QueenslandWater

/ Issue 30 / April 2021

Spotlight on Demand Management

The deluge of rain that has fallen over large parts of Queensland over recent weeks will no doubt temporarily shift the focus away from drought in many regions for a little while but we all know it never really goes away.

Other parts of Queensland also missed out on the prolonged rain event and many Councils have water restrictions in place as we head into the drier months of the year over autumn and winter.

Over the years, ***qldwater*** have produced several **research papers**, **fact sheets** and **case studies** of successful campaigns. Funding through the QWRAP also resulted in the development of a **range of waterwise tiles** designed to be shared on social media.

Water demand management is defined here as **managing the urban demand for water to achieve a balance between economic, social equity and environmental outcomes.**

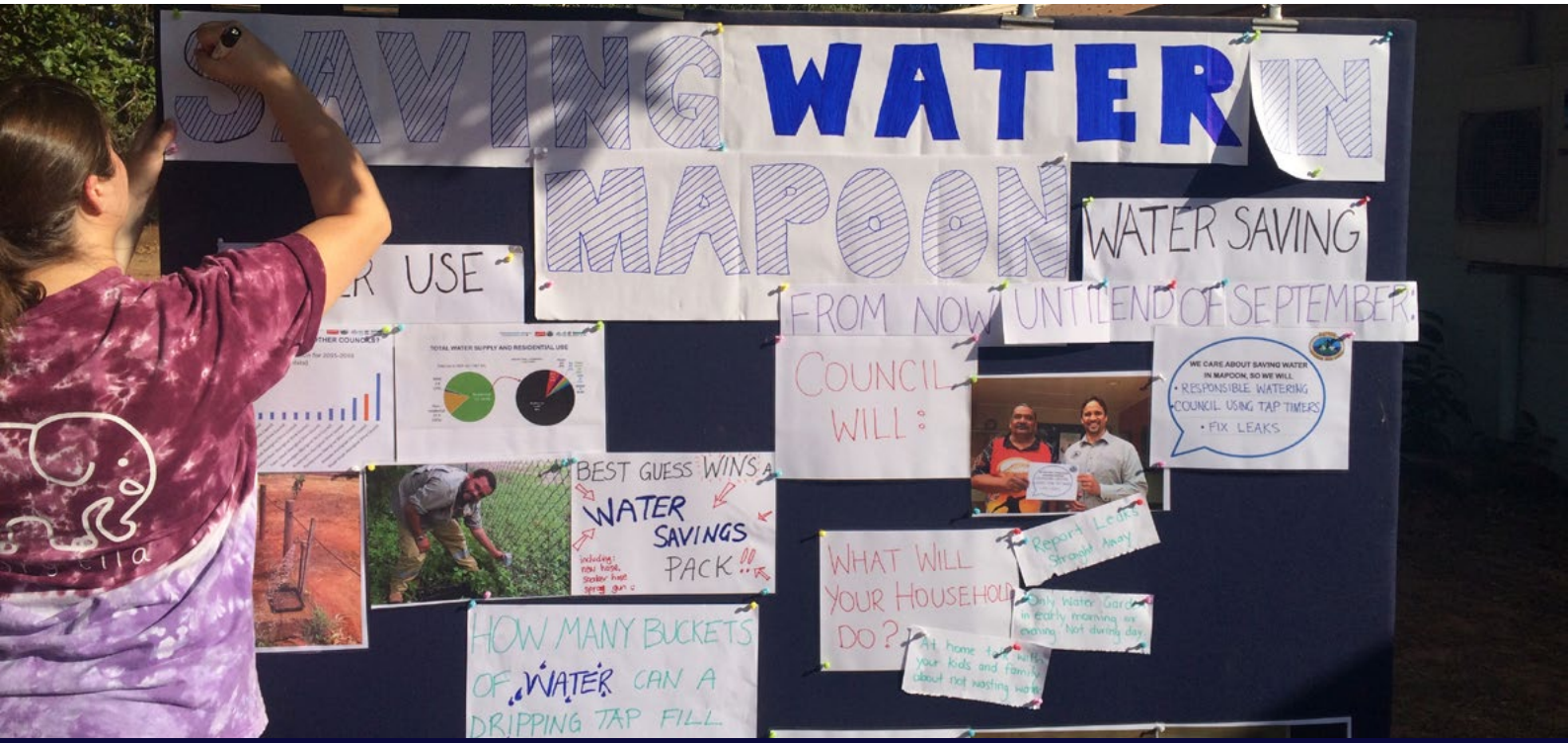
Optimal demand management programs incorporate measures that improve water use efficiency, offer the opportunity to reuse and recycle water and minimise water waste.

Effectively managing water demands involves:

- Understanding how and where water is used
- Understanding council business drivers for demand management
- Identifying options applicable to the local situation
- Identifying barriers to change
- Consideration of the costs and benefits of each option
- Development and implementation of a demand management program
- Reviewing progress and iteratively modifying the program based on customer response.

Community engagement is central to any demand management effort and the case studies in our research revealed some of the tools service providers used to communicate with communities about the value of water efficiency ranging from one-way transfer of information to inform and educate the public and other stakeholders to a broader spectrum of community engagement where relationships are built on shared visions and trust.
(Continued page 4)

Photo courtesy Dr Cara Beal, Griffith University



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CEO Report

There is something about acquiring a certain amount of grey hair which makes you both reflective and forces you to think about what you want to achieve and whether you've still got enough time to do it. In our industry, change can often be glacially slow, punctuated by disruptors like COVID or other emerging crises which capture public attention.

As a staff group at ***qldwater*** we do a lot of brainstorming to try to keep innovating in member services and when you're one of the older heads who have been around a while it's a challenge to avoid saying "we've tried that, and it didn't work." It's important to remember the reasons an idea might not have gotten legs in the past may no longer exist, or it might just have needed the right champion to drive. I can point to several projects which were completely unfeasible a few years ago but which are now part of business as usual thanks to COVID.

There are bigger programs in this category too. When I started with ***qldwater*** back in 2008 one of my first major jobs was to try to get a collaborative program called Water Industry Worker going, which built on a model developed by Brisbane Water. Thanks to some great people in SEQ it has become a fundamental part of the way networks roles in several utilities were structured and trained.

