual Water on page 11 of this edition, and we hope that all our members will support this new initiative.

An integral component of Virtual Water is the technical sessions in the virtual auditorium. Although we have access to content from the recently cancelled conferences, we are looking for more. Each of our state based Advisory Committees are currently liaising with Members to determine

what information they would like to access from the platform. If any members have ideas, topics, themes or potential presentations of interest that you would like us to consider, please send us an email.

The State based Advisory Committees have held meetings recently and although the current COVID-19 restrictions mean that face to face events are not possible right now, some planning is under way on a range of activities and interest days for later in 2020. If these days are able to proceed, we trust that all Members will take the opportunity to participate when something is staged in your area. More information will be supplied in the future.

In April, WIOA conducted our second online AGM allowing more than 50 Members from right around the country to participate. Heidi Josipovic and Mark Samblebe were re-elected to the President and Vice President positions. We also welcomed Kathy Northcott onto the Committee for the first time. Our thanks were extended to outgoing Committee members in Lindsay Walsh and Sally Shepherd (Taylor) for a job well done over several years.

The May edition of WaterWorks has just been completed and it will be distributed to all Members shortly. We are looking for ideas and potential content for the November 2020 edition. In the absence of our normal events around the country, we are not currently finding out about the great work being undertaken in our industry. Please let us know if you are aware of good work being undertaken either within your business or somewhere else and we can follow things up.

Several 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. All the draft material created to date is available for comment until 2 June 2020 on the Australian Industry Standards website.

We made the decision in March to reschedule the Victorian conference and exhibition to the last week of November in to give it the greatest possible chance to proceed. We are continually monitoring the situation in relation to the easing of social restrictions and we are hopeful that the event will still go ahead. The Call for Papers is currently open and the abstract submission instructions are available on the WIOA website. We will provide more information to Member, once the rules on events and gatherings becomes clearer.

I can't sign off without giving the team from Mackay Regional Council a huge pat on the back for their Marian WTP sample taking out the Silver Medal in the Municipal Water section of the International Water Taste test competition held in Berkeley Springs in the USA in February. This is now the third time that an Australian sample has come in second place and hopefully we'll crack the gold at some point in the future.

Until next time, stay safe and healthy.

George Wall – WIOA Managing Director

PROFILE OF A COMMITTEE MEMBER

**Name:**

Alan Butler

Position: Water & Sewer Process Engineer

Employer: Port Macquarie-Hastings Council

Nickname: In a former life in the UK I was called the polar bear because I like a cold office, I haven't heard what I'm being called in Aus!!

(someone please be kind enough to let me know gently)

Favourite team: - Formula 1 - Mercedes Lewis Hamilton & Renault Danny Ric (don't follow other sports)

Pets: Dog Labrador (Buddy)

Favourite food: Anything spicy

Least favourite food: Turkish Delight

Favourite TV show: F1

Worst TV show: Eldorado

Favourite movie: The Italian Job 1969

Favourite musical artist/s: Phil Collins

Ambition in life: - World Peace!! No, having a good work life balance and making a difference in the water industry

Hobbies: Working! Sorry that's not a hobby, I enjoy family time, Oh and working!

Best trait: I will challenge the status quo and not just accept that we need to do something because it is programmed. I will always stand up and be counted for the decisions I make.

Worst trait: Taking on too much, not saying no

Who do you admire? My Wife (she puts up with me and does so much for me)

Favourite saying or quote: If it is easy, anyone could do it!

Four people you would invite to dinner Our family as they are all on the other side of the world and we don't get to see them much.

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

I have been a WIOA member since emigrating in 2011. I have supported WIOA in many areas including conference volunteering, setting up interest and charity days. I have sat on the NSW WIOA Advisory Committee for a number of years and I am the current NSW WIOA Advisory Committee Chairman. In my current role with WIOA I am hoping to be able to ensure that all our members individual and corporate fully utilise the advantages of having an organisation like WIOA supporting the industry to get better outcomes, recognition, training & regulation.

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

I have worked in the water industry for 31 years in many different roles. I worked for the UK's largest water utility

Thames Water for 23 years prior to being approached to transfer my skills to the other side of the world and manage a Councils water supply just south of Sydney where I worked for 5 years prior to moving to Port Macquarie. Over the years I have worked in water and wastewater treatment operations, water and wastewater reticulation and distribution, maintenance delivery and management and as a Technical Manager for treatment advisory and audit.

What do you enjoy most about your job?

No two days are the same and making a difference. Utilising my skills and experience to show that there is another way.

What are the major challenges in your current role?

No Water, we are currently in Level 4 water restrictions and trying to ensure water security at the same time as delivering emergency treatment options is a real challenge, but again "if it is easy, anyone could do it!"

Thoughts on the water industry at the moment

The Australian Water Industry needs to seriously consider, regulate and develop approval mechanisms for indirect and direct potable reuse of recycled wastewater to ensure a sustainable drinking water supply for the future.

How do you relax?

Working! No watching F1

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

Port Macquarie - the beaches, the climate, everything!!

THE LIGHTER SIDE



VICTORIAN RECYCLING INTEREST DAY

The WIOA Victorian Advisory Committee held their recycling interest day on 3 March in Melbourne. One of the highlights of the day was a tour of the Melbourne Cricket Club's recycled water treatment plant and recycled food facility.

The day kicked off with industry presentations discussing current and future recycling opportunities.

- Kathy Northcott from WaterRA gave a presentation on the rewards and challenges of potable reuse. Her insights into the power of language were particularly interesting, how someone who wouldn't touch "treated wastewater" would be happy to drink "purified water".
- Anthony Evans spoke about Wannon Water's reuse schemes, including providing recycled water to the Mortlake Power Plant, and the treatment process required to produce Class A recycled water for Iluka Mineral Sands.
- Ron Bergmeier asked us "where is the sludge?" His presentation was informative and entertaining, using his experience in the industry to provide advice for getting the best results when managing biosolids and de-sludging lagoons.
- Amber Robinson introduced us to the Class A wastewater recycling scheme that Downer manages for the MCC.



Ron Bergmeier presenting.

The more formal part of the day was wrapped up with a WIOA update from Craig.

After a tasty lunch we were off to the hallowed grounds of the MCG. During summer, recycled water is used on Yarra Park and over winter it is used for toilet flushing and wash-down water inside the stadium, reducing the MCC's potable water demand by half. The tiny wastewater treatment plant supplies up to 600 kL/day of recycled water, all while hidden underground right in front of the MCG!



Daniel from Downer leading the group underground.

We were all impressed at how compact the plant was, with no noise or odour complaints despite the thousands of people who walk by every weekend!

We then viewed the green waste recycling facilities at the MCG site. Compostable goods are broken down on site and used as fertiliser on the Yarra Park lawns, and other waste is sorted into 26 different streams to be recycled.



Vince from the MCC takes us into mostly unseen areas of the MCG.

It was a great day, enjoyed by all, though I hope everyone else had better luck convincing their friends and family that a real tour of the MCG isn't complete without seeing the waste facilities!

Contributed by Brydie Campbell from North East Water.

PARKES INTEREST DAY

On 26 February 2020, WIOA and Parkes Shire Council facilitated an Interest Day which provided a great opportunity to gain a better understanding of the different projects and opportunities from Recycled Water.

Our industry's initiative of implementing recycled water projects provides an opportunity to better utilise an often undervalued resource, and with changing climate patterns, can provide a reliable supply of water for a number of different purposes.

Throughout the Interest Day at Parkes, attendees heard from several presenters who provided further insight on a broad range of strategies to implement recycled water projects. This included presentations from:

- John Hawkins from Albury City Council, who discussed the environmental and community benefits from a scheme that uses both agricultural reuse, and release, an approach which had made significant environmental benefits to restoring the Wonga Wetlands, which in turn had created a prized community asset.
- Greg Cashman from Prominent gave an interesting overview on the fundamentals of pump selection and some valuable troubleshooting tips on incorrect operation.
- David Sheehan from Coliban Water provided a comprehensive overview of the current information on international potable reuse water schemes. These included insights on the key success factors for implementing potable reuse; and
- Clara Laydon from Hunter H2O presented an informative session on the key terms and fundamental elements to sizing agricultural reuse schemes and the implications of different reuse targets.



John Hawkins presents about the Wonga Wetlands.

Parkes Shire Council's Gabriel Oliveira presented on how council applied biosolids to a neighbouring farming area, which provided some unique insights into the practical challenges and successes of the project. Julian Fyfe introduced Parkes' new recycled water treatment plant. The program of works for the recycling plant was recently recognised by Engineers Australia and the Australian Water Association for innovation, excellence in technology, business and delivery. The afternoon concluded with a guided tour of the reuse facility.



Graeme Bayliss from Parkes SC leading the tour.

Overall, attendees shared a successful, informative gathering of diverse topics, presentations and initiatives. The WIOA interest day provided a great opportunity to learn from those that work on, or in, Recycled Water projects, as well as sharing stories, experiences and expertise.

