



# **qldwater Newsletter**

## **Issue 32 / December 2021**

# Message from CEO

**qldwater** ended the year on a high note with 100% of our core members renewing their memberships for 2021/22 and Affiliate memberships more than doubling to 25.

While strong membership obviously helps the Directorate's financial security, this voluntary response is fantastic for a not-for-profit organisation and particularly important in supporting our advocacy to government on behalf of the water and sewerage sector.

We've been fortunate to avoid the long lockdowns that other states have had to endure, and value the opportunities we've had to host in-person events with three regional conferences, a skills forum, annual forum and workshops on automated metering, source control and emerging contaminants and biosolids.

Being responsive, adaptable and nimble is essential when operating in a global pandemic. We have continued the Essentials and Fundamentals webinar series introduced when COVID first hit to ensure that our members including those in the more remote parts of Queensland can stay abreast of the latest developments in the industry. The excellent presentations by water industry experts from across Australia covered a wide range of topics, and recordings are available for our members to revisit on our website.

**qldwater** members benefit in many other ways – most notably:

- **Stronger regions** through the Queensland Water Regional Alliances Program (QWRAP) with alliances increasing to 57 councils across 9 regions, covering 90% of the state.
- **Improved data reporting** with 100% of **qldwater** members using SWIM to do their annual reporting and 8 Councils in South Australia signing up for a trial of the SWIM Annual Reporting tool through the SA Regulator.
- **Better understanding of data** through **swimlocal** with the release of a major upgrade of the software including a new web-based Reports and Dashboard tool and the ability to transfer sewerage data directly from **swimlocal** to the DES WaTERS database. The fully licensed version of **swimlocal** currently has 51 subscribers, and three additional Councils are currently

in discussion to purchase the Web Reports and Dashboard Tool which will bring the total to 22.

- **Improved environmental outcomes** through the **Sewerage and Water Environmental Advisory Panel (SWEAP)** which this year delivered a sector-wide portfolio for response to contaminants of emerging concern and advocating on behalf of members over the possible impacts from legislative changes.
- Staying abreast of emerging contaminants through the **qldwater Consortium for Research and Advocacy on Emerging Contaminants (qCRAC)** to participate in national industry research and innovation. Individually, most councils do not have the resources to maintain membership in national research organisations or to influence the direction of research. Apart from hundreds of research papers shared with members, work is also progressing on a Chemical Concoctions information website to educate communities about chemicals of concern that are hiding in our homes.
- **An essential workforce that is well trained and resourced.** The Queensland Water Skills Partnership recently won the Queensland Premier's Industry Collaboration Training Award recognising its decade-long investment into skills and training initiatives to support Queensland's water sector.
- **Ongoing advocacy on behalf of the sector**, including an industry voice on critical operations functions, telecommunications legislation, regulatory reform, as well as the establishment of new key reference groups including a Drinking Water Advisory Panel and extension of secretariat services to the Interlab Group.
- **Guidance on industry hot topics** and increased collaboration with other key industry bodies, particularly the Water Services Association of Australia, NSW and Victorian Water Directorates.
- **Evolving industry strategy** including the development of a Think Tank particularly supported by the efforts of industry stalwart Darryl Ross.
- **Better informed decision making** through commencement of the development of educational materials for elected representatives.

- Continued advocacy to address the ambiguity around industry workers performing essential services amidst a constantly changing environment with the pandemic.

We look forward to 2022 which will see the return of the Water Connections Tour Week after a two-year hiatus, this time visiting a number of Indigenous Councils in Far North Queensland.

The 2022 events calendar will kick off with the Water Skills Forum on 3 March with the theme: Water as an essential service – securing a sustainable workforce.

Until then, have a safe and enjoyable Christmas break.

Dave Cameron



### Merry Christmas from the *qldwater* team!

We are still on deck up to 23 December with our offices closed from 24 December to 3 January inclusive. Most staff will be taking a further week off, but our phones and emails will be monitored after the 3rd. If there are any emergency requirements – including assistance/ contacts with other members, please contact Dave or Rob at any time over the break.

It's been another big year and unfortunately some members are already trying to manage through seasonal flooding challenges. Our small team has had a few dramas with a rare resignation and surprise illness – wishing Dave Scheltinga all the best for a speedy recovery.

To all our members and stakeholders, Merry Christmas. We hope you get the time to relax and have a real break. There is plenty of material in this final newsletter for 2021 to keep you interested if you happen to be at a loose end.

**Working together towards safe, secure and sustainable water and sewerage services for all Queensland communities**



Queensland  
Water Regional Alliance Program



# Year in Review

## QWRAP

- 9 Regions covering 90% of Queensland
- 57 Councils participating
- 4 Formal Water Alliances

## EVENTS

- Water Skills Forum
- Essentials Webinars: 10
- Fundamentals Webinars: 12
- Regional Conferences: 3
- Annual Forum
- Technical Workshops: 5
- SPG Meetings: 4

## SWIM

- 100% of members use SWIM for reporting purposes
- Continued growth in swimlocal with 48 customers
- Release of WebReports dashboards tool with strong uptake
- New import functionality including WaTERS

## WATER SKILLS PARTNERSHIP

- Subscribers to WSP: 51
- Aqua Card Completions: 396 (1046 total)
- Brown Card Completions: 507 (633 total)
- Paid Completions: 267
- Foundation Skills SCADA Micro-Credentials Launched
- New Careers Website Launched
- State Winner QLD Training Awards

## WEBSITE

- Full Migration of Website
- 144 Documents added to Resource Library
- 160 Documents added to qCRAC Knowledge Portal

## ADVOCACY

- Submissions (direct & joint): 8 since July
- Active Committees Representing Members: 35

## QLDWATER

- 72 Full Members (100%)
- 2 of 2 Distribution Retail Entities (SEQ)
- 52 of 52 Mainstream Councils
- 17 of 17 Indigenous Councils + GAWB
- 25 Affiliate Members

# Strategic Priorities Group News

The **qldwater** Strategic Priorities Group sets the direction for the projects and activities we pursue as an organisation, and we value the tremendous depth of knowledge we gain from the group.

We would like to offer our sincere thanks to Troy Pettiford who completed his two year term as SPG Chair, and welcome Narelle D'Amico as incoming Chair. Trevor Dean has been elected as new Deputy Chair.

## Banana Shire Council

Anthony Lipsys

## Bundaberg Regional Council

Narelle D'Amico (Chair)

## Cairns Regional Council

Ben Millar

## Cassowary Coast Regional Council

Simon Page

## Central Highlands Regional Council

Jason Hoolihan

## Charters Towers Regional Council

Peter Clark

Mark Harvey

## Cherbourg Shire Council

Darren Lonergan

## City of Gold Coast

Chris Owen

Dayong Li

## Fraser Coast Regional Council

Mark Vanner

Trevor Dean (Deputy Chair)

## Gladstone Regional Council

Neels Kloppers

## Goondiwindi Regional Council

Trevor Seth

## Gympie Regional Council

Peter Manning

## Isaac Regional Council

Karl Murdoch

## Livingstone Shire Council

Michael Dalton

## Logan City Council

Andrew Stevenson

Angus Heares

## Mackay Regional Council

Cameron Jessup

Jason Cocker

Jason Devitt

## Maranoa Regional Council

Graham Sweetlove

## Mareeba Shire Council

Morris Hamill

## North Burnett Regional Council

Shaun Johnston

## Palm Island Aboriginal Shire Council

Stephen Martin

## Redland City Council

Matthew Ingerman

Nicole Davis

Richard Mann

## Rockhampton Regional Council

Evan Davison

Martin Crow

## South Burnett Regional Council

Aaron Meehan

Adam Branch

Steven Carroll

Tim Low

## Southern Downs Regional Council

Gary Murphy

## Tablelands Regional Council

Mark Vis

## Toowoomba Regional Council

Andrew Murray

Graham McKeon

John Mills

## Townsville City Council

Laura Shiels

Matthew Wilkie

Mike Doherty

Robert McCaig

## Unitywater

Nerida Airs

## Urban Utilities

Cameron Jackson

Craig Ma

David Brooker

## Whitsunday Regional Council

Mark Vis

## Thinktank Chair

Daryl Ross

## IPWEAQ

Leigh Cunningham

## IPWEAQ Board Representative

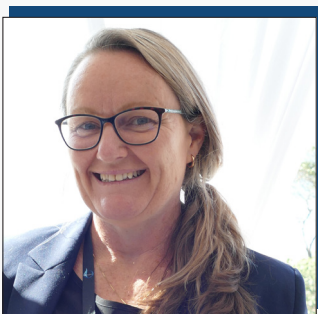
Sarah Hausler

## LGAQ

Subathra Ramachandran

## Australian Water Association

Margit Connellan



Narelle D'Amico  
SPG Chair



Trevor Dean  
SPG Deputy Chair

## swimlocal

A new version (major upgrade) of the **swimlocal** software has been released to several Councils for Beta testing with the final version to be released in the new year. This version includes the ability to transfer sewerage data directly from **swimlocal** to the DES WaTERS database.