After a few years, we decided to have a tilt at getting it going elsewhere in Queensland. It was hard work and ultimately the proponents drifted away from the model.

Now, thanks to the efforts of a few champions and the collaborating councils in Mackay, Isaac, Whitsunday, Townsville, Cairns and Burdekin the Regional Water Industry Pilot Program has won a few awards and is gunning for perhaps the most prestigious – as the **Queensland representative in AWA's Organisational Excellence Awards**. It is also expanding to other Queensland regions through the support of QWRAP.

So being around a while also means seeing a few cycles – droughts and flooding rains, technology preferences, and many government changes. Our state government colleagues have been relatively quiet since December with the appointment of new Ministers and Senior Executives. Our federal colleagues on the other hand appear to have taken advantage of lockdowns to think of new surveys and regulatory tweaks. We've seen some straight-out silly stuff – a consultation period for one activity of four weeks (impossible to handle meaningfully as a peak body trying to corral the views of a diverse membership) which also included an admission that a joint industry submission was being "counted" as one vote for a topic along with all the other little submissions, despite reflecting the interests of over 200 organisations.

Whinge over – what's really important in this space at the moment?

We hope that the complementary activities of the (well-resourced) review of the **National Performance Report**, and **Productivity Commission review of the National Water Initiative** actually start to influence urban water policy because what we've seen so far are some well-considered arguments, and smart writing. Here is a quick summary of what various peak bodies are saying about the urban water part of the current draft PC report in their public submissions:

Water Services Association of Australia (WSAA)

WSAA's main themes in its original submission recommendations were:

1. A new National Water Initiative
2. Planning Australia's Water Security
3. Shaping Cities to Create Liveable Communities
4. Financial Resilience and Affordability
5. Delivery in Remote Areas & Recognising Indigenous Water Values
6. Commitment to Research & Innovation
7. A National Approach

It indicated strong support for the draft report, particularly referencing

- Increased focus on climate change and ATSI engagement; and
- "all options on the table" including purified recycled water.

It is keen to see expansion of the report to provide guidance to governments, to include:

- Defining better and more robust governance architecture for a new NWI
- The role of incentives as a catalyst to national action and support for a new NWI
- Further examining stormwater models for integrated water management
- Clarifying the role of benchmarking to support the performance of the industry.

WSAA has called for the strengthening of the NWI with an appropriate body to govern and drive the Initiative for a long time presenting strong evidence to support the growing neglect of the urban water sector since the cessation of the National Water Commission.

Local Government Association of Queensland (LGAQ)

- Highlights the challenges of population decline and accessing skills in the draft report and suggests strengthening.
- Supports integrated water cycle management, but suggests the objectives and desired outcomes need work, particularly in relation to stormwater.
- Support for best practice planning objectives and emphasis on climate change while acknowledging the need for more detail in some areas.
- Seeks a better focus on the impact of extractive industries and incorporation into statutory planning.
- Support for independent price monitoring with caveats.
- Desire for dedicated water and sewerage funding streams.
- Promotion of QWRAP, seeking better recognition of the success and importance of the program.

Queensland Water Directorate (*qldwater*)

- Strong support for the draft report and supporting papers, and recommendations on planning, best practice independent economic regulation, benchmarking and improvement to the NPR, established minimum levels of service and CSO concept.
- Pleas to re-examine some key sections to consider better describing "next steps" – something which has been done well in some sections. Strategic reports can be very aspirational, many of the recommendations contained have political implications, and policymakers and regulators need support to effectively address this and make significant change less-threatening.
- An example is economic regulation. The report acknowledges strongly that it must deliver a positive cost-benefit to be considered. However, economic regulation is effectively absent in Queensland at present, and the organisations which are currently impacted could question the positive cost-benefit test. We are a long way from an effective model, and there is an opportunity to provide more guidance.
- Caution around the integrated water cycle management principles and incorporation of stormwater. The concept is theoretically sound – in practice the institutional impediments (noted in the report) are significant.
- Suggestion that the same principles of positive cost-benefit must be applied to increased reporting and benchmarking to help protect less well-resourced utilities from significant costs.
- Reinforcing the need to rethink the current grant funding models, and specific support for the call in the supporting paper to map out a pathway to CSOs.
- Call to better reflect skilling challenges, including emerging issues which impact the sector nationally, not just Queensland.
- Call to increase the profile of regional alliances and QWRAP – collaboration which is actually happening through a successful model as opposed to the more aspirational reform implied throughout.

We are always keen to hear your views… especially if they don't agree with those expressed here.

Enjoy the newsletter.

Until next time,

Dave Cameron

Spotlight on Demand Management *(continued from page 1)*

Community engagement and stakeholder collaboration – easy to say but harder to do!

According to Dr Cara Beal from Griffith University, collaborating is generally challenging as community members are typically very diverse, but clear communication and trust are the foundations of good engagement.

Reflecting on her research from the RICES (Remote and Isolated Communities Essential Services) project, Dr Beal suggests successful engagement requires around 80% of relationship building and 20% supporting material such as technology, monitoring, measuring and awareness.

"Humans like positive feedback to let them know how they are doing – we used postcards, social media with short, visual messages of encouragement about water conservation actions and behaviours. Where possible, service providers should aim to genuinely co-create any projects and ask the community what reasonable actions would work for them."

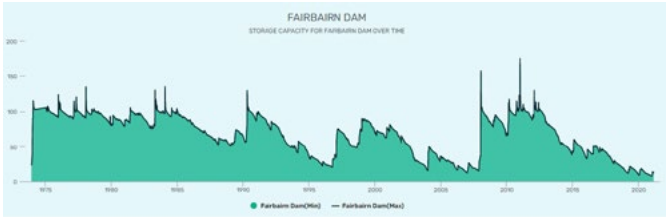
The RICES Project combined smart metering energy and water technology with community-based water demand management strategies like education, feedback, storytelling, information sharing and encouragement to achieve reductions in the water and energy use in remote and isolated communities.

Dr Beal's final report for the Remote and Isolated Communities Essential Services Project – Exploring community-based water management options for remote Australia is available **here**.