THE LIGHTER SIDE

My new social distancing shoes have arrived



In November 2019 WIOA established a Diversity & Inclusion Group to provide advice and support and assist WIOA to ensure we have an inclusive culture, that embraces diversity, celebrates differences and encourages participation. WIOA members should feel respected and supported and access and enjoy the same rewards, resources and opportunities regardless of gender, age, cultural norms, values, beliefs, and linked expectations.

WIOA embraces diversity and inclusion and consider it is integral to our culture, our values and the way we do business.

Members of the group have been meeting to look at initiatives that WIOA can implement and thought it would be good to let the wider membership know who they are. Feel free to contact members of the group if you have any ideas or initiatives that the group and WIOA can consider.

We provide a little bit of information about some of the members of the group and a bit of their own back stories that led them to get more involved with WIOA. We will provide information on the other members - Jillian Busch, Mick Clewes, Bill Collie and Craig Mathisen in the next edition of Operator.

Cameron Hill - Gippsland Water



In my previous work I have pushed for and participated in diversity and inclusion groups. I am particularly passionate about LGBTIQ+ and the inclusion of Aboriginal and Torres Strait Islanders. As a gay man with a koori partner I am passionate about inclusion for everyone. I participate in programs to enhance my diversity and inclusion knowledge because having inclusive workplaces pays dividends for employees and employers. I am ready to help bring about positive change.

I'm new to the Water Industry, my background is in Commercial Real Estate where I analysed data to allow clients to maximise office space utilisation. That background has translated to data analysis on sewer systems to prioritise maintenance scheduling.

I don't know a lot about my lineage other than there is a lot of Irish and some Scottish and English. My family have been in Australia since the gold rush.

I prefer to take pride in my involvement in making positive changes for people living now, and undoing structural hangovers from history that continue to harm people today than things from the past I had no influence over.

As a gay man with mental health challenges and a koori partner, I have a personal stake in making workplaces as inclusive as possible. I have seen the impacts of exclusion first hand. I have managed the emotional burden of the country debating my right to legal equality; I have sat in the Coroners court listening to

evidence on how my partner's cousin and her unborn baby died as a result of racism in the medical system. My nephews and nieces on the white side of my family will on average live 10 years longer than the nieces and nephews on the koori side; this is wrong.

Workplaces can and should promote inclusive cultures because it saves lives, but it also provides benefits for the organisation. Diverse and Inclusive workplaces are more productive. They are considered better places to work by employees than those with less inclusive cultures. They are more resilient to changes in circumstances and disruption. The water industry will only be strengthened with a focus on building inclusion.

Heidi Josipovic - Albury City Council

I have worked in the water industry for 13 years starting off as a Wastewater Treatment Plant Operator. Most days, weeks actually, I was the only female I saw, and I would think long and hard, is this the right position and career path for me? In my early days as an operator, I had a team that, unbeknown to them was well advanced in diversity and inclusion. I know this because I never once felt like they treated me differently which was important at this critical stage of my career in the water industry. I want all members to feel valued, just as I have, and ensure our industry is equipped to help educate our people to ensure diversity thrives.



"Heidi on International Women's Day
#IWD2020 #EachforEqual"

I have been in the water and wastewater industry for 13 years, working in a range of roles including; wastewater treatment, process engineering, environmental compliance, drinking water quality, distribution management and capital works programs.

My Dad is Croatian, moving to Australia when he was 17, and my mum is Australian with English heritage.

My parents and their families come from two very different cultural backgrounds, but together their strengths complement each other. They have taught me the importance of diversity, and how different cultural backgrounds bring different solutions and ideas to situations.

The strengths of an inclusive workplace, is that everyone feels valued and respected, and everyone's opinions and ideas are supported. Diversity adds creativity and new ideas which grow a business and improve outcomes.

Clara Laydon - Hunter H2O

I understand and am passionate about the importance of opening WIOA and the larger water operations sector to becoming a more diverse and inclusive working community. I believe it is important to have as many people from different perspectives to be part of WIOA. I provide my perspective as a female, new

INCLUSION GROUP

parent and working engineer to this mix.

I have worked in the water industry for over 15 years, involved in providing operational support.

I was brought up in the local area, by a working mum and understand the importance of inclusion to support our working parents in the workplace.

I have also become part of a large immigrated family through my husband and have seen the importance and benefits that can come from embracing differences in culture.

Having lived a mixed cultural experience, has given me empathy and understanding about the importance of diversity and inclusion within our community and workplaces.

I believe it is important to have as many people from different lived perspectives and experiences. Having a broader understanding of our community provides us all with greater shared knowledge and strengthens us both personally and in the workplace.

Kathy Northcott - Water Research Australia



I have been a big supporter of WIOA since my first Bendigo conference attendance over ten years ago and have seen the association grow and change over the years. I am thrilled to see WIOA embrace diversity and inclusion through the creation of a dedicated group, comprising a cross-section of motivated and enthusiastic members.

Around 23 years operations, process engineering and research experience, mainly in the water industry.

A mixture of English, Scottish and German ancestry, with just a tiny smattering of French.

On both my Mum and Dad's sides of the family there was a long history of blue-collar workers and, more specifically, coal miners. The work the men did in the mines back then was tough and dangerous, and their wives were even tougher! On my Dad's side, my great grandma had to bring up six kids all on her own after my great grandad died. I think this background has created a culture of tough ladies in our family, who know how to run the show!

An inclusive and diverse workplace allows for different perspectives and less rigid thinking, fostering innovation and creativity. People who feel included are able to be themselves and perform to the best of their abilities.

Shannon Thomas - Unity Water

I would love to be considered part of the diversity group to support differences within a group. When there is difference in the group it enables us to move forward towards our combined goals. I am 35 years younger than the average water utility worker (55 years old) and would like to encourage people of my age and gender to become a part of the Water community.

I worked as an operator at QUU for 2 years, and started another operator role at Unitywater a year ago.

I'm proud to be in the role I'm in as I feel quite unique compared to the majority of the work crew. I feel that I've surprised colleagues on numerous occasions as they don't expect someone of my age and gender to perform work the way I do.

It brings a different aspect to the table and it creates a great balance into the team, when adding diversity to a group it covers all aspects from different runs of life.

Kayleen White

I have a strong personal interest in this area generally, and my experience includes 30 years of corporate roles, including my current consulting engineering company's Inclusion and Diversity Committee and Reconciliation Committee, and a range of other roles in workplaces over the last 30 years.

I have spent four decades designing, supporting construction, commissioning, operating, optimising and shutting down wastewater treatment plants.

I have a fairly standard heritage for Australia – English (as is my partner), Cornish (tin miners, and one grandfather was a coal miner in New South Wales), Welsh (a language I would like to finish learning), Scottish (a language I would not like to try learning), Irish (convicts transported in 1812), and German, but with some Indigenous heritage from a few generations ago and a sibling's marriage a couple of decades ago. I have, however, worked and lived with people from a wide range of cultures – including:

- the descendants of Islanders who were blackbirded to the cane fields of Queensland;
- an Egyptian geologist who taught me that a pot has two handles so two people can carry it;
- a Finnish friend at Uni who taught me one word of Finnish (the worst swear word in the language – which was surprisingly useful on construction sites in 1980s Queensland),
- a drafter from Thailand who shared many interesting discussions about Buddhism and bonsai; and
- I currently correspond with a family in Uganda who earn an income by washing clothes and carrying water.

What I am most proud of is my family (particularly my father) and other influences that led me to be passionate about a wide range of human rights and being inclusive.

I am pleased to have been one of the founding co-convenor's of TGV.

Apart from often being a more enjoyable place to work, an inclusive and diverse workplace is more likely to have greater variety of life experience, thinking styles, and approaches to problem solving, which gives the workplace increased capability and resilience.

ROAD NAMED IN HONOUR OF ROBIN

A road has been given a new name in honour of Robin Cherry's 50 years of service in the water and sewerage industry. This is not the first time Robin has been recognised for his commitment to his craft. Back in 2011, Robin was recognised as the Queensland Operator of the Year.

'Robin Cherry Drive' is located at the Dayboro Sewage Treatment Plant and was unveiled recently to mark the significant milestone.



*Robin Cherry,
Treatment Plant
Operator in Charge.*

Robin, who is a Treatment Plant Operator in Charge at Unitywater, began his career back in 1970 when he was fresh out of high school and walked into the Pine Rivers Council office to ask for a

job. The next week he started work as a labourer with the plumbing team. Soon after, he put this hand up for a full-time treatment services role at the Strathpine Sewage Treatment Plant.



*Robin Cherry Drive
sign, Dayboro.*

"I've seen quite a bit of change since then," Robin said. "We used to walk around with a pencil and pad. In 1970, the processes were

a lot more basic, the work was a lot more manual - we used to have to manually shovel the dried sludge out of the drying beds, but I just loved being outdoors."

The Lawnton resident moved across to Unitywater in 2010 when the council's water and sewerage services were transferred. And, 50 years into his career, he's still keen to get to work each day.