The new **swimlocal** web-based Reports and Dashboard Tool has been extremely well received.

Three new Service Providers are currently in discussion to purchase the fully licensed version of **swimlocal** which will bring the total to 51 subscribers. Three additional Councils are currently in discussion to purchase the Web Reports and Dashboard Tool, which will bring the total to 22.

## SWIM

WSPs across Queensland can breathe a big sigh of relief with all SWIM Annual Reporting for the 2020/21 year now complete. All **qldwater** members used SWIM to do their Annual KPI/NPR/ABS and BoM reporting 'on time' again this year.

We are currently in discussions with Seqwater to use SWIM next year for their annual reporting, and will be trialling the SWIM Annual Reporting Tool in South Australia over the next couple months with the SA regulator and eight SA Councils.

**qldwater** has been heavily involved with the NPR review. The final list of NPR indicators and definitions should be released early next year.

## What's great about SWIM and swimlocal?

We asked some of our members and received overwhelming positive feedback, none more so than from Lucy Davies from Cairns Regional Council. Here's what she had to say:

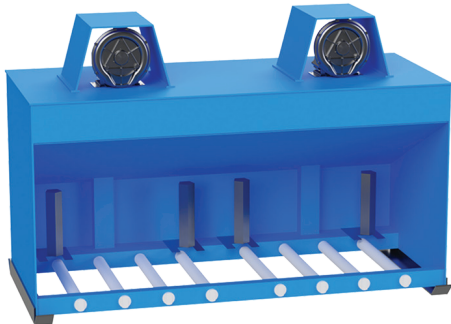
*“What would I say to someone considering signing up for **swimlocal**? Absolutely go for it and get the full subscription, just for the additional options that are available to you and which we didn't even realise existed. It helps with time efficiency, it flags anomalies, it helps with data cleansing and to highlight areas of concern that, in such a big department, can fall under the radar. **swimlocal** really helps visually, easily highlighting areas of concern that you can then further investigate. The functionality of it and the support that we get is brilliant. And it's really affordable too, it doesn't cost an arm and a leg, and it's readily available. And the other thing is that it's being used by so many other service providers, that it has become the standard, you know, and if you're not using it, well, how can you keep up? We want to be able to lead the way and take ourselves in a really good direction, and I don't think we could do that as easily without having this tool to help us.”*

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## Water Skills Forum 2022

Planning is underway for the 2022 Water Skills Forum to be held on 3 March with the theme: Water as an essential service: securing a sustainable workforce.

The idea is to step through the career pipeline from pre-vocational, VET, traineeships, graduate programs, postgraduate research in partnership with service providers, transition to management and retirement. The draft forum program has been finalised and we are in the process of inviting speakers at the time of writing. There is strong enthusiasm again for this event and we are hoping to link to our new education strategy, focussing on building awareness with the Queensland Government of growing challenges facing the sector.

## Foundation Skills Micro-Credentials

77 learners have undertaken current water treatment, wastewater treatment and network operations micro-credentials.

A draft course outline for the new SCADA micro-credential was sent to Skills Partners with a request for EOIs to assist in scheduling virtual workshops for 2022. We received a great response and have had to limit places to 4 registrations per organisation to start off with. DRDMW has kindly agreed to use some of the Fundamentals funding to cover the costs of 18 additional registrations.

## NSW Town Water Risk Reduction Program

At the latest Water Skills Partnership Meeting the group was briefed on plans by NSW to address a range of skilling and workforce issues for the urban water industry including a range of actions to increase the demand for training and to address training supply market issues. One of the early actions from this list is the development of NWP learning resources to reduce barriers to entry for RTOs. *qldwater* is participating in a working group with the team from NSW and other national industry representatives.

## Water Industry Operators Association

George Wall, Managing Director, WIOA advised there had been some delays in progressing the work with Queensland Health with indigenous councils due to COVID, but work is continuing, and more site visits will occur again in 2022 when borders are open.

Skills and training analysis has utilised the Acuario system to identify gaps. WIOA has been offering one on one Acuario training to any organisation with Registered Operators and offered to extend this to Water Skills Partners. Assuming privacy requirements can be resolved, Acuario could potentially be used to support planning for regional training cohorts, by producing training gaps for operators within a region to provide to RTOs for quoting.

## National Water Training Package

A number of new NWP units of competency and a skill set have been approved for development. Project updates are available at: <http://www.australianindustrystandards.org.au/industry-projects/water/>

## VET System Reforms

The Vocational Education and Training system is undergoing a significant reform process, updates are provided in Skills e-Flashes and available directly at: <https://www.dese.gov.au/skills-reform-consultation>

## DESBT Industry Advice & Activities

The Water Skills Partnership didn't end up winning the National Australian Training Award, but it was great to be recognised at a State level and to be a national finalist.

The State Minister had flagged a possible workforce summit to be held sometime in 2021/2022.

## Industry Connect Event

Carlie Sargent and Kathryn Turner recorded the presentation they delivered to high school representatives and this is available on the careers website for others to use as a resource, along with the PowerPoint presentation. <https://qldwatercareers.com.au/water-careers>

## Training Subsidies

*qldwater* is waiting on a response from DESBT in response to its request for an increase to Higher Level Skills subsidies, particularly the Certificate IV which receives ongoing strong demand. There may be an opportunity for a pilot of our "competency cluster" proposal (gap training to support the modernisation of qualifications for key operations staff), but the Department has advised the pilot would be very small, restricted to one region, one RTO and a limited number of competencies. The proposal is still being considered.



## Jobs Queensland Engagement

**qldwater** has worked with the FNQROC Coordinator to submit a proposal to Jobs Queensland to support a workforce planning project for the region.

## Fundamentals Webinars

These have wrapped up for the Christmas period, finishing with Trevor Harvey's presentation on preparing for seasonal events. All Fundamentals recordings are available on the **qldwater** website.

## Online Training Courses

The watertraining website continues to evolve and we are in the process of updating all courses to a new template that will allow easier access from mobile phones and the ability to stop and start a course without losing work already completed.

Look out for email reminders from early next year when the first Aqua Card completions will hit the three year cycle.

The NSW version of the Brown Card is ready to be trialled, and the Introduction to the Water Industry is also ready for testing.

## Regional Training Collaboration

Discussions are ongoing as part of the QWRAP rebid process for a future funding allocation to provide resources to continue supporting regional training hubs. There are now a large number of facilitated regional opportunities, partially delivered through **qldwater** and partially supported by the efforts of Lee-Ann Willis based at Mackay Regional Council with her role currently supported by QWRAP and collaborating councils.

## New Careers Website

An email has recently been sent to Skills Partners inviting feedback on the new careers website: [www.qldwatercareers.com.au](http://www.qldwatercareers.com.au). Let us know what you think and how we can improve!

## Water Industry 'Pre-Vocational' Courses

Based on requests from partners, the concept of pre-vocational courses have been added to the jobs list. We are investigating ways to engage high school students to provide a taste of what the industry has to offer, potentially based on micro-credentials.