Visibility (and simplicity) is key

Central Highlands Regional Council (CHRC) reported some success with the use of portable electronic traffic signs to advise the communities of Blackwater, Bluff and Emerald of the increase in water restrictions.

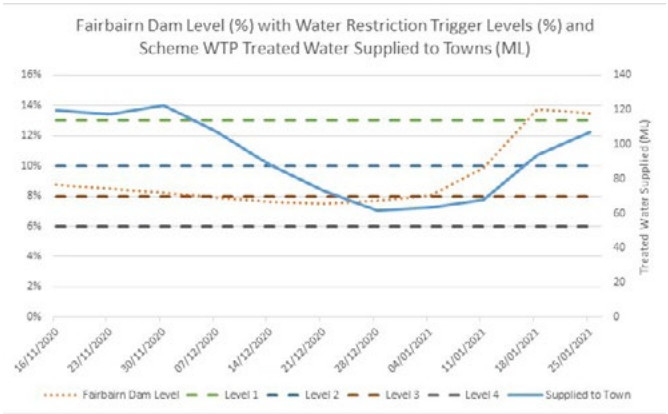
According to Nathan Litzow, Water Infrastructure Planning Engineer, CHRC implemented the second highest level of water restrictions for these three towns when the main water storage, Fairbairn Dam, reached a low of 7.39% on 16 December 2020, the worst it has been since the Millennium Drought.



Historic dam levels for Fairbairn Dam. Source: Sunwater

Consumption levels in the CHRC is high against the Queensland state average and other regions but comparable within the central/western QLD, which Nathan puts down to being west of the Great Dividing Range and many residents enjoying having pools, a good garden and green grass.

Water restrictions were increased to level 3 on 7 December 2020 when the water level in the Fairbairn Dam reached the corresponding trigger points as shown in the graph below.



Fairbairn Dam level, treated water supplied to all three towns and trigger points for restriction levels

"In response, CHRC deployed electronic traffic signs in all three towns," Nathan said.

"The results were instant. In the first week the overall demand across the three towns decreased by ~ 13% from 123ML to 107ML."

"In the second week the overall demand decreased by a further ~18% from 107ML to 88ML, that's ~28.5% from the demand before level 3 water restrictions."

"We already observed a downward trend in October after restrictions were increased to Level 2 on 8 October 2020, without the use of traffic signs. Other factors that could have contributed to decreased demand included some rainfall in Emerald in the weeks commencing 26/10/2020 (50mm), 09/11/2020 (22mm) and 14/12/2020 (10mm), and families may have travelled over the school holidays and Christmas/NY period."

The region experienced some further rainfall in December and January, leading to a decrease in restrictions back to Level 1 on 15 January 2021.

Overall demand across the 3 towns the week after decreasing the water restriction to level 1, increased by ~14% from 94ML to 107ML which seems to be trending back towards the peak demand levels of November 2020 in the 100ML-120ML range.

"Overall, we experienced a 32% reduction in usage per day when using the traffic signs during the Level 3 period compared to the November average," Nathan said.

"Anecdotal evidence suggests that the community was more aware of the restriction levels due to the signs and the plan will be to continue to use them particularly as a low cost, short term but high impact tool."

FNQ joins forces on water education

A group of Councils in Far North Queensland have joined forces to produce consistent messaging and shared resources. The alliance, which includes Tablelands, Cairns, Cook, Cassowary Coast, Mareeba, TSI and Yarrabah, will provide solutions tailored to communities with similar needs and avoid duplication.

The group is receiving assistance from the Water Educators Network (WEN) convened by the Department of Regional Development, Manufacturing and Water that meets quarterly to share case studies from across Queensland.

A recent WEN workshop focused on developing a communications plan to flesh out objectives, target audiences, key messages and various tactics to move the audience along the journey from awareness to interest, desire, action and ultimately advocacy.

qldwater has also secured a spot on the AWA Water Literacy and Education Specialist Network group and we look forward to sharing any ideas and resources to help our members connect with their communities.

For more information, please contact **Des Gralton**.

Return of the Best of the West Water Taste Test

Next month the Best of the Best Queensland Water Taste Test returns to its origins in the West when five Councils will battle it out at the Barcaldine Regional Conference.

Longreach is hedging their bets by entering two samples. Other entries include Boulia, Barcaldine, Barcoo and Diamantina.

The winners will take home the very last Lego kit from our historic 'Water Infrastructure Series' – this is a highly coveted prize, so competition will be strong!

The taste test sponsorship is also up for grabs- please **contact Naomi** for more information.

Goondiwindi Wrap

The joint Queensland and NSW Water Directorates' **Sustainable Services for Regional & Remote Communities workshop** held in Goondiwindi on 17-18 February 2021 challenged the minds of attendees to help inform the ***qldwater*** industry roadmap and develop practical recommendations for service providers and decision makers, including regulators, policy makers and elected representatives at all levels.

The urge to get out of the office after the long COVID hibernation was clear in the number of in-person registrations (70+!), but the hybrid event attracted a strong interest in online attendance as well.

The event started out with 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.

The Yelarbon STP (pictured above) services a population of under 400 residents. The plant uses an Imhoff tank and oxidation ponds with digested sludge dried on drying beds assisted by wind and solar energy. It has no environmental discharge.

The water treatment plant uses re-purposed grain silos as part of the treatment train, with chlorine gas. A new bore has recently been commissioned, with high-quality source water available to augment the existing source, which had become highly vulnerable in the current drought.

Yelarbon is a great example of a well-managed community water and sewerage service, but also illustrates the significant challenges of supporting small towns with limited rates bases. Most recent enhancements included funding support from the Queensland Government's Local Government Grants and Subsidies Program.

The bus tour then returned to the Goondiwindi/ Waggamba Community Cultural Centre where Trevor provided an overview of the Goondiwindi region. ***qldwater***'s David Cameron and Rob Fearon and Brendan Guiney from the NSW Water Directorate then set the scene for day two, presenting five controversies and provocations:

1. Funding water and sewerage services responsibly and sustainably
2. Choosing fit-for-purpose technology
3. Negotiating levels of service
4. Appropriate approaches to compliance and regulation
5. Readiness for alternative supplies

Day two commenced with a warm welcome by Cr Rob Mackenzie, Deputy Mayor of Goondiwindi Regional Council.