"If I am honest, I like the fact that I've learnt so much in the last 50 years and that I am still learning," he said. "I have never really thought about doing anything else, I am actually incredibly lucky to be where I am, doing what I am doing."

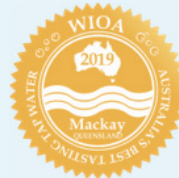
When asked about retirement, Robin said it hadn't even crossed his mind. "I just thoroughly enjoy spending my time here - I love the work, I love being outside and I've made some good mates."

Contributed by Alice Ebert from Unitywater

SECOND BEST WATER IN THE WORLD



It is official - Mackay not only has the best tasting water in Australia but also the second best in the world.



The decision was handed down in February at the 30th Annual Berkeley Springs International Water Tasting competition in West Virginia, USA, when Mackay's H2O came runner up to Desert Hot Springs, California.

Mackay Regional Council's Director of Engineering and Community Infrastructure Jason Devitt was there with Water Treatment Manager Stuart Boyd, and said it was a tough competition against 18 of the world's best. "We were only one vote behind California, so it was very, very close," he said. "It was a really good result. I would've been very happy with anything in top five so to get second, I'm very pleased with that." Beating out over 100 waters from across the globe over three days (from February 20), the final 19 entrants were judged by a panel of 15 on Sunday, on their clarity, taste and odour.

There was also a community element, where locals were invited to try out the water samples themselves and make their own judgments. "Stuart and I had a go at that ourselves. It was really tough. There was lots of good, quality water," Mr Devitt said. "We always thought our water was pretty good but to be up there with the best, we could never have expected or anticipated where we would come."



Mackay team in 2019.

Despite Australia having yet to win the grand prize, an Aussie water has now won second place for the third time - with Wannon Water and their tap water from Hamilton Water Treatment Plant in Victoria finishing second in 2019 and Marysville Water from Victoria placing second in 2016. Mr Devitt said the silver medal was all about ensuring Mackay locals knew just how "high quality" the tap water was after the "amount of regulation" and the cheapness compared to bottled water.

He also commended the "unsung heroes" at the Marian WTP for their tireless efforts in providing "safe, reliable water" year round.

CHALLENGES OF WORKING FROM HOME

Working from home comes with a few challenges. The first few weeks will be like the first few weeks in any new office – you may feel a little lost for a while as you find your new routine and work out how to balance working with home life. This is a big change and it will take some getting used to.



The basics are more important than ever: eat well, sleep well, exercise well

In times of change and disruption, it is natural to feel a little anxious. It is important to make sure you are getting good quality sleep and

eating the right things. And you are likely to be more sedentary than normal, so exercise goes from a should-do to a must-do. Maintaining a healthy and balanced lifestyle will not only help your mental wellbeing, it can also assist your immune system to fight infection and disease.

Create your new routine

It is a little disorientating at first to lose your normal routine. So you need to build a new one quickly. Firstly, establish good boundaries between work and home. For example: try to avoid working where you normally relax. Then build a structure for your day – preferably keeping it similar to what you did before – wake up, get dressed, have brekkie, commute time which you could use to read or listen to a podcast, then start your work day. At the end of your day, shut down, switch off and don't get tempted to read emails as dinner is cooking. And remember to make time for lunch breaks, the morning coffee, even daydreaming!

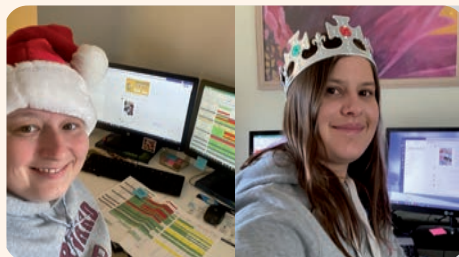
Use technology wisely

Digital tools are great at keeping us connected, but some platforms almost make it too easy. They're still no substitute for face-to-face video calls or even the humble phone call. Try mixing up your use of communication tools to keep it fresh. A good trick is to leave a group chat going as you work, so you and your colleagues can just chip in when you want – just like a real office environment.

Keep social!

Just think about all the times in a normal office that you are not actually talking about work. Like making a cup of tea in the staffroom, waiting at the printer, standing at the lifts. All of these little moments create a sense of belonging, so we need to try including them, when we're working from home. Schedule social catch-ups, team chats, even lunch breaks and cups of tea over a video-call!

During the second week of isolation and working from home the WIOA staff held a "Wear a hat Friday" just to have a bit of fun and break up some of the monotony isolation brings



Sherryn and Abbey on wear a hat Friday

Ask yourself if you're ok

Transitioning to working from home affects everyone differently. So if you're not coping very well or just need someone to talk to, reach out to your family, friends and colleagues, or a trusted counsellor. When you are working from home, you still need your village.

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<https://www.healthier.qld.gov.au/>

OPERATIONS TRAINING DURING LOCKDOWN

March 20th Aust borders closed, March 23rd many places closed. General lockdown follows shortly after. The unprecedented worldwide lockdown impacted upon traditional water industry training delivery.

TafeSA water operations face to face training abruptly ended in late March 2020. Water utilities took a risk assessment approach and postponed face to face training till further notice.

TafeSA had to adapt. Using distance delivery techniques embraced by other faculties, we spent time reviewing and incorporating existing training methods to an on-line format.

TRILITY Group (SA) uses TafeSA for water industry training and although they put a temporary halt on training, were interested in other forms of continuing education practice.

The first on-line facilitated class was presented on 29th April to 3 students whilst working from home or based at their water plant. The on-line methodology utilises a lecturer (pictured) and a moderator to assist with fielding questions and assisting with technology issues.

All students can see and talk to the lecturer (similar to a SKYPE call) and material is delivered very similar to a formal class type arrangement. Hard copy learner resources were sent to students prior to the course to enable referencing and pre reading if required.

Initially training will be theory with written assessment, collection of workplace evidence with on-site practical assessment when it is deemed safe to do so.



Richard Scott delivering the online training

There were some expected technical difficulties, but we persevered and got through the first of what we think will become the new normal in technical training. Further courses are planned and will be included into our timetable as, and when, required.

Thanks go to the SA TRILITY operators who worked with us and were very patient experimental guinea pigs and to TafeSA's Lena Marchesan (Senior Lecturer and make it happen person) and Richard Petersen (Moderator).

Contributed by Richard Scott, Water Industry Operations Lecturer TafeSA

SAFETY MOMENT – RISK OF EXPOSURE TO ASBESTOS



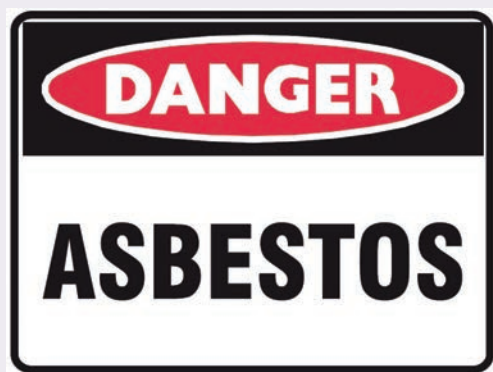
A memorial to my Mum

Barely past the stroke of midnight on Thursday 16 April 2020, my Mum Joan, lost her very short and fierce battle with mesothelioma. It's a rare and extremely aggressive cancer with one main cause – exposure to asbestos. Mum was diagnosed with mesothelioma in late January and in less than three months it took her life.

Due to the long lead time for the symptoms of mesothelioma to develop, it can be very difficult to determine the exact time you were exposed to asbestos fibres. The disease is also indiscriminate in who it targets, with medical studies finding victims amongst family members of mine workers who were exposed to fibres when laundering clothing. In my mum's case we think she may have been exposed when sweeping up after my dad did some home handyman work. At the time (late 70's) there was little to no publicly available information on the dangers of asbestos, and so no way my parents could have known what risk they were exposed to.

I thought it was important to share my story with the WIOA membership, as the water industry has a legacy of construction materials containing asbestos, including those used in buildings and structures as well as asbestos cement pipes. Asbestos pipes in the water supply have been studied extensively and results show that there is no elevated risk of asbestos-related diseases from drinking or using water delivered through asbestos cement pipes. However, the real risk associated with asbestos is for those workers involved with renewals and upgrades of pipelines, buildings and structures.

For water industry workers who may face a risk of being exposed to asbestos, always take all of the necessary asbestos safety protocols and decontamination precautions seriously. It's not just your life that is at stake, but that of your loved ones – your precious family.



For more information: <https://www.cancervic.org.au/cancer-information/types-of-cancer/mesothelioma/mesothelioma-overview.html>

Contributed by Kathy Northcott from WaterRA

BEYOND BLUE PODCASTS



Looking after your mental health during the coronavirus outbreak

Beyond Blue is proud to announce that they have just released episode one of their very first podcast series "Not Alone" titled *Overcoming trauma: My life will never be the Same*.

When it comes to mental health, we all have our own unique stories to tell. But no matter what we are going through, there are other people experiencing it too. The Podcast series will consist of six episodes, each one based on a popular discussion topic from the online forums, which attract over a million visitors each year. The feature of each episode is an interview between the host, Marc Fennell and one of the amazing Beyond Blue speakers who has a connection with that topic.