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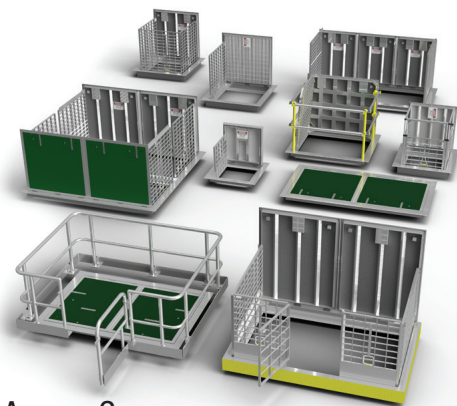


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and Site Condition  
Assessment



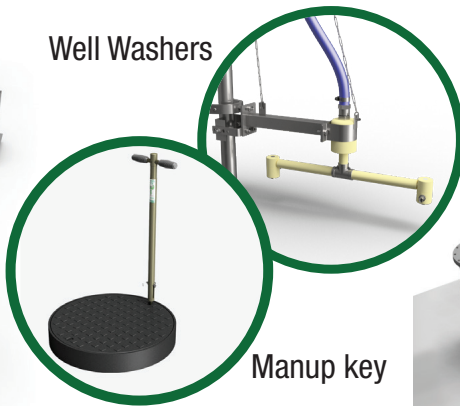
Project  
Management

## WE CREATE SOLUTIONS

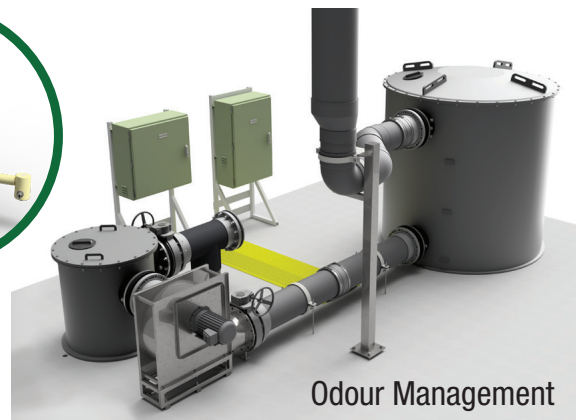


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## *The QWRAP Program has Queensland covered - quite literally!*

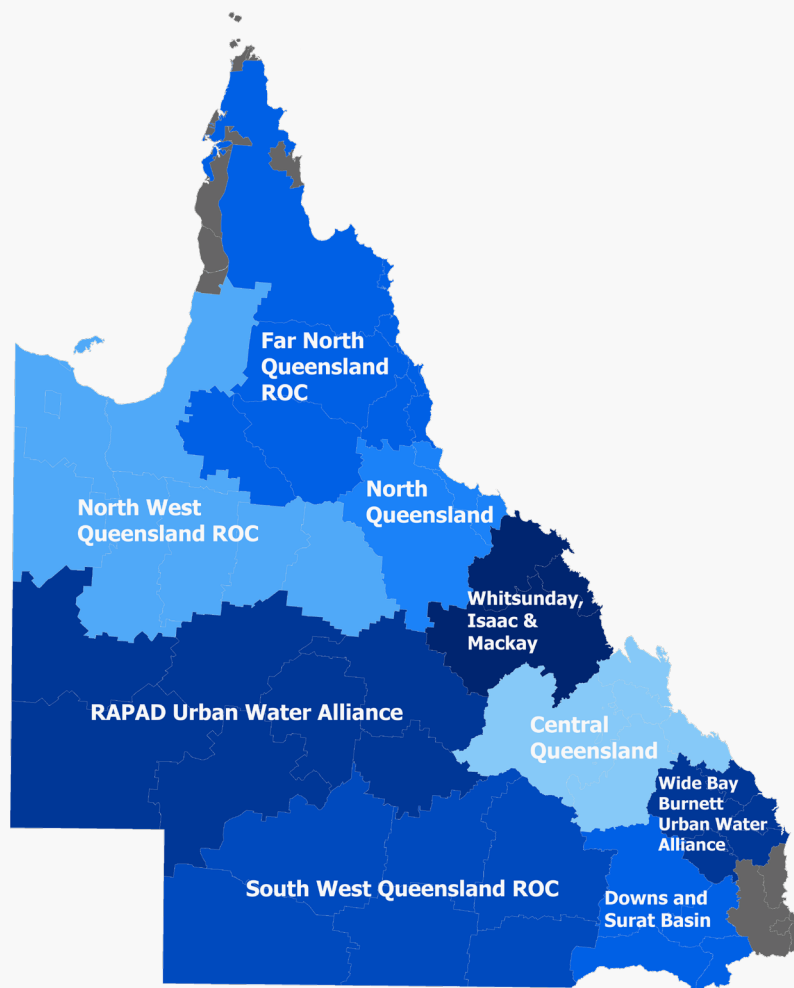
Over 57 councils have chosen to collaborate in QWRAP regional projects with 9 regions eligible to receive funding. Of these, four have created formal Water Alliances, namely, the RAPAD Water Alliance, WIM Water Alliance, WBB Urban Water Alliance and (recently) SWQ Water and Sewerage Alliance. QWRAP regions now cover the entirety of the State outside South East Queensland and several remote communities across Cape York.

The most recent addition to the group is the CQROC which includes Banana Shire, Central Highlands Regional, Gladstone Regional, Livingstone Shire, Rockhampton Regional and Woorabinda Aboriginal Shire Councils. The group recently committed to advancing the QWRAP Maturity Model from Level 1 (little collaboration on water and sewerage) to Level 5 (Pilot Region). They have formed a committee comprising CEOs and mayors to oversee a technical committee focussed on water management in Central Queensland. Early priorities include cooperation on DWQMP audits and reconciling the Capricorn Municipal Design Guidelines with the SEQ D&C Codes.

The NQROC has rapidly progressed its QWRAP collaboration by appointing a Chair Mark Harvey, and Regional Coordinator, Steve Martin to support the regional technical group which reports quarterly to the NQROC. CQROC has formed a subcommittee of mayors and CEOs to oversee a refreshed technical group to progress their QWRAP participation.

A QWRAP rebid proposal requesting \$2million per year has been submitted to the Queensland Government through Minister Butcher in a bid to continue QWRAP beyond June 2022. A communications program to support the rebid included letters and videos from elected representatives from QWRAP regions and a motion at the LGAQ annual conference.

An independent review of the Program will commence in February and research is also currently underway to develop a practical method for assessing scale of benefits arising from QWRAP projects. Other research being undertaken under the QWRAP banner is investigating application of an asset criticality assessment tool to regional councils. Both projects are progressing well with final reports expected early in the new year.



The Sewerage and Water Environmental Advisory Panel (SWEAP) has endorsed a sector-wide portfolio for response to contaminants of emerging concern. The group agreed that the approach should be publicly available to all water service providers to help facilitate discussions with councillors and CEOs.

**qldwater** will be investing in the NiCE- nutrients in a circular economy Industrial Transformation Research Hub, run through Griffith University, by supporting a PhD top up scholarship that will investigate the value proposition of urine-based products, incorporating the economics of urine separation.

The group is keeping an eye on proposed legislative changes to the EP Act by DES that have the potential to impact on the sector, despite assurances that they are not significant nor aimed at the sector. Members of

SWEAP were consulted and their responses were collated into a **qldwater** response to the proposal.

SWEAP members are also gathering industry support to amend the End of Waste Code for Biosolids relating to biochar, recycled water and stabilisation conditions with the hope of separating these items from the EOW Code.

Other actions included an agreed industry definition of “recycled water” as “water generated from sewage, greywater or stormwater systems and treated to a standard that is appropriate for its intended use **rather than discharge to land or water.**” This definition is based on the Australian Guidelines for Water Recycling, but the modification (in bold italics) explicitly aligns the definition with Queensland Acts and distinguishes ‘discharge’ from a beneficial intended use.

## concept

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The **qldwater** Consortium for Research and Advocacy on Contaminants (qCRAC) was formed by Queensland service providers to work on the Contaminants of Emerging Concern (CECs) issues that are better addressed jointly rather than requiring repeated innovation by individual organisations.

In October, **qldwater** hosted a qCRAC/SWEAP Source control workshop to build national cohesion on CECs. The workshop was extremely successful in raising the profile of this group and its activities across Australia and included representatives from utilities in NSW, VIC, SA, WA and NSW and SA EPA.

qCRAC will build on this profile by running a Symposium on Emerging Contaminants next year.

## Lessons from the (qCRAC) Library by Louise Reeves

Over the past year or so the **qldwater** Consortium for Research and Advocacy on Contaminants (qCRAC) online library has grown to more than 160 individual library items and links including peer-reviewed papers in international journals and reports from various sources. These have been individually chosen because they provide information on emerging (or emerged) contaminants that are in some way relevant to the urban water industry in Queensland.

In this update I'd like to share some of the more interesting and more generally relevant wisdom from the qCRAC vault.

### Watch your washing

Microplastics are in the spotlight at the moment, with media attention in recent years resulting in firstly, a ban on single use plastic bags in all states other than NSW (where it is coming in 2022) and secondly, single use plastics (e.g. straws, cutlery, cups) in Queensland, ACT and SA, with further restricted items being recently foreshadowed for Queensland after a public consultation process.

These measures seem likely to reduce the amount of plastic to landfill, and therefore the amount of microplastics released to the environment from breakdown of thoughtlessly disposed plastics. But microplastic fibres and other particles are also present in our sewage in high numbers. A recent study in Australia of three large wastewater treatment plants

Since the last update, the group has joined the Transforming Biosolids (ARC Training Centre for the Transformation of Australia's Biosolids Resource), a partnership led by RMIT, with research partners UQ, UWA, UNSW and a number of large Australian utilities (including UU).