The program included a mix of speakers on strategic and technical solutions, as well as panel sessions and workshops to further explore the provocations relevant to small and remote communities.

Brendan Guiney (NSW Water Directorate), Leigh Cook (Western Downs Regional Council), Erin Cini (WSAA) and Wayne Sharp (NT Power and Water) discussed the **common challenges for small regional communities**.

Commonalities included:

- Prioritising and balancing competing funding needs;
- Optimising engagement and cost-to-serve;
- Recognising cultural and social needs – particularly for indigenous communities;
- Recognising broader social issue – how to support small and remote communities and communities in decline;
- Cooperation and sharing learnings/information.

Terry Fagg (Western Downs Regional Council), Shaun Johnston (North Burnett Regional Council), Trevor Harvey (Engineer at-large) and Anub Nair (Moree Plains Shire Council) discussed some of the **common technical traps when generic solutions are attempted**.

Common themes included:

- Optimistic growth expectations and designs;
- Managing over-sized schemes (e.g. in reducing communities);
- Need for fit-for-purpose tech and skills;
- Managing increasing community expectations;
- Using, and constraining design to 'what is locally available';
- Balancing competing expectations (internal, external and customers);
- Careful analysis of possible solutions based on whole-of-life costs;
- Making best use and reusing existing technologies.

Representatives from the Qld Department of Regional Development, Manufacturing and Water, Qld Department of Environment and Science and NSW Water Directorate participated in a panel discussion on **compliance approaches in regional Qld and NSW**.

Common areas included:

- Need for flexibility and appropriate solutions;
- Transition plans to lead communities towards optimal solutions;
- Importance of prioritising needs in light of holistic community concerns;
- Fit-for-purpose technological solutions linked to regulatory expectations;
- Balancing regional, metro and broader community expectations;
- Political, legal and legislative constraints.

Simone Talbot (South Western Queensland Regional Organisation of Councils) was interviewed about the inclusion of water and sewerage collaboration in the formation of Queensland's newest ROC and her views on regional collaboration for western councils.

Key issues included:

- Key benefits for regionalisation included an increased focus on customer service, sustainability and risk management;
- Scale and a strategic approach to management of essential services can provide benefits for even the smallest communities in a region;
- Voluntary regional approaches allow councils to demonstrate leadership and find solutions on their own terms rather than forced aggregation that is a likely future threat given the recommendations of repeated national reviews of the sector.

Brendan Guiney (NSW Water Directorate), John Day (North East Water) and Doug Moorby (Narromine Shire Council) discussed innovative solutions to provide water security for regional towns.

Common themes included:

- Recognising increasing need for alternative water sources;
- Being open to innovative approaches;
- Importance of balancing water quality and quantity;
- Pre-emptive planning across the regions would provide certainty and future cost savings.

Marty Hancock (Water Research Australia), Andy Kingsford (WaterStart) and Chris Pipe-Martin (Tallowood Rise) provided multiple examples of emerging technologies and re-purposed technologies designed as fit-for-purpose solutions for small communities.

Having heard and digested the information from all the speakers and panels, attendees broke into different groups to choose key messages for small communities to inform the ***qldwater*** Roadmap for the industry.

We thank our amazing sponsors for this event:

A big thanks to our Goondiwindi sponsors

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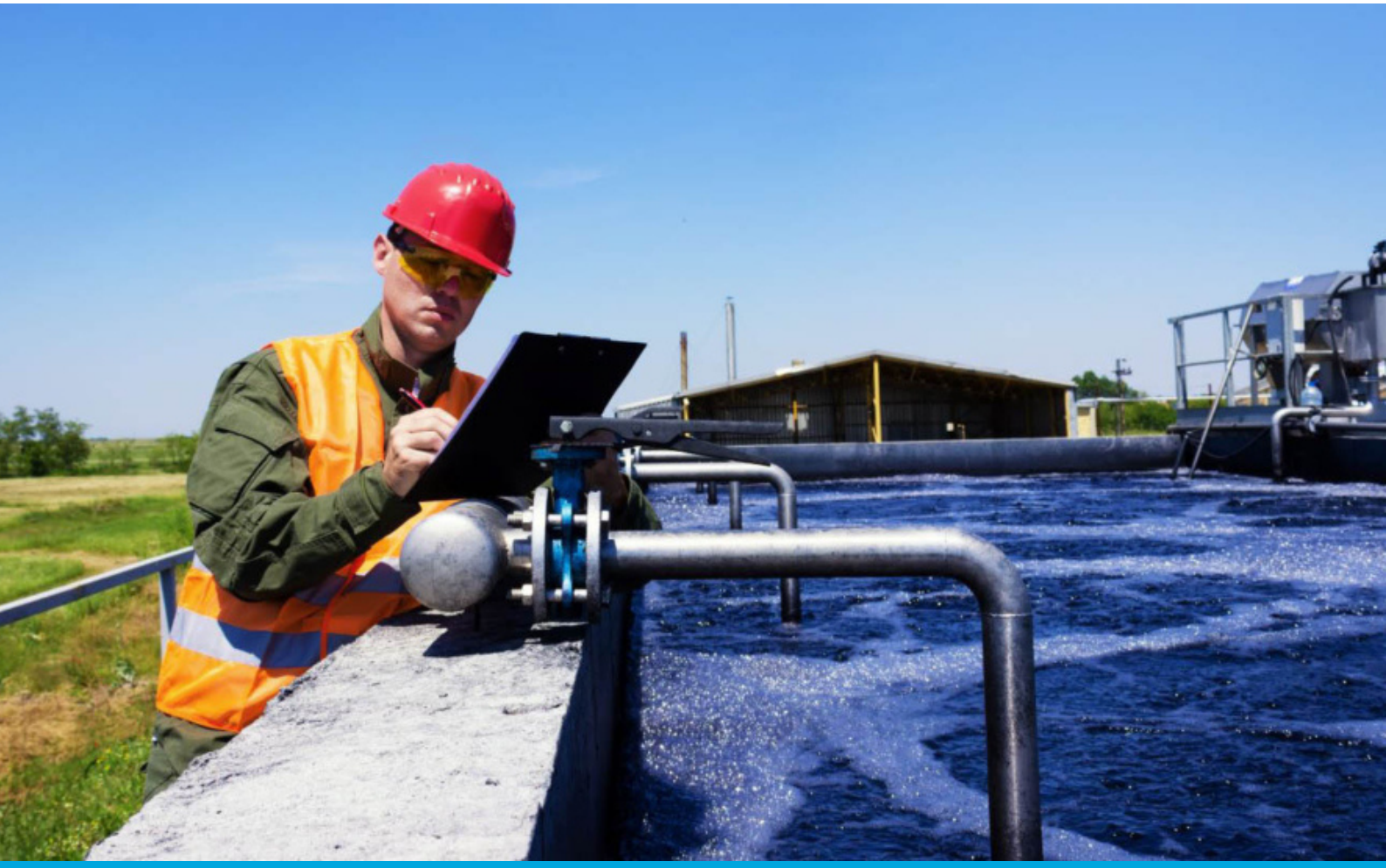