As you will hear, this series is all about personal stories. Authentic, engaging and powerful in their ability to inspire hope. With these relatable stories Beyond Blue believes they can help reduce the stigma that stops so many people from seeking support.

Not Alone

Overcoming
trauma:

My life will never be
the same

Episode one is on overcoming trauma and is now live on all platforms. You can listen to it wherever you get your podcasts - Apple Podcasts, Spotify, Google Podcasts as well as the dedicated podcast pages on the Beyond Blue website at <https://tinyurl.com/ychbf6gj>

Another episode will be released each week over the course of the next six weeks. The five other episode topics are:

- Supporting a loved one with a mental health condition
- Work stress
- Loneliness and isolation
- Finding purpose
- Dealing with an inner critic

Please log and listen, give a review (5-stars!) and share it with your family and friends.

We hope you're as proud of this series as Beyond Blue is.

Thank you and take care.

Beyond Blue

VIRTUAL WATER - CONFERENCE & EXPO

In the absence of opportunities for face to face events, WIOA is excited to announce our new virtual conference and expo platform - **Virtual Water**.



Virtual Water landing page.

Virtual Water is a visually rich and highly interactive 3-D virtual experience that recreates the feel of a physical event. Virtual Water will deliver video-streamed presentations from within the virtual auditorium. There will be live Q&A and members from all over the country will come together to hear the latest updates, share knowledge and technical information and experiences from a range of presenters.



Virtual Water Auditorium.

WIOA will host a minimum of 10 “live days” on the platform with the first day occurring on Wednesday 22 July 2020. Live Days will include keynote and technical presentation where speakers will deliver engaging and informative content and facilitate 2-way conversations through question and answer sessions. The Intelligent Water Network will also host 2 live days for the benefit of their members. We will provide more information soon about the technical program, along with how, when and where to register.

Virtual Water will include an expo which will provide Corporate Members the opportunity to showcase their products and services in a virtual environment. The Virtual Water expo will simulate a live conference with exhibitors engaging with the attendees from their virtual expo booths. Exhibitors will be able to provide their information to attendees through videos, PDF or other brochures as well as by chat, audio, messaging and email functions.



Expo Hall.

The expo booths and their content will not only be available on the live days, they will stay on the Virtual Water platform for 365 days, and the sites will be accessible 24 hours a day, 7 days a week.



Expo booths.

Virtual Water is easy to navigate and provides a captivating experience. Attendees only need access to the internet and are not required to download anything. Virtual Water is mobile compatible and works on all modern browsers.

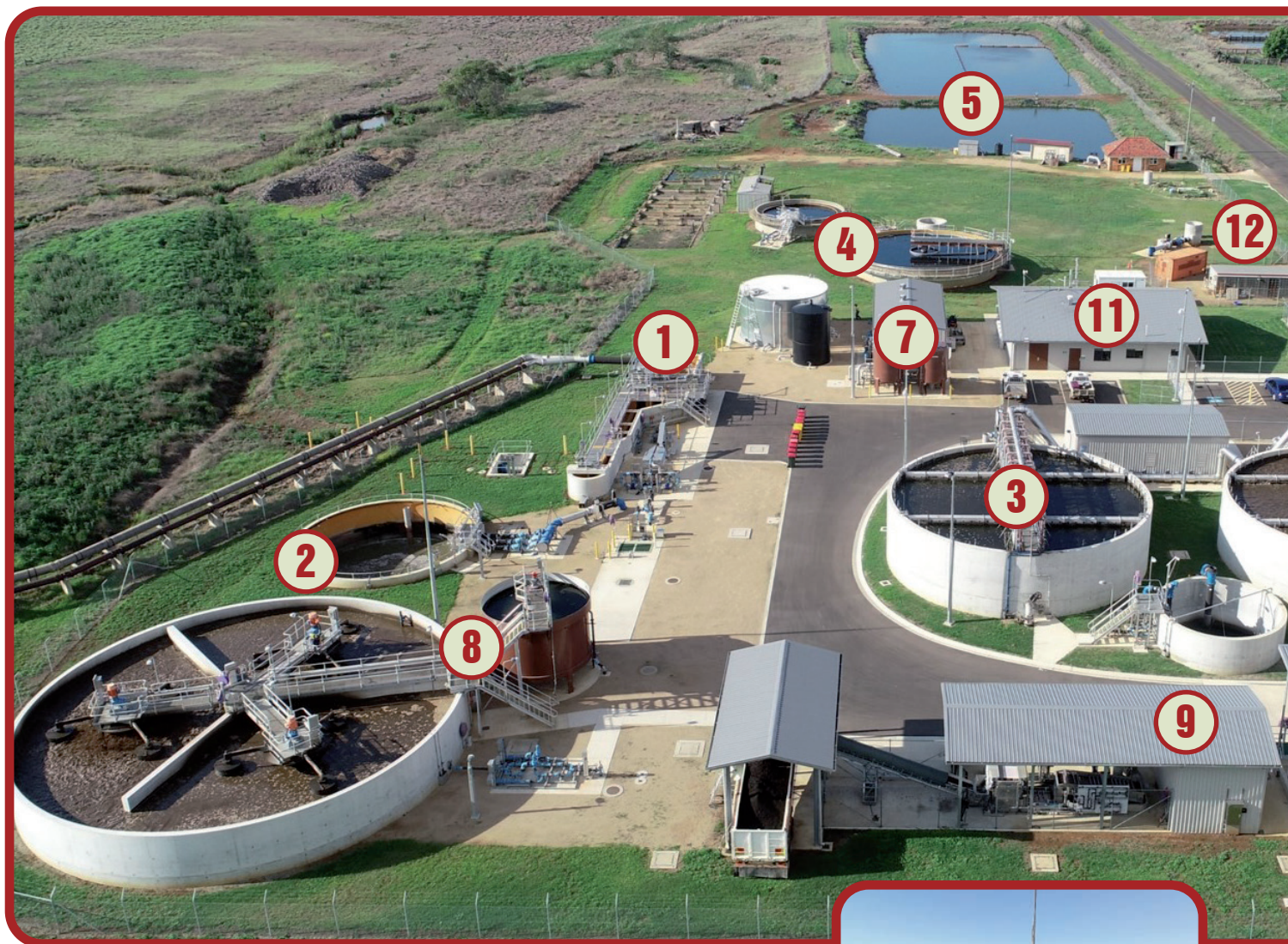
Support for the event has been outstanding with almost all the available sponsorship opportunities snapped up the day they were released. We would like to thank and acknowledge the support of the current sponsors in Intelligent Water Networks, Alternative Lining Technologies Australia, Thermo Fisher Scientific Australia, Southern Divers, McBerns Innovative Solutions, Piping & Automation Systems, Endress+Hauser Australia, Yokagawa, Bergmeier Environmental, Acrodyne-Limitorque and Hydroflux.

Expo sites are now on sale and we encourage all Corporate Members and suppliers to the industry to support WIOA by purchasing an expo booth. More information can be obtained from wioaconferences.org.au/virtualwater/

THE LIGHTER SIDE



BIRDS EYE VIEW - Facilities Members Operate Kingaroy Wastewater Treatment Plant





The Kingaroy Wastewater Treatment Plant was constructed in 2016 by Aquatec Maxcon. The plant was the largest purchase and construction project the Council has undertaken at a cost of \$19 million. This is Australia's first Nereda® Wastewater Treatment Plant utilising (AGS) aerobic granular sludge. Benefits of the plant are the chemical efficiency, size of installation or foot print, operator friendly and ability to recycle up to 85% of the effluent to provide benefits for the community.

- 1 Inlet Works** Up to 13 ML/d PWWF is gravity fed from town via 2 lines through screw screens and a grit chamber.
- 2 Balance Tank** As the secondary process is a batch process, influent is stored here between 'feed' phases.
- 3 Nereda Tanks** 2 x Nereda Aerobic Granular Sludge bioreactors designed for up to 12,500 EP treat the sewage to TN ~3 mg/L, TP ~ 1 mg/L, TSS < 10 mg/L and Ammonia <0.1 mg/L.
- 4 Tertiary Clarifier & Filter Feed Tank** As the Nereda tank effluent TSS is very low, the clarifier is not necessary, but nice to have. It adds to the buffer for the recycled water system.
- 5 Effluent Lagoons** Class C effluent is stored in the effluent lagoons for at least 25 days before being irrigated onto the farm.
- 6 Irrigation Farm** Approximately half of the effluent is irrigated via pivots onto Council's 30Ha farm which is used to grow Rhodes grass in the warmer months and over sowed with oats in the winter. The last crop was 174 tonnes.
- 7 Recycled Water Plant** The plant produces Class A recycled water that is used for onsite service water and local sporting fields.
- 8 Sludge Thickening and Digestion** WAS from the Nereda tanks is thickened. 3 stage aerobic digestion with surface aerators where it spends at least 20 days stabilising.
- 9 Dewatering** Digested sludge is pumped to the belt filter press coming off the press onto the conveyor at ~17% solids. It is then carted off site.
- 10 Chemicals** 2 chemicals are used in the process, alum for flocculation and coagulation in the filters and P trimming in the Nereda tanks and sodium hypochlorite for disinfection.
- 11 Administration, MCC and Laboratory** The controls and power is all located in the building.
- 12 Final Effluent Disinfection and Lagoon Splitter** Effluent is directed to Kingaroy Ck or Lagoons.