A recent guest speaker presentation by Merran Griffith at Sydney Water shone the light on their microplastics research program.

Work is also progressing on the Chemical Concoctions information website to educate communities about chemicals of concern that are hiding in our homes.

accepting domestic sewage showed up to 92 particles per litre of raw effluent, 77 of which were fibres. Most of these fibres are PET plastics derived from washing synthetic clothing.

Another study showed that there are some simple things that people can do right now to reduce the number of microfibrils that are released from your weekly wash:

**Wash in cold water using the shortest machine cycle you can** – the study compared a normal wash at 40°C against a quick wash in cold water and found that these conditions lead to a 30% reduction in microfibrils released. These conditions also resulted in less loss of dyes from the clothing (which may make them last longer) while maintaining acceptable dirt removal.

**Wash full loads instead of half loads** – there was correlation showing a clear trend towards increasing fibre loss in smaller loads. Smaller loads have a higher water to fabric ratio, which leads to higher flow of wash water through the fabric. Full loads are also a recommended water conservation measure.

Making these changes will lead to less microfibrils being released from your clothes, and according to the authors will also reduce dye fading, pilling and holes and tears. As a bonus: your clothes will last longer! As most fibres are lost in the first 5 or so washing cycles, the longer you can delay buying that new fleece, the less impact you will have.

## Lessons from the (qCRAC) Library Cont.

### Mind your makeup

Makeup is a literal cocktail of ingredients. Many of these we are happy to use because they protect our skin (sunscreens), hydrate our skin (moisturisers), improve the appearance of our skin (foundation, concealer), or make us look more attractive. However, these products tend to be used every day, and there is a clear pathway to the body by accidental ingestion (by mouth) and through the tear ducts.

A recent survey of 231 cosmetics sold in North America showed that fluorinated compounds were found at the highest concentrations in three categories: foundation, eye products, mascara and lip products. The products with the highest fluorine were analysed further and multiple PFAS compounds were detected in all of them, even though they were not listed on the ingredients. What is worse is that when the researchers contacted the manufacturers of these cosmetics, many didn't realise that there were PFAS in their products, because the supply chains of the ingredients are so complicated.

PFAS does provide some very useful chemical properties to makeup, such as improving spreadability, making them weather resistant, and improving skin penetration of active ingredients, but the trade-off is that they will end up in our bodies, and will be washed off when we shower, into our sewers.

There is a similar problem with microbeads. These are tiny, spherical plastic particles that are manufactured and added to hundreds of personal care products. You might expect to find them in facial scrubs, cleansers, exfoliants and maybe even toothpaste, but they are also commonly added into moisturisers, cosmetics, face washes, deodorants, hair colouring, shaving creams and sunscreens. They are included in these products for their "ball-bearing" effect to create a silky texture, and as bulking agents, and to prolong shelf life by trapping and adsorbing degradable ingredients.

Since 2015 there has been a voluntary phase out of microbeads by Australian manufacturers, which seems to be having an effect according to a 2017 study conducted by the Department of Agriculture Water and the Environment, however, this study used the list of ingredients to determine the presence of microplastics in products, which were compared with a list of 17 known common microplastic ingredients. Other sources suggest that the list of microplastic ingredients is as large as 500 compounds, with 22 ingredients being considered "red flags" for the presence of microbeads.

These issues might seem to be a little way removed from the urban water industry in general, but they represent a significant emerging problem for us all. Public WWTPs are the receivers of all the contaminants discharged to sewer from domestic and industrial sources, and it is growing increasingly expensive to treat and remove emerging contaminants. These costs could be avoided by reducing the number of these compounds flushed to sewers in the first place. It would seem to be much easier for regulators to manage the problem at the "receiver" end than the "source" end, even. For example a survey of biosolids from 19 Australian WWTPs, determined that there was a relatively consistent flux of PFAS into biosolids of 6.0 mg per person per year. There was no statistically significant difference between the relative contributions of rural and urban WWTPs suggesting that this may represent a baseline domestic PFAS emission rate because of population exposure to PFAS compounds from all sources... and WWTPs have to deal with it all.

To raise awareness of this issue qCRAC is developing an information-based website that will provide information and advice for consumers on how they can reduce their contaminant footprint through choices and actions that they take every day. The website "Chemical Concoctions" will be released in 2022.



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# Events Update

## Events 2021

Queensland has been fortunate to avoid the extended lockdowns experienced by other states, and we are grateful to be able to look back at a great year of in-person and hybrid events. Follow the links below to find more information and to download the presentations or watch recordings of each event.

We started the year in Goondiwindi for the joint Queensland and NSW Water Directorates' Sustainable Services for Regional & Remote Communities workshop in February 2021 which included a bus tour to the Yelarbon Sewerage Treatment Plant (STP), Water Treatment Plant and reservoir construction site guided by Goondiwindi Regional Council's Manager Water & Sewerage, Trevor Seth.

In March, more than 80 water industry stakeholders participated in the fourth annual Queensland Water Skills Forum to explore leadership development, succession planning and future training requirements.

In April, **qldwater** convened two workshops dealing with contaminants of emerging concern (CEC). The first focused on treatment of biosolids to deal with CEC while the second, co-convened with the Department of Environment and Science (DES) examined the measurement of PFAS in biosolids to inform compliance with the End of Waste Code

The Barcaldine Regional Conference held in May focused on service delivery in the West with a wide range of interesting presentations from across the region. It included a self-drive technical tour visiting the water ski park construction site and STP, following the proposed recycled water pipeline route to the race course where it's intended to use the water to keep the only grass track in Western Queensland well fed. The STP design has a number of innovative features mixed with simple technologies for a significantly reduced capital cost, and

the effort put into the race track and ski park is expected to see significant benefits to both the community and regional economic development through visitors.

The final regional conference for the year was held in Charters Towers and included an excellent tour of the water intake and significantly upgraded water treatment plant, along with many good examples of infrastructure challenges. There were plenty of presentation highlights with the water quality theme but Mel Keating's talk on introducing chlorination in Flinders scored highest in the feedback. Many can relate to the story of a service provider working hard to improve public health, often in the face of significant community push-back via social media.

The **qldwater** Consortium for Research and Advocacy on Contaminants (qCRAC) hosted a Source Control workshop in October. The group has targeted the topic of source control because for some contaminants where treatment processes are complex and potentially costly, the most effective control method may be to prevent the chemical from entering the wastewater system. The workshop ran as a webinar with six speakers providing a range of views on source control

## Other notable events

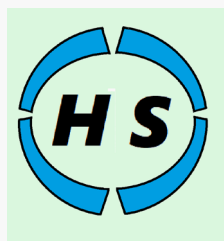
**qldwater** was well represented at a number of other industry events including:

- the AWA NQ conference in Mackay,
- IPWEAQ state conference in Cairns,
- the QLD Indigenous LG Drinking Water Symposium in Cooktown and Hope Vale,
- WIOA Operators Interest Day in Toowoomba, and
- AWA QWater Conference on the Gold Coast





Thank you Sponsors for 2021



## Annual Forum Wrap

The **gldwater** Annual Forum is our signature event of the year, and it was great to be able to connect with our members over three days in September.

The forum was hosted by the Redland City Council with most events based at Alexandra Hills Hotel and at North Stradbroke Island for the day tour and the Best of the Best Queensland Water Taste Test. It also included an Automated Metering Workshop the day before the Annual Forum.

### Day 1: Automated Metering Workshop

The Automated Metering Workshop included some excellent presenters with Chris Owen from Gold Coast receiving most votes for favourite presentation just pipping Lalji Rathod from Southern Downs, but there were several other strong contenders. Jaason Englesmith from Jacobs did a great job of setting the global scene followed by enthusiastic panel discussions.

There was strong engagement from both asset owners and vendors, and many of the case studies presented demonstrated learnings resulting from extensive engagement across the industry and well-developed planning.

### Day 2: Tour Day

Day 1 on Stradbroke Island featured some excellent presentations from Matthew Ingerman at Redland City Council, demonstrating some of the challenges in managing STPs in the region, some history of water supply (from the island to the mainland) and an innovative presentation on the Pt Lookout STP including a drone flyover – some of the feedback suggested it was all the good bits of an STP tour without the smell!

Mackay Regional Council managed to reclaim the best tap water title in the Best of the Best Queensland Water Taste Test, just pipping Bundaberg Regional Council and knocking serial winner Livingstone Regional Council off the perch. Mackay will again take on the best water in NSW, Australia, and potentially the world!

Participants heard four great vendor pitches with Trimble/ Smart Tech taking out the gong for best pitch – see story on page 20.