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Essentials Webinars

Our monthly Essential Webinar series continues to attract good audience numbers, albeit a bit reduced from COVID lockdown days! We are no doubt competing with many players who have made the shift to more online events, and there is only so much time in a day.

Since the last edition of the newsletter, our Webinars have covered the following topics:

Urban Utilities' Seven year major sewer upgrade by Nadine Story and Noel Ralph

Over the past seven years, Urban Utilities has undertaken a renovation program for a major section of sewer that runs from Fortitude Valley to Eagle Farm. The sewer pipe was built by hand in the early 20th Century which presented some interesting challenges for the renovation works such as varying pipe diameters, pipes that are oval, egg shaped or oblate, manholes with narrow entrances and original cast iron fittings that have completely disintegrated.

This presentation provides a fascinating insight into the scope of undertaking such a program beneath a major city – check out what happens when support cables for a new building are sunk straight through the biggest sewer in Brisbane!

Innovations in Asset Management by Dr Joe Matthew

The broad field of Engineering Asset Management (EAM) has been evolving over the last 20 years having begun its roots in reliability and maintenance management and technology in the 1990's. In this presentation, Joe provides an overview of the background to the Asset Institute and its activities, which have included the development of the SAMP (Strategic Asset Management Plan) Framework with the Queensland government that many will be familiar with.

More recently the centre has developed the LinEAR Platform for calculating the reliability of and optimisation of renewal schedules for linear assets, which includes water pipes. ***qldwater*** is progressing opportunities to partner with the Institute.

THM Management in Drinking Water Networks chaired by David Sheehan from Coliban Water

This webinar was a little different from previous sessions, with a series of presenters sharing the issues they experience in managing THMs in their treatment plants and networks. We were pleased to have David Sheehan from Coliban Water in Victoria as our Chair of the session and he provided an introduction about the issues, including the international regulatory context for THM. David's introduction was followed by short presentations from Stuart Boyd (Mackay), Duncan Middleton (Seqwater), Cameron Ansell (Fraser Coast) and Phil Wetherell (Logan).

An audience poll indicated that the issue has been identified as a risk and will be addressed internally subject to available resources or is a very high priority for more than 80% of respondents.

This was followed by a panel session including Natasha Georgius (Logan), Paul Sherman (Urban Utilities), and Terry Fagg (Western Downs). The discussion highlighted that the problem is widespread, affecting both the largest and smallest water service providers, and that each scheme has its own unique set of conditions and challenges to meet existing guidelines, and that there is no single solution for service providers. There was strong support for follow-up, and we will be looking to establish a new reference group, potentially with a broader scope to include other disinfection by-products.

Thanks again to all presenters, the recording is available at h**ttps://www.qldwater.com.au/essentials-webinar-series** and PDF copies of the presentations will be added to the website when available.

Cherbourg welcomes Water Industry Worker trainees

Cherbourg Aboriginal Shire Council (CASC) recently hosted the trainer and trainees for Cert. II in Water and Sewerage Operations as part of the Water Industry Worker program in the Wide Bay Burnett region.

CASC Operations Manager, Darren Lonergan said roughly half of the time is academic and theory while the rest of the time is spent in the field getting hands on. Units of the course include:

- Prepare and restore worksite,
- Maintain and repair network assets for drinking water,
- Install, maintain and repair hydrants.

The four trainees attended the 3rd block of the course at the CASC depot training room and out in the field auditing sluice valves and hydrants in the water reticulation network.

Yellow coloured pavement paint is used to mark the road and kerb where there is a hydrant. White coloured pavement paint is used to mark the road and kerb where there are sluice valves. Notes are recorded of the works done and any issues reported to CASC. This work will ensure that the valves and hydrants can be quickly identified especially hydrants by firefighters attending to a fire at night.

Photos by Cameron Bond – Cherbourg Aboriginal Shire Council

Program Updates

Skills & Training

Almost 100 water industry stakeholders participated in the fourth annual Queensland Water Skills Forum on Thursday 4 March, hosted as a hybrid event with most delegates attending in person and the remainder online. You can **view the photos** and copies of presentations are available to ***qldwater*** members, Water Skills Partners and forum attendees on the ***qldwater*** **website**.

Presentations included a keynote address by Josh Rayner, Executive Director of Jobs Queensland. He described the essential work of the water industry as having received greater prominence over the past year in responding to COVID-19 issues and, along with other essential utilities, flagged it as a priority for future workforce planning. This was followed by a summary of current skilling issues in NSW with discussion around opportunities for collaboration with Queensland.

We heard the findings of recent research into retirement transition processes of a number of water, energy and rail utilities and some case studies where transitions have been successful in providing meaningful work to those stepping back from full time work and to use their knowledge to skill up and mentor trainees. Technology solutions to support remote mentoring and coaching were explored with discussion about how these can be improved to support staff in regional and remote Queensland. There was a case study of wellbeing initiatives from a Victorian water utility and Bundaberg Regional Council shared their learnings from a recent leadership development program.