WIOA BOWLS INTO YANDINA

For the seventh year in succession WIOA members and guest headed into the Sunshine Coast hinterland to meet up at the Yandina Bowling Club for the 2020 Queensland Charity Bowls Day.

WIOA mystery cards were offered on sale for the various teams and many took the opportunity to seize a competitive advantage in their matches. The cards allowed the owner to remove bowls, have the opposition bowl with their non-preferred hand, move their own bowls closer to the jack and even re-bowl much to the chagrin of their unexpected opposition.



The assembled bowlers.

The battle for third and fourth had team Amiad battle it out with McBerns Green with Amiad claiming a spot on the victory dais coming in third place. The Grand Final saw two of the day's major supporters go head to head in the battle for the Queensland Tradies Cup. It came down to the very last bowl.

Three-time winners and naming rights sponsor of the bowls day, McBerns Gold looked like causing a bit of an upset in the Grand Final against the Seqwater dream team who had gone through the day undefeated. It all came down to the final bowls that saw the thrilling match going the way of the team of Glenn Patterson, Ross Paulger and Rick Goulding from Seqwater.



The Seqwater team of Glenn Patterson, Ross Paulger and Rick Goulding, winners of the Tradies Cup.

The day preceded the international women's day and WIOA once again celebrated all the women in our lives with [#EachforEqual](#) flash cards being used in photos that were also placed on social media. The Kath Jobberns medal was awarded for the second time to the Best Women Bowler on the day. The prestigious award was won by Shannon Thomas from Unitywater who really brought her competitive spirit to the day in a fun way.



Supporting the [#EachforEqual](#) cause for international women's day.

Plenty of laughs were shared on the day that provided a great networking opportunity for members to have a chat away from the hustle and bustle of the workplace.

The now infamous cross rink bowl where individuals have one shot at bowling diagonally across the green to get closest to that little white ball, was won for the second year in a row by Ross Paulger from Seqwater. There were mutterings around the room during the presentations that he was purely a one bowl wonder.

Overall, it was another great fun day and it was enjoyed by all that attended most importantly, allowed over \$3,500 to be raised for charity. We thank all of those who attended and had an enjoyable day and especially the companies who sponsored the day: McBerns, Hanna Instruments, Aqseptance Group, Pensar, Amiad, Royce Water Technologies, Netzsch, Xylem, VOR Environmental, Endress + Hauser, Water Infrastructure Services and Seqwater. Their sponsorship of the teams ensured the day was a great success.

Even the team representing VOR Environmental had a cracker of a day and took home the infamous Bunny Ears for having the most opportunities for improvement (they came last).



VOR Environmental took away the bunny ears in 2020.

TASSIE NEWS

The TasWater LinkedIn page has been used to note the essential jobs that water industry staff are doing in providing services during the pandemic. Some examples of the ways they are doing this are below.

We're still here... to keep the taps running

This is Darryl, one of TasWater's Services Operators. He is part of the crew working around the clock to fix bursts and leaks across the network.



Darryl on the job.

If you see our crews out on your walk, say hi, but please keep a safe distance and we can all stay safe together. [#wearestillhere](#) [#EssentialServiceWorkers](#)



Mark on the job.

We're still here... to keep the taps running

This is Mark, one of our Services Operators. He is part of our crew working around the clock to fix bursts and leaks across our network.

If you see our crews out on your walk, say hi but please keep a safe distance and we can all stay safe together.

[#wearestillhere](#) [#EssentialServiceWorkers](#)

Eagle Rescue!

The TasWater service delivery crew in Smithton recently rescued a juvenile wedge tail eagle from the Smithton Sewage Treatment Plant. The eagle was stuck in the sludge, completely exhausted and couldn't get out.

The crew quickly delivered her to the local vet for treatment. She was then transferred to Raptor Care in the North-West for further care.

The eagle was recently released with three of her proud rescuers Pat, Guy and Rick in attendance. Well done guys! Another example of the amazing adventures you can have at [#lifeattaswater](#)



The TasWater team rescuing the eagle.

OPERATOR MAKEOVER

After serving WIOA well for the past 60 editions, the quarterly printed Operator newsletter is undergoing a major makeover starting in August 2020.

Each edition of Operator is sent to all WIOA members by email or by traditional mail, depending on the preference of each individual member. It is one of many benefits received as part of the association membership.

Operator reaches a wide and varied readership of water professionals, operational employees, scientists, water quality experts and key decision-makers in business across Australia.

It is important to be energised by the vital role all our members play in the provision of essential services to our Communities. The WIOA quarterly magazine does just that. It regularly recognises and acknowledges the work undertaken by the operators, along with celebrating their successes.

Advertising

To provide our Corporate Members with more opportunities to reach the operational employees, the new look Operator magazine will include a limited number of advertising opportunities in each edition.

Produced in February, May, August and November each year, it is an effective way of keeping the WIOA community in touch. Operator has a loyal readership base and is highly valued across the entire WIOA membership.

- 99.1% of readers are satisfied with the quarterly newsletter (source: WIOA 2019 members survey)
- There is also strong recognition of the publication within the broader water industry.

Advertising rates

Size	1 edition	4 editions
Full Page 2 only per edition	\$1,500	\$5,000
1/2 Page 4 only per edition	\$750	\$2,500
1/4 Page Horizontal only 4 only per edition	\$375	\$1,250

Operator will still include Individual and Corporate Member news, general interest stories, water industry news and more. As always, we value contributions from all areas within the water industry and the WIOA staff are pleased to help write or edit any material. Drop us a line if you have something to contribute.



It seems we've always had catastrophic bushfires, but never before have we had so many, for so long and so severe across so much of the country. I have always lived in the Adelaide Hills and my parents' fear of and vigilance against fire has rubbed off on me.

This summer's first fire exposure was during the Cudlee Creek fire. Fortunately, my home never came under threat but that night my partner and I drove into Harrogate, past burnt out cars, and burning trees and through showers of embers to collect and relocate four horses who were unharmed but had their fences destroyed – in fact they were still burning while we were there. We certainly considered whether we should drive in, but it was an easy decision really; our friends were asking for help and they'd driven the road reporting it was clear and safe.

By the following day, the Cudlee Creek fire had calmed down but thunderstorms over the west end of Kangaroo Island started fires, which would burn out of control for over a month. Over Christmas and New Year, it looked like the bushfire situation on Kangaroo Island was calming down, but hot and windy weather returned on 3 January and the situation escalated.

On catastrophic fire danger days, I'm required to work from home unless there is essential work. So on this day, I periodically checked on the animals and looked out for smoke on the horizon (that being the influence from my parents' concern of fires), and I swear I could feel the moisture seep out of my eyes – it was that hot and windy. On 3 January the fires still burning on Kangaroo Island raged south before a wind change pushed them east with the entire island coming under emergency or watch and act warnings. There are some videos online showing the ferocity of the fires from the CFS volunteers which are truly shocking.

The fire this day was devastating, claiming two lives as well as many homes, tourist attractions, the luxury resort, upwards of 100,000 head of livestock and countless numbers of wildlife. The Middle River WTP also burnt, destroying the office and communications buildings, and embers had fallen into open conduit ends through the plant destroying parts of the power, communications and chemical systems. This left the bulk of the plant intact, but it was crippled without the power and control systems.



Smoldering after the fire had passed.

Immediate response

On 5 January, I travelled to Middle River, finding myself again driving past destroyed buildings, burnt out cars and still burning trees. Mobile chlorine dosing stations and generators had arrived at site to restore water flow from the reservoir and provide disinfection. The WTP raw water bypass was opened and chlorine dosing started. My task onsite initially was to set chlorine dose rates and water flow rates. Without any telemetry I gauged water demands by change in tank level over time measured with rope and weight, and I monitored chlorine with my field equipment. The flow restoration began just as the tank volume fell to less than 1%. When we drove along the water main only small pockets of air were discharged indicating we never fully lost supply but couldn't have gotten any closer to doing so. Interestingly, we discharged this air from fireplugs, the lids of which were still too hot to touch without gloves from the fire two days before. At times we had to dose 40 mg/L chlorine to maintain required disinfection, which was up from the usual 4-6 mg/L, and this was at 4 kg/h gas flow, the maximum reliable flow from a chlorine drum without it freezing.



View from Middle WTP before the fire.