Day 1 ended with some beer tasting and a dinner back at the Alexandra Hills Hotel. Congratulations to Lynne Powell of Cairns Regional Council who was awarded the 2021 SPG Industry Contribution Award at the dinner.



## Annual Forum Wrap Cont.

Lynne has been a strong supporter of the urban water sector for many years while working for Cairns Regional Council. As well as representing regional Queensland service providers on many AWA and WSAA committees, she has played an active role in several **qldwater** groups, particularly the SWEAP and qCRAC steering groups. In each of these groups, Lynne acts as a thought leader and actively shares information and creates links across a range of disciplines and backgrounds.

Lynne's scientific acumen and knowledge of environmental, Great Barrier Reef, public health issues, research and regulation have benefited not only Cairns RC but also informed state processes more broadly. Other Service Providers have often been informed by and adopted Lynne's approach and ideas and she is tireless in providing feedback and informed commentary for consultation processes, ensuring that the needs of Cairns RC and regional utilities are well represented.

Despite her broad portfolio, Lynne is always approachable and willing to share information and help others in the industry and is commonly the first to share information and offer a helping hand. She always seeks to maximise public benefits for regional communities through a rational and evidence-based approach based on her broad knowledge of the industry and its capacity and capabilities. This is the same approach members and SPG expect of **qldwater** making Lynne a worthy recipient of the SPG award.

Dinner guests also experienced an amazing presentation from the Cross River Rail project with full 3D+ models of this enormous project and fully gamified fly throughs

of the development. We recently visited the projects experience centre in Brisbane City which is well worth a look if you are in town – we hope to have some recordings from these presentations available on the website soon.

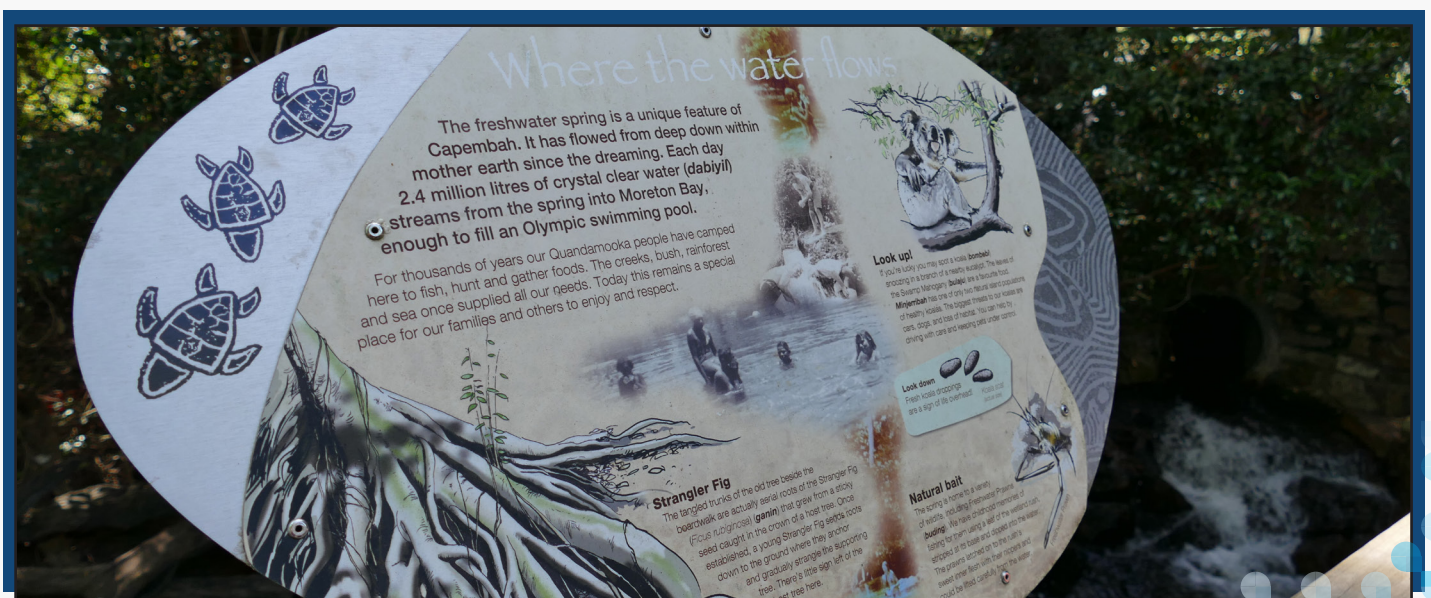
### Day 3: Strategy and Asset Management

The final day of the Annual Forum included an excellent series of presentations with Professor Damian Batstone's coverage of the viability of various hydrogen technologies receiving great feedback, as did Charles Dyer from Winton Shire Council who is leading his small town into the digital future.

The day included an engaging series of provocations and a workshop session to inform our industry roadmap. The recurring theme was a need to develop a more mature education program around roadmap priorities and our team will be considering what tools **qldwater** can develop to better inform decision makers and other stakeholders of industry challenges and potential solutions with a new framework approved by our Strategic Priorities Group in December.

A big thank you to our Principal Sponsor Calibre for supporting this event, as well as our other sponsors Taggle, Suez, Veolia, Aquatec Maxcon, Concept Environmental Services, SmartTech Australia, Trimble, Wagners and Endress+Hauser, and Dinner/Gold Sponsor Royce Water Technologies.

We are looking forward to the 2022 event which looks set to be on the Gold Coast.



## Annual Forum Wrap Cont - 2022 Vendor Pitch Winner

Each year at the **qldwater** Annual Forum, we host a Vendor Pitch session to raise funds for the Queensland Water Regional Communities Innovations Program (QWRCIP) which allows approved scholarship holders to spend time visiting SEQ service providers and attend the Annual Forum.

We caught up with Michael Krome from Trimble and Brad Dalton from SmartTech, whose combined presentation was selected as the winner of the 2021 Vendor Pitch session, to see what the win means for them and for their companies.

### Can you please tell us about your decision to enter the pitch and your subsequent win – what does it mean for Trimble & SmartTech?

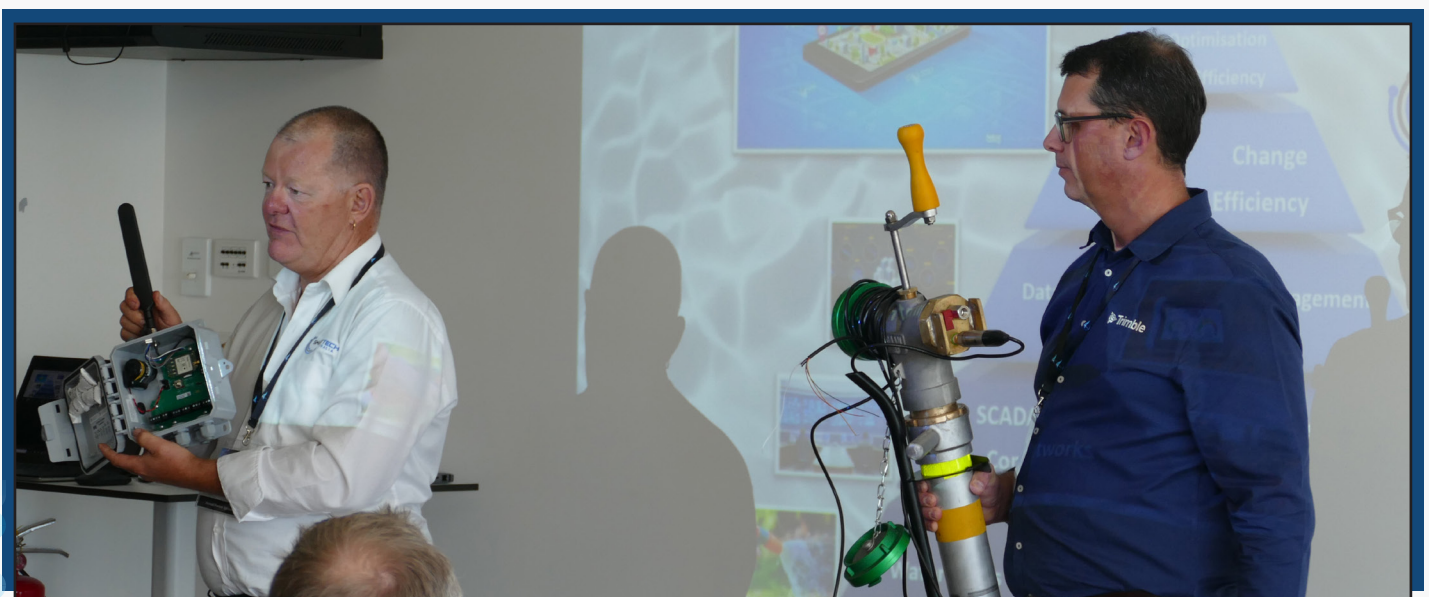
For over 40 years, Trimble has been creating unique solutions that help customers to improve their productivity, quality, safety, compliance and sustainability. Our focus has grown from pioneering Global Positioning Systems (GPS) technology, to connecting the physical and digital worlds across the whole Asset Lifecycle. The water industry has often seen Trimble products in the Design & Construction phase of their assets lifecycle and we now want to share our Operational, Maintenance and Monitoring solutions with the Australian water community.