A panel discussed the Operator Skilling Crisis, with input from forum delegates suggesting that 63% of utilities had operators unable to take leave because they had no one to cover their role and as a result were carrying unmanageable leave balances. Favoured solutions for dealing with the shortage of operators included incentivising regional collaboration, partnerships between large and small utilities and investment in remote monitoring and support technologies.

The panel discussed the declining RTO market for water industry training and most delegates indicated that investment in developing standardised training resources was seen as the most useful investment to stimulate the training market along with getting industry experts involved in training delivery. Panelists and delegates agreed that the most important change that could be made to address the operator crisis and declining training market was for regulators to establish a mandatory minimum competency standard for operators.

WIOA presented a demonstration of its new certification portal and Unitywater shared details of the review of their competency training framework and the final presentation of the day was a video of treatment plants that are being explored as potential future operator training sites.

Feedback was invited throughout the day about the priorities participants would most like to address through the collaboration of the Water Skills Partnership and the common issues identified were:

- The need for a mandatory minimum competency standard for operators;
- Tools to support retirement transitions;
- Addressing the FTE caps within utilities to allow for the recruitment of more trainees; and
- Skilling opportunities for future and current leaders.

Thank you to TAFE Queensland – SkillsTech for sponsoring the forum once again and thanks to our new forum sponsor, Trility. Thank you also to Diona, who kindly sponsored the networking drinks to round out a great day.

Image below: We had a couple of stakeholders get together to dial in for the Forum from Cairns. (L-R) Toni Veronese, Cairns Regional Council, Michael Goodrich, DESBT FNQ Region and Melissa Browne, TSIRC

Skills & Training (*continued*)

Micro-Credentials

In late 2020, ***qldwater***, with funding support from the Department of Employment, Small Business and Training, launched the Queensland Water Industry Foundation Skills Micro-Credentials.

The micro-credentials have been developed with input from Water Skills Partners and are designed as entry level courses, to provide a basic overview of water industry processes and operations. A number of employers have indicated they intend to use the micro-credentials to train staff from other parts of their organisations to provide an understanding of water and wastewater roles and to provide exposure to career opportunities in the water industry.

There are currently three micro-credentials available:

- Water Treatment Foundation Skills
- Wastewater Treatment Foundation Skills
- Network Operations Foundation Skills

Following interest from a number of Water Skills Partners, ***qldwater*** has had approval to add a SCADA/ Remote Monitoring Micro-Credential to the list of course options and we are currently working through this. Enrolments can be made online via ***qldwater***'s **micro-credentials registration site** or by contacting Carlie Sargent on skills@qldwater.com.au.

Skills Reform Consultation

Following several reviews over the past 18 months, Federal and State Governments are progressing a number of key reforms to improve the VET system. There have been several opportunities for consultation in recent weeks and ***qldwater*** has represented Queensland water service providers at online workshops and provided submissions on a range of issues relating to the VET system including quality of the VET workforce, improving the quality of training and the role of industry engagement in VET.

More information about the review process and consultation opportunities is available at: **https://www.dese.gov.au/skills-reform**.

A new National Skills Agreement is expected to be developed by August 2021.

Future Water Industry Training Needs Submission

Following consultation with Water Skills Partners, ***qldwater*** submitted a business case to the Department of Employment, Small Business and Training with recommendations for future VET investment to meet the training needs of the water industry.

The business case confirms that the Certificate III in Water Industry Operations continues to be the primary qualification for operational staff and acknowledges the generous funding of this qualification by the Department and recommends that this continues.

The submission proposes an increase to the subsidy levels for the Certificate IV and Diploma of Water Industry Operations following feedback from Skills Partners that there is a significant gap between the existing subsidy and fees charged for delivery and with tight training budgets, this is a barrier to enrolments.

We have also provided some options to find a mechanism for supporting upskilling in key gap areas through competency clusters or skill sets. The recommendations will be considered as part of the Department's annual VET investment review.
Read the submission here.

Promoting Careers in Water

Those who attended the Water Skills Forum were the first to see our updated resources for promoting careers in the water industry!

The new '**Careers in Water**' section of the ***qldwater*** website contains information about job roles and career pathways in the industry, the qualifications required for those roles and links to other water industry career resources.

The site includes videos of interviews with several Queensland water industry trainees and managers about their training and career journeys and are a good reminder about what's great about the water industry.

We encourage you to have a look over the resources and send any ideas for additional content to **skills@qldwater.com.au**.

Skills & Training (*continued*)

Fundamentals Webinars

Fundamentals webinars are off to a strong start for 2021 with Murray Thompson presenting sessions in January and February on '**Backflow/Cross Connection Awareness & Control**' and '**Working with Chemicals & Hazardous Substances**' followed by Terry Fagg's presentation in March on '**Pumping Fundamentals**'.

The latest in the series featured the Fundamentals of **Electrical Safety Working on Metallic Pipes**, presented by Murray Thompson. This presentation is a must watch for all service providers as it includes a number of case studies where service providers could be held liable.

Recordings of all previous webinars are available for ***qldwater*** members and Water Skills Partners to access via the ***qldwater* website**.

The Department of Regional Development, Manufacturing and Water is supporting these webinars with funding committed to engage subject matter experts for monthly webinars until the end of June 2022. Dates for future webinars are listed on the ***qldwater* events page** with more dates coming soon.

Fundamentals webinars are free for employees of ***qldwater*** members and Water Skills Partners, non-members can participate in the Fundamentals webinars for a cost of $50 plus GST.

Please note, we are also offering sponsorships of the webinars to ensure we can keep building the library once the small grant comes to an end. Please email **enquiry@qldwater.com.au** for more information.