Many other tasks in the first week revolved around maintaining water flow for the community and fire fighting as well as ensuring and validating the safety of our raw but disinfected water. Middle River WTP backs onto the airstrip used by the CFS for firefighting – they lost equipment but were also back operational when we were there. Each time a plane would take off (as frequently as every 5 minutes) a blast of ash and dust blew into the treatment plant site getting everywhere into our eyes, ears, nose, mouth and everywhere else despite our safety gear. Sweat and sunscreen certainly didn't help the situation.

After a long, hot, dirty day's work there is nothing better than a long shower, but knowing the water supply situation was dire and the community had been asked to limit water for only essential use, I developed a method to have an effective shower in around 20 seconds of water use. This involved first applying shampoo and soap liberally before running, not quite making a lather but then with water at low flow, 20 seconds allowed a decent lather and rinse.

Working here at this time was difficult as the air was thick with smoke, but also thick with the ant smell of formic acid from termite mounds that burnt and boiled from the inside out for days after the fire went through. The air also smelled of resin, the result of the yuccas on the island being burnt. The worst sight over there was being unable to avoid seeing injured livestock being destroyed and buried.

FROM CATASTROPHIC FIRES

On 9 January the fire again raced out of control, stretching from the north coast to the south coast before the wind changed and it again raced east towards more major Island infrastructure. This isolated us from the WTP for about 48 hours and for the first time, I felt apprehension about being there with the bushfire. Kingscote was isolated with all roads out of the town closed. By now the army had been deployed to the island. At first it was surreal seeing army vehicles and soldiers all over the island, but it soon became normality. I remember thinking on this day that it was scary that despite the resources being thrown at the fire (aircraft, fire trucks, the army and heavy earthmoving equipment) it still burnt out of control. Nothing could stop it except a cool, rainy change in the weather.

Recovery

We worked long days onsite and I backed that up with hours in our accommodation tidying up information to be sent back to Adelaide. I spent about 30 days on the island from 5 January to 20 February swapping over with colleagues for rests in between stints of up to 8 days.

DSM Construction handled the civil work, leaving the areas of the site they worked on in a better state than before the fire. Sage Automation assisted with rewiring the site, the army had flown a modular water treatment plant from Queensland and also provided security assistance manning sites that had lost the fencing. Osmoflo mobilised treatment plants as a contingency if the WTP proper was unable to operate for an extended time and we watched for days as SAPN worked tirelessly on every stobie pole in the fire scorched ground to restore power. Along with our skilled SA Water personnel from all over the state, the team got the Middle River WTP back up and running within 10 days of being burnt. That included three days of being unable to access the site, an amazing effort from all involved.

Two key activities helped us, well me at least, keep a level head among the long days, short sleeps and some awful sights. One was regrouping and debriefing over dinner at night, and the other was being greeted onsite by Maggie the border collie. She accompanied one of the DSM Construction crew but of course stayed outside the site as per corporate policies.

Rain

The fires that had merged to become what was named the Ravine Fire was declared controlled on 20 January, 2020. On 30 January I visited the island for a one-night stay to finalise some issues when Kangaroo Island received some badly needed rain. Instead of gentle intermittent rain, it was a short deluge of around 30 millimetres in 20 minutes and 63 millimetres in

just over 24 hours. This turned the landscape around the plant into an inland lake, and washed ash and other debris into the reservoir. It also meant my one-night visit turned into an eight-night visit while we tried to adjust the treatment plant to remove manganese. Sediment control barriers in the catchment filled with around 200 tonnes of material but the reservoir and water quality was still impacted enormously.

The dissolved organic carbon composition quickly became difficult to remove through the WTP's magnetic ion exchange (MIEX) process and coagulation, and the loss of all dissolved oxygen caused soluble manganese to rise to 0.9 mg/L at the inlet, as well as taste and odour issues. To oxidise manganese, we installed blowers into the settled water prior to filtration and dosed sodium hypochlorite and sodium hydroxide in the same location. Doing so was successful at removing manganese to a suitable level. The reservoir water quality would continue to change causing more challenges and we're waiting to see what winter will bring.

27 February



View from Middle River WTP 4 weeks after the fire.

Connection with Kangaroo Island

Growing up, my family was fortunate to have a house on Kangaroo Island and while I lived in the Adelaide Hills a lot of my childhood was spent on the island, where I learnt how to swim in the ocean, ride a bike and fish. I became fascinated with nature exploring the scrub and life in the water. As a result, the island feels like my home. I'm lucky to work on Kangaroo Island and I'm proud of being able to work for the community. It was heartbreaking seeing the devastation from the fires but I'm glad to have been able to help.



Kangaroo Island shrouded in smoke.

Contributed by Michael Webber from SAWater

31 January



View from Middle River WTP after heavy rain.

FATHERLY DUTIES

In February this year my father suggested a triathlon being held in his hometown might be a good preseason event for my 14 year old footballing mad son Ben (to supplement the already intense footy preseason he'd been doing).



Ryan (r) and son Ben before the event .

In the week before the event, in a moment of complete madness, I thought it sounded like a good idea too, and a good father and son activity – so I signed up as well. I mean

it was only a 200m swim, 8km bike ride and 2km run – how hard could it be – wow, what a stupid thing to think.

So, my training consisted of going for a 3km run a few days before to make sure I could handle the distance (not sure why swimming and bike riding didn't enter my mind at that stage). Anyway, it was a beautiful day but we nearly didn't get there as I temporarily misplaced my keys.

The event started with a swim, which I thought would be easy because I had swum a fair bit back in the day – after the 200m though I was wishing I hadn't found my keys! The ride went mostly smoothly but my son's bike broke down – so I swapped him my bike (yes, I was behind him and that theme continued for the whole race) while I repaired his.



On the bike leg.

The highlight of the day for me was catching my son on the ride with his repaired bike and then

swapping back – turns out I had little energy after that! The 'run' was probably more of a wobble, I recall lamenting towards the end to no one in particular: 'IS THIS THING EVER GOING TO END!?' – which to my pleasant surprise someone yelled back: 'Yes, you're nearly there'.



Finish line at last

I don't have much memory of the next bit after finishing but apparently I stripped down to my shorts and jumped straight into the pool.

So anyway, it was a fantastic day and I can't wait to do it again next year. Maybe I'll even train, or just lose my keys...



Winding down.

Contributed by Ryan McGowan, Goulburn Valley Water and WIOA Committee member

WIOA PARTNERS IWN

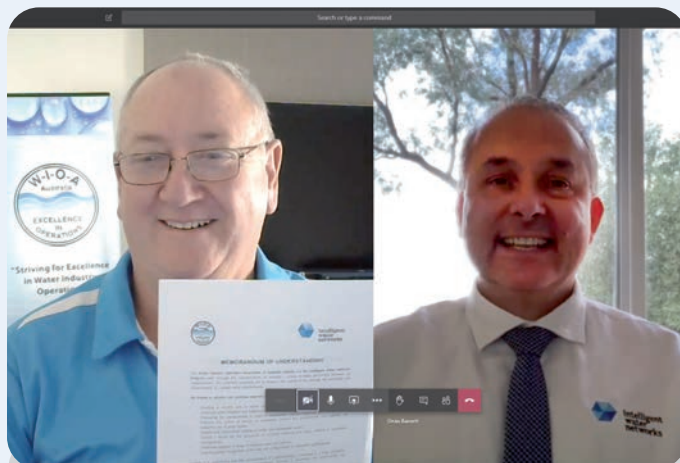


**intelligent
water
networks**

WIOA is pleased to announce a new Strategic Partnership with the Intelligent Water Network (IWN). We have now formalised this long-term relationship into our Strategic Partnership Program. This is a commitment to collaborate and share information around new innovative technology solutions, communication platforms and virtual and/or public forums.

IWN Program Director Dean Barnett said: "We have been working with WIOA for many years, with the best interest of our water industry being front of mind. An example is the WIOA Victorian Network Operator Development Program, where we regularly share information on the IWN Program plus showcase new processes or technology solutions with the front line operations staff".

WIOA Managing Director George Wall said: "WIOA's primary goal is the collection and sharing of information with operational people in the water industry. Collaborating with organisations such as IWN is an important part of this process. Communicating the results of the various IWN research and technology trials can help the operational side of the water industry to increase efficiency, productivity and improve customer service outcomes".



George & Dean - virtual MoU signing

DAWSON RIVER STP DIFFUSER CLEAN

Midcoast Council Water Services, Northern Area, has a diffuser membrane cleaning program. Every two years, the diffuser racks are lifted, cleaned and inspected with faulty diffuser membranes replaced. Replacement of all the diffuser membranes is programmed for every 10 years.

Of the 6 STPs in the Northern area of operations, Dawson River STP is the largest. It has 4 racks of 112 diffusers.



Dawson River STP.

The Cleaning Process

The racks are lifted out of the bioreactor, placed on a concrete pad and the rag material removed. On this occasion, only 500kg of rag was removed but there has been up to 800kg on occasions. This is why it is important to clean regularly.

And yes, there is screening before the bioreactor with the rag still getting past a band screen and an overflow step screen.