Working with our distribution partner SmartTech Australia, we saw the Qld Water Directorate Annual Forum Vendor Pitch as a fantastic opportunity to share some high level knowledge about our Cityworks Asset Management and Trimble Water Asset Monitoring technologies, and showcase how SmartTech Australia are putting our technology to good use with utilities around Australia.

### What are you / your organisations trying to achieve within the urban water and sewerage sector and what excites you?

At Trimble, the context of asset location and its attributes is in our DNA, being a pioneer of satellite positioning (GPS) technology. Combine that with our vision to “connect the physical and digital worlds to help solve complex problems”, we are excited to bring new products to the market which achieve two goals:-

- Unlock Asset Data- Utilise the many known attributes of our assets including location, class / type, size and its operating status to make more informed decisions. By leveraging the assets locations and relationships to each other through Geographic Information Systems (GIS) technology, unlocks near real time conditional hotspots, asset operating state and predict failures which are often missed when looking at a tabular list or textual report from traditional systems.



- System of Action- Providing an End to End solution, which allows asset monitoring data to seamlessly inform the operational teams of issues and automatically generate Service Requests and Work Orders to resolve problems before they become major issues such as customer outages, environmental breaches and loss of revenue product.

Distribution partners like SmartTech Australia, work closely with our clients to listen to their challenges and advise on and deliver smart solutions to solve these pain points.

### What do you think about the current technologies available now and what it means for the water industry?

There are some fantastic technologies being deployed in the Australian Water Industry, however the large majority don't value the data that is generated from the technology in the context of sharing across enterprise wide systems, which results in "Data Silos" being created. Trimble's focus is not just on producing high quality hardware and software technology, our vision is to "connect the physical and digital worlds to help solve complex problems" by enabling data workflows throughout an organisations corporate systems. By breaking down the silos of data, it allows water operators and asset managers the ability to see the full picture of their operating assets, allowing them to make informed data driven decisions through our System of Action.

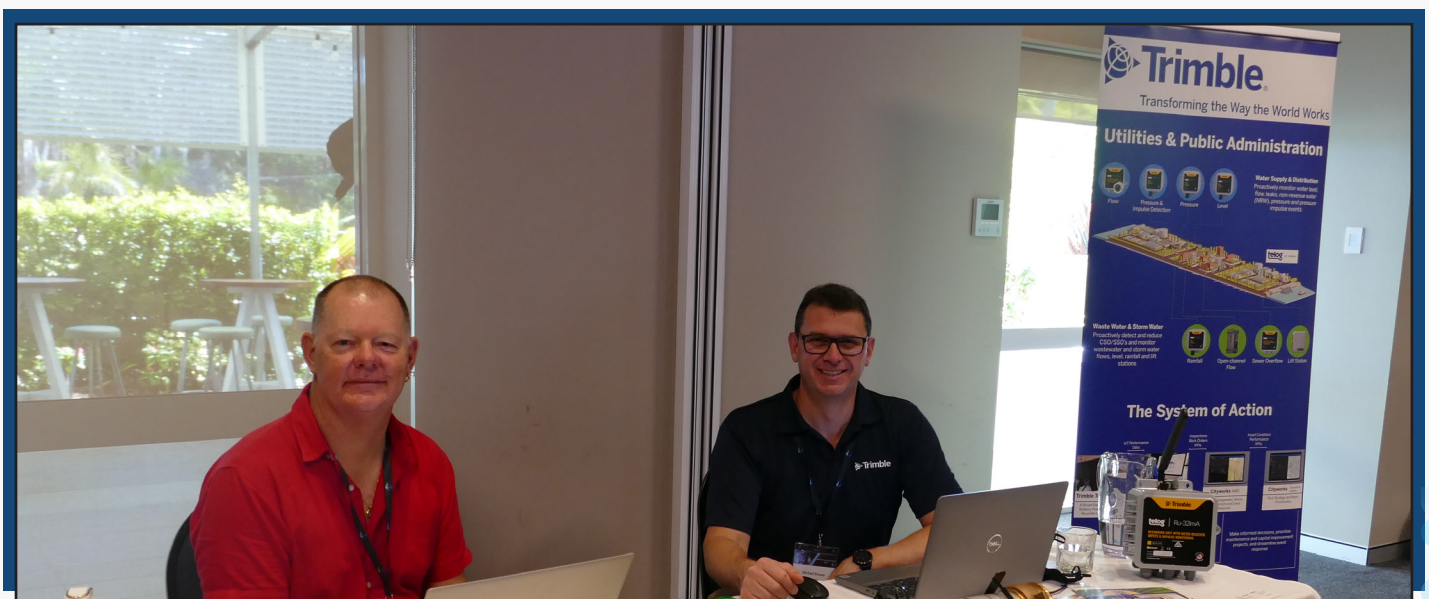
### Is there anything exciting in the pipeline that you are looking at bringing to the market?

Trimble invests approx. 14% of our revenue back into product Research and Development, so there are always new innovations coming through the pipeline. Currently there are exciting innovations in the works that seek to build upon the Trimble Telog telemetry hardware and Trimble Unity software combining seamless integration with our Cityworks Asset Management and Permitting technology. This gives organisations in the Water Industry that ability to share asset monitoring information with works management and asset managers in real-time.

A growing trend is for larger utilities in Australia to centralise their asset performance and operations data in Data Lakes. Our Trimble software has out of the box integration solutions (API's, WebHooks, etc.) to deliver this data in real time to a client's Data Lake.

Through our vendor partnerships and by supporting our local distribution partner's innovations, we aim to break down data silos by integrating asset monitoring data with enterprise systems within the Trimble family as well as 3rd parties including GIS, Asset Management, SCADA and Operational resourcing to allow utilities to make more informed, situational aware decisions, in real-time.

<https://qldwater.com.au/qldwater-blog/vendor-pitch-winners-2021>



## Essentials Webinars

Since the last edition we have hosted the following Essentials Webinars. Recordings of all webinars are available on our website at: <https://qldwater.com.au/essentials-webinar-series>

### **Unitywater's Automated Metering Journey**

*by Steve McDonald, Unitywater*

After missing the Automated Metering Workshop prior to the Annual Forum, Steve McDonald provided an update on Unitywater's automated metering program in this webinar – a large scale implementation considering a range of different technologies and approaches.

### **Special Webinar on Source Control for Emerging Contaminants**

Source control for emerging contaminants is an area that the **qldwater** Consortium for Research and Advocacy on Contaminants (qCRAC) has targeted for future action. This is because for some contaminants, for which treatment processes are complex and potentially costly, the most effective control method may be to control the chemical at the source before it enters the wastewater system. Interest in this area prompted a Source Control workshop, jointly hosted by qCRAC and SWEAP. The workshop ran as a webinar on 21 October 2021 with six speakers providing a range of views on source control.

### **Special Webinar on Progress with COVID Sewage Surveillance**

*by Jochen Mueller, University of Queensland and Dan Deere from Water Futures*

Jochen and Dan provided an update on the Queensland-wide wastewater monitoring organised through Queensland Health to monitor and trace COVID outbreaks and how important the sampling being done by our members is in keeping our communities safe.

### **Top 5 most viewed Essentials for 2021**

1. Treatment of Biosolids for Contaminants of Emerging Concern
2. Essentials Webinar 20 – Teng Yik (NT Power and Water & Moira Zeilinga (Clear Idea)
3. Source Control Workshop
4. Essentials Webinar 17 – Nadine Story and Noel Ralph & Adjunct Professor Joe Mathew
5. Essentials Webinar 19 – THM Management

## Fundamentals Webinars

Since the last edition we have hosted the following Fundamentals Webinars. Recordings of all webinars are available on our website at: <https://qldwater.com.au/fundamentals-webinar-series>

### **The Fundamentals of Seasonal Disaster Readiness**

*by Trevor Harvey*

Having experienced a number of disasters, Trevor Harvey, previously of North Burnett Regional Council, shared his experiences and learnings about 'Seasonal Disaster Readiness'.