Online Training

223 students have completed the Aqua Card this year (971 since the release in 2019). A breakdown of completions this year shows completions from the following groups:

- 116 Contractors (most from the Logan area thanks to the Logan Alliance)
- 51 from Redland City Council
- 24 from Gladstone Regional Council
- 16 from Tablelands Regional Council
- 12 from Logan City Council
- 2 from Whitsunday Regional Council
- 1 from Gympie Regional Council
- 1 from Southern Downs Regional Council

We've experienced some issues with older versions of Microsoft Edge and Internet Explorer browsers proving to be incompatible with the software use for the Brown Card and we apologise for the issues some users have been experiencing as a result. **Please use the latest versions of Edge Chromium, Google Chrome, Firefox or Safari to ensure that results are calculated correctly and certificates are issued.**

Nevertheless, 153 people have completed the Brown Card from the start of this year including:

- 50 Contractors
- 49 from Redland City Council
- 19 from Tablelands Regional Council
- 15 from Gladstone Regional Council
- 13 from Logan City Council
- 6 from Whitsunday Regional Council
- 1 from Gympie Regional Council

SWIM Update

SWIM continues to be the reporting tool of choice for Queensland water and sewerage service providers, with 100% of ***qldwater*** members using SWIM or **swimlocal** this year to enter and provide their Annual Water and Sewerage data to DNRME, BoM, ABS and NPR as well as their monthly drought and 4-monthly Water Security reporting. All ***qldwater*** members have free access to the SWIM system for their mandatory reporting requirements.

WaTERS integration

Transferring sewerage data directly from **swimlocal** to the DES WaTERS database is continuing to progress with all necessary modifications to the **swimlocal** software itself complete. The new version can now link Service Provider indicators to WaTERS ones and also includes more metadata and units.

The new software is now on our staging (testing) server with testing underway. Andrew Swan from NSW has been contracted to test the new calculation functions (IF, Not, And, OR) that have been included for WaTERS reporting. A new Lab import file has been developed to include the upload of required Lab metadata.

Unfortunately, work on the software back-end, to allow the actual data to be sent to WaTERS and complete the project, has been delayed due to the need to develop/ complete the new Reports module and dashboard works on time. Approximately one month more IT time is needed to complete the swimlocal-WaTERS project.

Review of NPR

Review the National Performance Report (NPR) indicators is underway and ***qldwater*** has been actively involved in these processes to help with rationalisation and definitional improvements to reduce the reporting burden on our members.

New reports and dashboards

Development of the new swimlocal web-based Reports and Dashboard Module has started and is due to be complete by July 2021. The new module will allow users to create individual dashboards which can be accessed via the web. A working group consisting of 7 people from 6 councils has been set up and will meet 3 times over the course of the software's development and testing.

47 Service Providers are currently using the fully licenced version of **swimlocal**.

SWIM Training

During 2021 we will be offering more swimlocal training and help to improve your swimlocal system to make sure you are getting everything you can out of it.

The following workshops are planned:

- Cairns (19-21 April),
- Barcaldine (17, 18, 19 and 21 May), and
- Brisbane (21-22 June).

If you would like training and can't attend one of these sessions please let David Scheltinga know.

Benchmarking Report

Work on ***qldwater***'s tenth annual Urban Potable Water and Sewerage Benchmarking Report is complete and available from the ***qldwater*** website (**https://qldwater.com.au/reporting**).

For the first time the report is being published as a set of slides in PowerPoint that contain charts for all water reporting entities for each respective category, with a separate document providing explanatory notes and additional insights that should be read in conjunction with the charts.

QWRAP Update

FNQROC Training

The Far North Queensland Regional Organisations of Councils' (FNQROC) "Joint Training for Certificate III in Water Industry Operations" project has resulted in another successful training intake for water operators using the skills-hub model. The collaborative approach draws trainees from multiple councils to create a critical mass and uses QWRAP funding to subsidise travel costs to common locations (including treatment infrastructure) to undertake training as a group.

The recent FNQROC program saw nine operators trained by Simmonds and Bristow in the Certificate III in Water Industry Operations (Treatment) during late 2020 and early 2021. The trainees (pictured bottom right) came from Cairns, Cassowary, Mareeba and Tablelands councils. At the request of the QWRAP Project Steering Committee, the project also includes a communications component to share the benefits, processes and learnings from running the hub training model with other regions.

QWRAP Welcomes SWQROC

The South West Queensland Regional Organisation of Councils (SWQROC), Queensland's newest ROC have agreed to form the SWQ Water and Sewerage Alliance to cooperate on urban water issues. The SWQROC is comprised of Balonne, Bulloo, Maranoa, Murweh, Paroo and Quilpie councils which share many common challenges in provision of water and sewerage services.

A Regional Water and Sewerage Technical Group has been established to prioritise issues for future collaboration. The group will receive funding from QWRAP for a part time Regional Coordinator to assist with cooperative activities. Initial discussion of the group covered a range of issues including asset management, skills development, water security, the infrastructure cliff and water quality.

Northern QLD Research on Contaminants

A group of councils in northern Queensland has banded together with James Cook University to research how to manage contaminants of emerging concern that can get flushed down our sewers. The project is being spearheaded by Townsville Regional Council in partnership with James Cook University (JCU), along with Burdekin, Mackay, Isaac, Whitsunday and Cairns councils. The QWRAP-funded project has also received funding from Advance Queensland Industry Research Fellowships, which is funding the principal researcher, Dr Elsa Antunes.

Addressing contaminants in sewage is becoming an increasingly expensive process. Many chemicals that are being used more commonly around the home wind up in sewers and can be more difficult to treat than the nutrients and pathogens that are safely removed in modern sewage treatment plants. This new project will examine which chemicals are present in biosolids across northern Queensland and determine what sorts of treatment may be available to reduce them. The project commenced in 2021 and will be providing regular progress reports.

SEQ Study Collaboration Tour

The Whitsunday Isaac Mackay (WIM) Alliance "SEQ Study Collaboration Tour" project is also focused on building knowledge, skills and networks for water sector staff. The project will see two managers from each of the WIM Alliance councils hosted in round table meetings with four SEQ utilities to discuss a range of topics on best-practice management of water and sewerage services. The round-table meetings promote collegial learning across the sector and are an opportunity to build networks for utility staff but also share information among progressive water businesses.

QWRAP Update (continues)

The project timing is being determined in part by COVID restrictions and availability of all parties and will proceed towards the middle of 2021.

Water Supply Security Statement Template Trial

The DASB group are undertaking the "Water Supply Security Statement Template Trial" program to test a new template for assessing and reporting water security in small towns with Killarney within Southern Downs Regional Council chosen for the initial pilot.