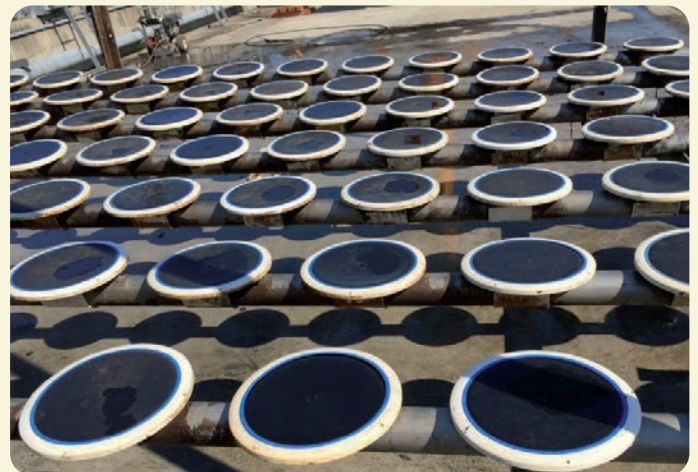
Diffuser rack being lifted out of the bioreactor .

The membranes and diffusers are pressure cleaned and the damaged membranes replaced



Diffuser membranes being cleaned and replaced

Once cleaned and damaged membranes replaced, the racks of diffuser membranes are ready to be put back into service. The job takes about 6 hours from start to turning air back on.

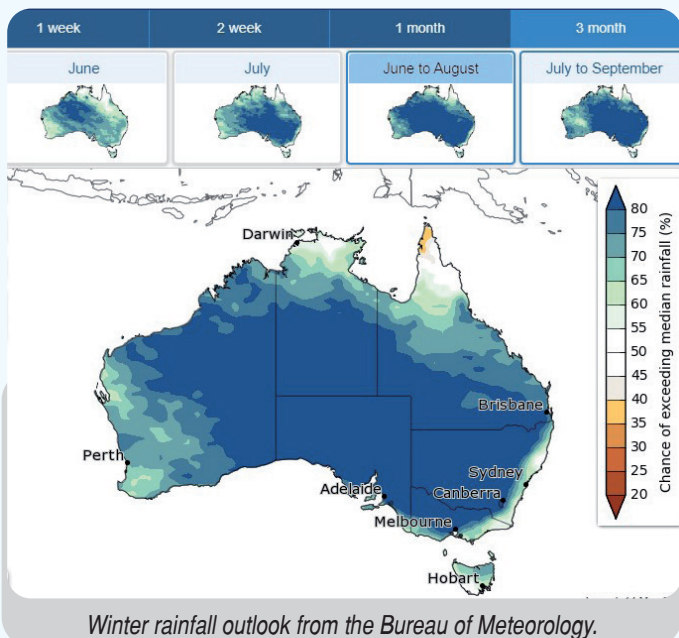


Diffuser membranes cleaned, replaced and ready to go back in

Contributed by Lindsay Walsh from Midcoast Council Water Services

WETTER WINTER LIKELY FOR AUSTRALIA

- The winter months of June to August are likely to be wetter than average for virtually all of Australia (mostly 65–80% chance in WA, much of the tropical north and areas east of the Great Dividing Range, with chances greater than 80% generally elsewhere). However, the likelihood of a wetter or drier winter is roughly equal across the far north of Australia and southern Tasmania.
- Similarly, July to September is also likely to be wetter than average for most of Australia (mostly 65–80% chance, with higher chances for the eastern two-thirds of Australia).
- May marked the official start of the northern Australian dry season. This means tropical northern Australia typically has very low rainfall totals, and only a small amount of rainfall is needed to exceed the median.



Source - <http://www.bom.gov.au/climate/outlooks/#/rainfall/median/seasonal/0>

THE LIGHTER SIDE



CORPORATE MEMBER NEWS

HYDROSTATIC LEVEL SENSORS

ACOWA Danish manufactured unique hydrostatic level sensors are offering factory specials on their TurTle Hydrostatic Pressure Transmitter

TurTle's unique measurement cell can be separated from the heavy weighted stainless steel sensor tube. Replacing level sensors is a thing of the past as with TurTle you only need to replace the measuring cell.



Measurement cell removed from sensor tube.

Replacement cost is kept to a minimum as only a cell needs replacing and the labour is a one person job. The TurTle's one sensor concept has been designed for measuring ranges of 0-3m, 0-5m and 0-10m, including the possibility to re-zero/calibrate the sensor range.

Therefore, only one sensor needs to be carried in stock for many applications.

Measurement Cell.

The TurTle is recognised by its robust ceramic cell design with the heavy weighted sensor and chemically resistant cable. This cable has been manufactured to meet the harshest conditions of aggressive sewer applications. The cable comes in 3 standard lengths 10m, 15m and 30m.



Complete Unit

Please contact MJK for pricing and further technical information via the website at <http://www.mjkautomation.com/> or call (03) 9758 8533

MAINTENANCE OF YOUR TANK WATER SUPPLY



Like any other home investment, your water tank requires regular maintenance to perform at the optimal level. Just as you mow your lawns, the same applies to taking care of your water tank.

There are some easy steps to follow to ensure you get the best out of your water tank:

- Ensure the strainer screens are in a good condition to prevent insects and other animals entering the tank
- Reduce build-up of organic matter by regularly cleaning gutters and pipes that feed water into your tank
- The screens and gutters that provide the path of water into your tank should be cleared two to three times a year
- After larger rainfall events, clear the screens and gutters as large deluges often cause leaves and debris to clog them
- Use first flush diverters as a preventive means of tank maintenance.
- Use UV air and water filters to kill pathogens and maintain a clean water supply
- Remove built up sludge from the bottom of the tank regularly
- Try to avoid products that are oil-based in your tank

The Australian Department of Health recommends that once your rainwater tank is installed, the catchment area on your roof and gutters must be inspected and cleaned on a regular basis (every 6 months):

- Gutters – your gutters will need regular clearing as part of general house maintenance and fire security. Build ups of leaves may also impede on the flow of water into your tank.
- Roof – regularly check your roof for build up of debris. Leaves, plants, tree branches, animal matter can get into your tanks water supply.
- Tank inlets – make sure your inlets are fully insect-proof as well as light proof, regularly checked, repaired and cleaned.
- Pipework – check for structural integrity. Sections of pipework that are not self-draining should be drained. Buried pipework, such as with 'wet systems', can be difficult to drain or flush. Where possible drainage points should be fitted.
- Tanks that are no longer required should be drained, cut up and removed to an appropriate waste disposal site.
- In addition to six-monthly inspections, tanks should be inspected every 2-3 years for the presence of accumulated sediments. If the bottom of the tank is covered with sediment, the tank should be cleaned.

For more information visit the Bushman Tanks website or blog - <https://www.bushmantanks.com.au/blog/>

DIRECT DEWATERING OF THIN SLUDGES

The HUBER Q-PRESS® allows for thickening and dewatering to occur in a single machine!

This allows for cost effective dewatering of thin sludges with solids concentrations as low as 0.5% (5,000 mg/l). Typical dewatering results are in the range of 18 -25% which means a sludge volume reduction of > 96 % in a single step

The secret is in the design of the wedge wire basket having three treatment zones, with optimally adjusted bar spacings, combined with a tapered screw which gradually imparts increasing pressure on the sludge as it moves towards the discharge.

First stage:

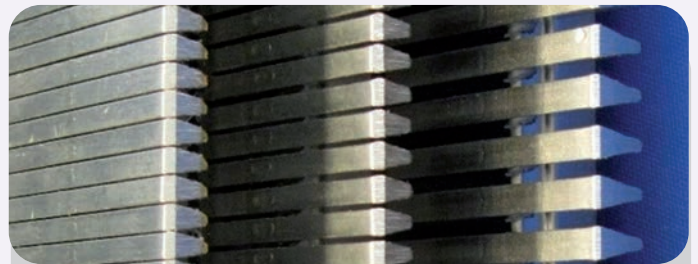
The free water is quickly removed by the pressure of the feed pump over a large free filter surface area. A pressure probe in the feed area controls the pressure thus ensuring a constantly high filtrate quality.

Second stage:

The volume of material between the screw flights is reduced by the conical screw and the sludge is pressed against the inner screen surface to release water from the sludge, with a continuous reduction of the filter cake thickness.

Third stage:

The residual water remaining in the sludge is finally pressed out by the pneumatic counterpressure cone at the discharge. The dewatered sludge is pushed by the conveying screw against the pressure cone into the discharge chamber.



The three stage treatment zone.



The HUBER Q-PRESS® RoS3Q Inclined Sludge Press

To learn more about the HUBER Q-PRESS® sludge dewatering equipment contact Hydroflux Epco on 02 9089 8833 or on the website at <https://www.hydrofluxepco.com.au/huber-technology/sludge-handling-treatment/sludge-dewatering/screw-press/>

NEW AGITATORS IMPROVE DIGESTOR MIXING

Ballarat in Victoria has a population of 101,600 inhabitants and is the third largest inland city in Australia. It is one of the fastest growing cities in regional Victoria with its population expected to reach 139,600 people by 2031.