### **The Fundamentals of Instrumentation Verification and Validation**

*by Gary Fenwick, Urban Utilities*

The basics of instrument verification and validation considering hazard analysis critical control point (HACCP) and supervisory control and data acquisition (SCADA), presented by Gary Fenwick from Urban Utilities. Gary was previously Leading Vocational Teacher for Water Utilities at SkillsTech- TAFE Queensland.

### **The Fundamentals of Reservoir Integrity as a Critical Control Point**

*by Murray Thompson*

In this presentation, Murray Thompson explains the main functions of reservoirs as secure and safe sources of drinking water to consumers, taking into account poor reservoir design, operation and maintenance. Murray provides examples of typical integrity failures and poor water quality outcomes for customers, explaining that every drinking water reservoir is a Critical Control Point in water supply..

### **Top 5 most viewed Fundamentals for 2021**

1. Fundamentals Webinar – High Pressure Water Jetting
2. Fundamentals Webinar – Jar Testings
3. Fundamentals Webinar – Media Filtering Backwashing
4. Fundamentals Webinar – The Fundamentals of Chlorine Disinfection
5. Fundamentals Webinar – Remote Assistance Technologies



## A new generation of Smart Metering Solutions from SUEZ and WIZE

With customers expecting smarter, faster, and more efficient services, it's essential to gather meaningful and actionable data. With SUEZ Smart Metering Solutions you can deliver a quality customer experience and engage better with water consumers.

### SUEZ Smart Metering Solutions have several benefits:

- WIZE is a fully open standard and established ecosystem
- SUEZ more than 15 years' experience
- 6 million water meters installed globally
- Interoperable products through the WIZE ecosystem
- SUEZ is a Water company. Water is our domain expertise
- Total independence from any single vendor or network supplier
- Guaranteed support until at least 2043 for network, coverage, and devices



**Sean Cohen**  
Senior Manager  
Smart Water - Australia



**Mateu Crespi**  
Director of Operations  
SUEZ Smart Solutions - France

## Watch the on demand recording of the SUEZ smart solutions webinar held in September.

In this webinar, our experts Sean Cohen and Mateu Crespi Alemany explored Smart Metering for Water and the main principles of the WIZE technologies behind them.

[CLICK HERE TO VIEW WEBINAR](#)



## Urban Utilities and UNIQ You supporting women in water

Urban Utilities is throwing its support behind a new not-for-profit organisation recently launched in Queensland dedicated to helping young women break into male-dominated industries.

The utility is a foundational sponsor of UNIQ You, an important service and online platform connecting high school girls, and their guidance and career officers, with industry advisors drawn from sectors under-represented by women.

Urban Utilities CEO, Louise Dudley, said they were pleased to support the innovative program that would help provide girls with wider career choices.

“The utilities sector has about 22 per cent female participation overall, so there is still more opportunity to encourage a higher number of women into the industry,” she said.

“Through this program, we’ll be able to help teenage girls connect with women who are leaders in a range of fields such as engineering, science and technology.

“We’re also excited about the benefits the partnership will bring Urban Utilities such as helping us to attract and retain talent, encourage new ideas and support innovation.”

UNIQ You has officially launched in Queensland with a strong focus on increasing female participation in sectors such as utilities, mining, technology, digital, logistics and transport.

Environment and Planning Officer Annabel Hofstee (pictured below) is one of eight women from Urban Utilities who will advise and provide guidance to students as part of the UNIQ You program, providing their time and industry insights to grade 9 to 12 high school girls from schools across the state.

“We’ve got a really diverse mix of women from environment and trade waste to strategy and resource recovery ready to offer support and advice to girls thinking of pursuing a career in the utility sector,” she said.

“From washing clothes, to quenching a thirst, to growing a garden, or enjoying a kayak along the creek – everyone is connected to water and I’m proud to come to work every day to make sure that our water and sewage services are future-proof.

“This industry is always learning and adapting to the challenges of a changing world, so it is an exciting time to work in this space so I’m excited to inspire more young women to work in water.”





# Hot Topics

The **qldwater** website hosts thousands of documents, and it can be quite challenging to find what you are looking for. To make it easier for our members, we provide an explanation of each of the topics we've divided resources into, as well as a list of recordings and presentations from 2020 and 2021. The list includes links to the presentations where they were provided.

As an alternative, members can use the Library Search function at [www.qldwater.com.au/resource-library](http://www.qldwater.com.au/resource-library)

## Planning / Management

Resources that cover the whole business e.g. management, human resources, planning etc.

### Asset Management

- [Why is it important for water businesses to understand asset criticality?](#) by Moira Zeilinga, Clear Idea
- [The Trusted Information Sharing Network \(TISN\) Mutual Aid Guidelines](#) by Luke Sawtell from Urban Utilities and the Water Services Sector Group
- [Innovation in asset management](#) by Adjunct Professor Joseph Mathew from the Asset Institute, Australia (**qldwater** members access only)
- [The Fundamentals of Remote Assistance Technologies](#) by David Francis, CEO Virtual Method (**qldwater** members access only)
- [The Fundamentals of Seasonal Disaster Readiness](#) by Trevor Harvey (**qldwater** members access only)
- [Implementing SCADA and Cyber Security Upgrades at Winton](#) by Charles Dyer, Winton Shire Council
- [Our program management software – Monday.com. Capital delivery success...](#) by Sean Askew, Bundaberg Regional Council
- [Ngukurr Asbestos Cement Main Project, NT](#) by Teng Yik, NT Power and Water Corporation (**qldwater** members access only)
- [TigerNix Asset Failure Predictive Analytics](#) by Sen Vigneswaran from Townsville City Council
- [CRC-p the WSAA Perspective](#) by James Gardner from WSAA (**qldwater** members access only)
- [High-tech tools for high risk condition assessments](#) by Prabhu Krishnasamy, Unitywater
- [Smart linings CRC learnings](#) by Daniel Muir, Urban Utilities
- [Setting the scene on AC pipes](#) by Stephen Martin from Townsville City Council (**qldwater** members access only)
- [CCTV and Asset Data Management at Gladstone Regional Council](#) by Neels Kloppers, Gladstone Regional Council

## Human Resource Management

- [The Sunwater Cultural Journey](#) by Jenna Baas, Sunwater (**qldwater** members access only)
- [How to prepare future leaders for the transition from tools to team](#) by Troy Pettiford, Whitsunday Regional Council
- [Restructuring – Potential Pitfalls and Wins](#) by Joe Galea, Burdekin Shire Council

## Business Management

- [SHOW ME THE MONEY!! Options for demonstrating sustainability in a water business](#) by Chris Adam, Strategic Asset Management (**qldwater** members access only)
- [Productivity Commission Review of National Water Reform](#) by Dr Jane Doolan (PC Commissioner) and Drew Collins (Associate Commissioner)
- [qldwater Response to Productivity Commission Review](#) by Dave Cameron and Rob Fearon

## Sustainable Services for Regional and Remote Communities

- [Navigating the Tech Traps](#) by Terry Fagg, Western Downs Regional Council
- [Tried and tested technologies](#) by Chris Pipe-Martin from Tallowood Rise
- [RAPADSWA Strategic Aims](#) and [Chlorination Options in Regional Communities](#) by Harin Karra, Boulia Shire Council
- [Water Security in the Central West](#) by Neil Stiles, Longreach Regional Council
- [Palm Island Update](#) by Steve Martin, Palm Island Aboriginal Shire Council

## Research & Development

- [Intelligent Water Networks Program Update](#) by Dean Barnett, Intelligent Water Networks (IWN)

## Water Source

Resources that relate to water sources including rivers, dams, bores etc.

- [Update on Great Artesian Basin Advisory Council](#) by Scott Mason, Central Highlands Regional Council
- [Blue Green Algae Event Response](#) by Laura Shiels, Townsville City Council

# Hot Topics Cont.

## Emerging Contaminants

- Special Webinar on Source Control for Emerging Contaminants
- [Managing PFAS in biosolids at the City of Gold Coast](#) by Kelly Hopewell, City of Gold Coast
- [Update on Townsville contaminants research](#) by Anna Whelan, Senior Process Engineer- Water and Waste, Townsville City Council
- [PFAS and Biosolids – update on the PFAS National Environment Management Plan \(PFAS NEMP 3.0\)](#) by Dr Shaun Thomas, South Australia EPA (*qldwater* members access only)
- [Understanding contaminant risks at Victoria wastewater treatment plants in an era of general environment duty](#) by David Sheehan, VicWater
- [PFAS in Australian WWTPs and Biosolids](#) by Dr Brad Clarke (Australian Laboratory for Emerging Contaminants) (*qldwater* members access only)
- [Why source control is key for \(some\) emerging contaminants of concern](#) by Professor Jochen Mueller (Queensland Alliance for Environmental Health Sciences)
- [Contaminants of Emerging Concern – GBR Catchments Preliminary results](#) by Dr Susi Vardy (Department of Environment and Science) (*qldwater* members access only)
- [Using trade waste agreements to manage contaminants in sewers](#) by Colin Hester (Urban Utilities)
- [Elements of Antibiotic Resistance in Wastewater Treatment Plants](#) by Kezia Drane, James Cook University (*qldwater* members access only)

## Water Treatment

The Water Treatment topic includes anything that happens at a water treatment plant.