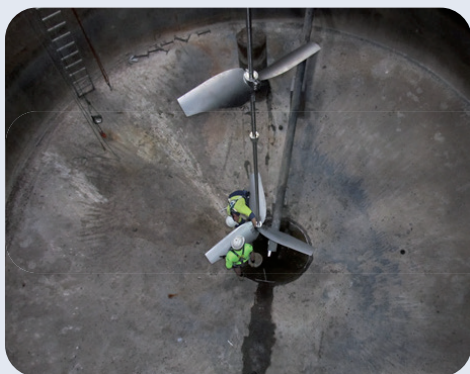
The Ballarat South Wastewater Treatment Plant (BSWWTP) has undergone a \$10M upgrade. A new aeration system was also completed as part of this upgrade and it has helped optimise biological nutrient removal and reduce energy consumption.



Sulzer agitator being lowered into digester

Central Highlands Water aimed to improve the sludge mixing in the digester and minimise foaming in the tank. The challenge was to convince the operator that Sulzer's radically different thinking could dramatically reduce energy consumption and improve process outcomes at the same time.

Sulzer offered a Scaba agitator option, which was very competitive and economical. The capital investment was smaller, the mixing efficiency higher and the installed power much lower compared to the alternative of jet mixing. In addition to the energy saving, the maintenance requirements, noise levels and footprint of the Scaba agitators provided additional benefits.



Agitator in position

Scaba top-mounted vertical agitators are used for mixing and agitating process liquids in many industries, including wastewater and industrial applications. They ensure homogenous mixing results, high process reliability, high efficiency, low operating costs and low environmental stress.

The Scaba agitators were factory tested and field tested. They have given excellent mixing results, which in turn has improved the sludge digestion. The gas production increased by 100% versus compressed gas mixing.

For more information on products and solutions for wastewater treatment, please visit www.sulzer.com

DISINFECTION AT WORKPLACE ENTRANCES

As we start to return to work and school with concerns about a second wave, there is a new disinfection system available to protect staff and visitors as they enter your premises.

New from Italy is the Disinfection Tunnel. It's a temporary outdoor awning that extends from your regular building entrance. Its purpose is to automatically spray a disinfection solution which is harmless to people, clothing and bags, but deadly to bacteria and viruses.

There is no sensation of wetting and no pooling of liquids around the area because the nozzles emit a fine water mist that is deposited on all surfaces, before quickly evaporating.



Would a Disinfection Tunnel help your staff and visitors feel safe as your business returns to normal?

The Disinfection Tunnel is designed for use in front of a variety of entrances such as hospitals, hotels, restaurants, businesses and public buildings such as libraries, galleries and museums. It can also be used at the entrances to events, fairs, public swimming pools etc.

The standard dimensions of the Disinfection Tunnel are 2.5m (H) x 1.5m (W) x 3m (L). However, these dimensions can be adapted to fit your needs and the architecture of your entrance.

The Disinfection Tunnel can be assembled in approx. 15 minutes. Simply connect it to your main water supply and a power outlet. Included with the Tunnel are:

- A waterproof, robust tarpaulin
- Stainless steel supports
- A line of stainless-steel spray nozzles
- High pressure fogging pump
- 5L canister to hold the disinfectant
- An automatic dosing pump
- Switching cabinet with light sensor and time relay to ensure the whole system works automatically and efficiently

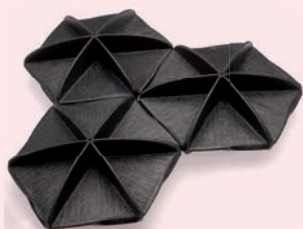
The Disinfection Tunnel also includes a water filter to protect the nozzles and pump from blockages. The disinfectant is automatically added to the water by the dosing pump to quickly kill viruses, bacteria and fungi. Yet it is completely harmless to people and the environment.

The Disinfection Tunnel is designed and manufactured in Italy by EmiControls and is exclusively available in Australia from Tecpro Australia.

For more information on the Disinfection Tunnel or the other disinfection solutions visit www.tecpro.com.au or call 02 9634 3370

BETTER WATER AND MORE OF IT

Hexa-Covers at Omeo WTP – The Results Are In!



In June 2017, East Gippsland Water installed Hexa-Cover modular covers on the raw water reservoir at Omeo water treatment plant, with the aim of controlling algae which was sometimes carried in from the water source. This was achieved

with great success, making the water easier to treat and eliminating the regular emptying and cleaning of the reservoir which was previously required. More details of the installation can be found in the February 2020 edition of Operator



Hexa-Covers at Omeo WTP Raw Water Storage Reservoir.

To quantify the effect of the Hexa-Covers, thorough testing of water from the reservoir continued and was compared with results from the 2 years prior to installation. The effects are described and quantified by East Gippsland Water as follows:

Measured Parameter	Effect
Total Biovolume	95% Reduction
Potentially Toxic Biovolume	98% Reduction
E. coli	89% Reduction
Coliforms	Dramatic Reduction
Turbidity	57% Reduction
pH	Less variation
Water Temperature	Negligible Effect

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 (leading to reduction of E. coli). Up to 99% coverage of the surface area can be achieved, resulting in reduced evaporation, reduced contamination (from multiple sources), improved water quality and reduced operational & maintenance costs.

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

PROTECTING GAS SAMPLERS

Operators know that gas detectors can be instantly destroyed if water and/or sludge gets drawn up into the instrument sensor area. At a minimum, the instrument will be up for major repairs. The “Gecko Float” is a floating probe used at the end of a gas detection sampling line to protect the incoming sample from liquid ingress. It is designed to float, permitting gas and air into the sampling line but prevents water from entering the system.

A PTFE water stop is used to connect the Gecko Float to a leur fitting in the sample tubing. A simple device, it provides real protection for your valuable sample tubing and gas detection instruments. It is bright orange in colour and 8cm in diameter, so it can be easily seen in confined spaces.



Gecko float.

It is suitable for use with any portable gas detector using a sample draw pump. The Gecko Float becomes a low-cost solution to preventing water damage. Included with the Gecko Float is one 0.22 micron filter and one leur fitting with barb to connect to the tubing.

Contact CAC Gas & Instrumentation at cac@cacgas.com.au for more information.

CORPORATE CONTRIBUTIONS WANTED

WIOA invites all our Corporate Members to consider providing content for the Corporate Member News section of each edition of Operator.

We are seeking information such as new products, results of trials or unusual jobs completed in conjunction with water utilities. It should be written in article format rather than as a press release and needs to be relevant to water industry operations.

Generally, articles should be around 250-300 words and one or two photos or diagrams. Articles for consideration can be forward to info@wioa.org.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:

Laura Cutajar, Mathew Toffolon, Will Kerr, Callum Whitby, Daniel Dawes, Trevor Waterhouse, Jak Jeffery, Cameron Bourke, Gerard Dooley, Tafazzul Shamsi, Steve Smailes, Gavin Hainsworth, Stephanie Bull, Ian Hocking, Corey Schilling, Mark Horn, Kim Bremner, Randall Jacka, Fawzi Saldin, James Mergard & Kelly Richardson.

New **Corporate Members** include:

Envirolab Services & Drainchem Australia

KWATYE AWARD

The Kwatye Award was relaunched in 2019 as a Cultural Recognition Award with the generous support of new sponsor TRILITY.



The Kwatye Award will recognise an initiative involving any cultural or diversity and inclusion-based activities within a project or community in which our members serve. The synergies with our indigenous forebearers is obvious, however, the award aims to be inclusive of a wide range of contributions that support diversity and foster inclusion in the workplace or community.



2019 Winner Paul Beard (l) with Tim Sells from TRILITY

The award focuses on those who have gone above and beyond to further inclusion, connection and belonging for co-workers, members of the community and people from disadvantaged and marginalised groups.

In 2020, again with the support of sponsor TRILITY, an additional Australian Spirit of Mateship Award in each state has been added. Australians are renowned for coming together to provide unconditional help and support of each other during times of need. It is this compassion and kindness that we want to recognise and we encourage you to share your stories and submit nominations to acknowledge someone who has supported those during challenging times.

The winner will have made an outstanding contribution to supporting others, which might include:

- Developing initiatives to show kindness to neighbours
- Promoting physical and mental wellbeing in your community
- Helping those less able
- Creating virtual communities
- Supporting remote workers, keeping them engaged, motivated and recognized
- Adapting work practices to enable remote working.

Nominations for both these fantastic opportunities close on 20 August 2020 with application forms available from the WIOA website at <https://wioa.org.au/awards/national-awards/kwatye-award/>

2020 COMING EVENTS

31 May	Old Operator of the Year Awards application closes
2 June	Ozwater 2020 commences – online
17 June	AWA Vic Bushfire Hackathon – online
22 July	WIOA Virtual Water – Launch day and presentations, online
20 August	Kwatye Applications close
25 & 26 Nov	83rd WIOA VIC Water Industry Operations Conference & Exhibition, Bendigo

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NEXT EDITION

Article Contribution Deadline for the next edition is 13 July 2020

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