- [Enhanced Coagulation in practice - A useful tool in the management of disinfection by products](#) by Terry Fagg, Western Downs Regional Council
- [Creating a Universal Point of Entry Drinking Water System for Rural Areas Using IoT](#) by Martina De Silva, Process Engineering Manager- Water Source Australia
- [The Fundamentals of Disinfection and C.t Measurement](#) by Murray Thompson (*qldwater* members access only)
- [The Fundamentals of Jar Testing](#) by Terry Fagg (*qldwater* members access only)
- [The Fundamentals of Chemicals and Hazardous Substances](#) by Murray Thompson (*qldwater* members access only)

- [The Chlorination Challenge](#) by Melissa Keating, Flinders Shire Council
- [A collaborative approach to DWQ Management – a review of GRC’s DWQ Stakeholder Committee Framework](#) by Jane Doran, Gladstone Regional Council
- [DWQMP: After 10 years, have we taken them off the shelf yet?](#) by Mark Harvey, Charters Towers Regional Council
- [The Turbidity Analyser flatlines when we pass 10,000 NTU](#) by Mark Harvey, Charters Towers Regional Council
- [THM Management in Drinking Water Networks](#) Chaired by David Sheehan from Coliban Water in Victoria (*qldwater* members access only)
- [The Fundamentals of Instrumentation Verification and Validation](#) by Gary Fenwick, Urban Utilities (*qldwater* members access only)
- [The Fundamentals of Pumps](#) by Terry Fagg (*qldwater* members access only)

## Water Network

The Water Network topic covers anything related to the broader water network outside of the treatment plant, including pipes, pumps, reservoirs etc.

- [THM Management in Drinking Water Networks](#) Chaired by David Sheehan from Coliban Water in Victoria (*qldwater* members access only)
- [WSAA Asbestos Water Pipes Best Practice Guidelines](#) by James Goode (Water Services Association of Australia)
- [The Fundamentals of Reservoir Integrity as a Critical Control Point](#) by Murray Thompson (*qldwater* members access only)
- [The Fundamentals of RF Exposure & Safety Working on Reservoirs](#) by Murray Thompson (*qldwater* members access only)
- [The Fundamentals of Disinfection of Water Assets](#) by Murray Thompson (*qldwater* members access only)
- [The Fundamentals of Electrical Safety when working on Metallic Pipes](#) by Murray Thompson (*qldwater* members access only)
- [The Fundamentals of Backflow / Cross Connection Awareness and Control](#) by Murray Thompson (*qldwater* members access only)
- [The Fundamentals of Chemicals and Hazardous Substances](#) by Murray Thompson (*qldwater* members access only)

## Customers

Resources relating to customer service / standards.

### Automated Metering:

- [Unitywater's Automated Metering Journey](#) by Steve McDonald, Unitywater
- [Townsville, A Water Sensitive City in the Making](#) by Chris Manning, Townsville City Council

## Sewage Treatment

Resources relating to anything that happens at a sewage treatment plant.

- [Microalgal and anaerobic water treatment at Helidon Regional STP with a focus on efficient nutrient recovery and greenhouse gas reduction](#) by Philip Keymar, Urban Utilities (*qldwater* members access only)
- [Floating Treatment Wetlands: A Nature-based Solution for a Small Rural Community at Kenilworth](#) by Ramraj Kulkarni from Unitywater (*qldwater* members access only)
- [Implementing Wastewater Treatment Plant Upgrade and Water Recycling Scheme](#) by Rick Rolfe, Barcaldine Regional Council and David Leinster, The Water & Carbon Group
- [The Fundamentals of Instrumentation Verification and Validation](#) by Gary Fenwick, Urban Utilities (*qldwater* members access only)
- [Lagoon pH licence amendments](#) by Jeanette Harold from Fraser Coast Regional Council (*qldwater* members access only)
- [Piloting a Water Quality Offset Approach in the Reef Region](#) by Alana Lorimer, Townsville City Council (*qldwater* members access only)

## Sewerage Network

Resources relating to the broader sewerage network, including pipes and pumps.

- [A seven-year major sewer upgrade project](#) by Nadine Story and Noel Ralph from Urban Utilities (*qldwater* members access only)
- [Megashut!](#) by Noel Ralph & Nadine Story from Urban Utilities (*qldwater* members access only)
- [Protect Sewer: Investigate sewer corrosion using multidisciplinary techniques](#) by Dr Yarong Song, Advanced Water Management Centre, UQ
- [Sewer Network Odour & Corrosion Control](#) by Jeff Rohdman (Bundaberg Regional Council)

## Recycle / Reuse

Resources relating to the recycle and reuse of water, wastewater, biosolids etc.

- [Biosolids to Bioproducts](#) by Luisa Marghales from Unitywater and Glenn Dale from Verterra (*qldwater* members access only)
- [Logan gasification demonstration plant](#) by Johanna Johnston, Logan City Council (*qldwater* members access only)
- [Long Term Recycled Water Release Program – constructing marine crossings on the GC](#) by Mark Herrman, City of Gold Coast
- [Developing an Organic Waste Roadmap for Cairns](#) by Lynne Powell (Cairns Regional Council)

## COVID-19 / Crisis Management

An additional topic to cover resources related to the global pandemic.

- [Special Webinar on Progress with COVID Sewage Surveillance](#) by Jochen Mueller, University of Queensland and Dan Deere from Water Futures (*qldwater* members access only)
- [The national "ColoSSoS Project"](#) by Dan Deere, Water Futures Pty Ltd
- [National response to COVID-19](#) by Adam Lovell, Water Services Association of Australia
- [Water Supply Regulation Update including COVID-19 response](#) by Hamish Butler, Department of Natural Resources, Mines and Energy
- [COVID Facts and the Water Sector](#) by Stuart Khan (Water Research Centre, University of NSW)
- [An Aviator's Approach to Managing Water Services in a Crisis](#) by Terry Fagg (Western Downs Regional Council)
- [COVID-19 response: a brief reflection](#) by Cameron Ansell (Fraser Coast Regional Council)
- [Leveraging COVID for positive gains](#) by Troy Pettiford (Whitsunday Regional Council and *qldwater* TRG chair) and Nicole Davis (Mackay Regional Council) (*qldwater* members access only)

# Upcoming Events 2022

The 2022 events calendar is packed with opportunities to connect with our members and supporters. Here's some important dates for your diary so far:

## February

- 17 **qldwater** Essentials Webinar
- 22 Fundamentals Webinar

## March

- 3 Skills Forum
- 4 **qldwater** SPG Meeting, Eagle Farm
- 15 Fundamentals Webinar
- 16-17 IPWEAQ CQ Branch Conference, Gladstone
- 24-25 **qldwater** Livingstone Regional Conference
- 30-31 IPWEAQ SWQ/SEQ Branch Conference, Toowoomba

## April

- 21 **qldwater** Essentials Webinar

## May

- 10-12 AWA Ozwater 22, Brisbane
- 10-11 IPWEAQ NQ Branch Conference, Mackay
- 23-24 **qldwater** Port Douglas Regional Conference
- 26-27 IPWEAQ NT Branch Conference, Palmerston

## June

- 3 **qldwater** SPG Meeting, Eagle Farm

## July

- 13-14 **qldwater** Gympie Regional Conference

## August

- 3-4 WIOA QLD Conference, Logan
- 18 **qldwater** Essentials Webinar

## September

- 7-8 **qldwater** Annual Forum 2022, Gold Coast
- 9 **qldwater** SPG Meeting, Eagle Farm
- 10 AWA Gala Awards Dinner
- 21 QWRAP Artificial Intelligence for CCTV Showcase / Webinar
- 28 ColoSSoS- Collaborating on Sewage Surveillance of SARS-CoV-2 project update

## October

- 11-13 IPWEAQ Annual Conference, Brisbane
- 20 **qldwater** Essentials Webinar

## November

- 17 **qldwater** Essentials Webinar

## December

- 9 **qldwater** SPG Meeting, Virtual

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