The project will undertake and assessment of water security using the RDMW template but will also assess the template's suitability and utility for similar towns.

The benefits of this work could thus extend to councils within and beyond the DASB region regardless of whether they are participating in QWRAP and assist in consistent assessment of small (and often remote) water supplies across Queensland.

Telemetry and SCADA Concept of Operation

If staff are the highest priority for water and sewerage services, then the systems they use to monitor and control water and sewerage services are close to the second rung of importance. All utilities use SCADA systems to control and monitor utility assets, often remotely using telemetry. The RAPADSWA "Telemetry and SCADA Concept of Operation" project will allow the councils to progress towards a standardised SCADA and telemetry system across the region. This would be a first of its kind approach in regional Queensland where SCADA systems are typically a mix of many different old and new platforms and approaches. This inhibits joint procurement, sharing of information and critical spares and common understanding of control systems. The RAPAD councils along with some other regions are investigating ways that their systems can be aligned to provide more effective and efficient services for customers across multiple communities.

Sewage and Water Environmental Advisory Group (SWEAP)

The SWEAP group continues to meet quarterly via teleconference and is covering a wide range of issues. This includes a strong interest in proactively managing an increasing regulatory and customer focus on contaminants of emerging concern (CEC). This has resulted in the development of a Standing Group for CEC and the ***qldwater*** **Consortium for Research and Advocacy on Contaminants (qCRAC)** which is discussed elsewhere in this newsletter. The activities include building links with research organisations in Queensland and nationally.

In April, two SWEAP workshops were convened jointly with DES to discuss Treatment of Biosolids for CEC and the measurement of PFAS in biosolids to inform the DES End of Waste Code for Biosolids. The workshops were attended by water managers from across Queensland, DES officers and experts in biosolids and CEC including members of the CRC CARE and the ARC Training Centre for Transformation of Australia's Biosolids Resource. Short presentations were followed by open discussion to share information and learnings about these important areas for future sewerage management. Videos of the two workshops are available to members on the **SWEAP webpage**.

SWEAP is also working collaboratively with DES on a number of projects including streamlining annual STP reports, irrigation of water with high pH and development of a Green Card. The latter project aims to design basic training in regulatory understanding and duties for workers in the water sector and their contractors. DES is also currently consulting with the industry on a revamp of the STP Model Operating Conditions, and new sewage pumping station standards. A paper on regulatory definitions of ''recycled water'' to clarify allowable uses and service provider responsibilities is also being developed.

qldwater thanks the Chair (Mark Vis, Tablelands Regional Council) and Deputy Chair (Cameron Jackson, Urban Utilities), and the many participating service providers for their continuing support of SWEAP activities.

The group have been providing strong input to the SWEAP objective of building leadership across the urban water sector and reducing the trend for reactive management in the face of changing regulation and customer expectations.

qldwater Consortium for Contaminants of Emerging Concern (qCRAC)

Lessons in Communication on Emerging Contaminants

Water and sewerage service providers are an important gateway between the community and the environment. Wastewater treatment plants accept, manage and treat water from domestic, industrial, trade waste and landfill sources on its journey back to the broader environment.

Many emerging contaminants enter our sewers as the result of normal human activities: preparation and cooking of food; bathing; laundry; managing our health with medications and supplements; exercise and leisure activities… the list goes on. For many of these contaminants, human activity results in a constant source of contaminants to wastewater. As a result, for some contaminants for which treatment processes are complex and potentially costly, the most effective method may be to control the chemical at the source: to eliminate the contaminant from products that are used in the community.

The source control aspect of emerging contaminants is one that the ***qldwater*** Consortium for Contaminants of Emerging Concern (qCRAC) has targeted for future action (see article in the last edition of the newsletter).

Source control of an individual contaminant is not easy. It requires cooperation between a large number of stakeholders that may include all of the following:

- National regulators, potentially across multiple departments
- State regulators, across multiple departments
- Manufacturers
- Importers
- Retailers
- Customers

On top of this, there must be acceptance from the community that the products they use every day will no longer be available or will be substituted with a product that may not work as well. For example: your non-stick frying pan (PFAS) or your microfibre cleaning cloth (microplastics).

One of the pioneers in the source control of emerging contaminants is Dr Arlene Blum from the Green Science Policy Institute, USA. Dr Blum was a keynote presenter at the recent Cleanup Symposium hosted by CRC CARE over two days 24-25 March 2021. Dr Blum described several successful campaigns run by the institute that have led to policy changes as well as voluntary change from manufacturers (including IKEA, Keen, Levi Strauss).

In her presentation she offered advice on how to leverage research to encourage change. Her advice boils down to the following, which applies to any contaminant:

- **Collaborate** with expert authors at multiple institutions
- Select the research topic to **support policy in the public interest**
- Publish the research to be **open access**
- Choose your publication date for **maximum impact**
- Compose the research publication release in **accessible language with a "hook"**
- **Educate journalists** and establish relationships

As the Consortium continues to develop its strategy for members to manage the risk posed by emerging contaminants, these lessons provide a background that supports the development of a portfolio approach to building research connections within and across Australia.

A shorter version of her presentation is available on the Green Science Policy Institute website to view.

The **Green Science Policy Institute** also hosts a website devoted to **emerging contaminants** (screenshot below), and a website that lists products and companies that have made their products **PFAS-free**.

See https://greensciencepolicy.org/ for more information.

Upcoming Events

The 2021 events calendar is jam packed with opportunites to connect with our members and supporters. Here's some important dates for your diary:

May

4-6 AWA OzWater21 – **more info here**

17-21 **swimlocal** training, Barcaldine

19-20 ***qldwater*** Regional Conference, Barcaldine Service Delivery in the West. **Register here**.

19-20 IPWEAQ 2021 Asset Management Symposium **Register here**.

25 ***qldwater*** Fundamentals Webinar #11 Disinfection of Water Assets presented by Murray Thompson

June

2-3 WIOA Conference, Toowoomba- **more info here**

4 ***qldwater*** SPG Meeting (virtual)

17 ***qldwater*** Essentials Webinar #20

21-22 **swimlocal** training, Brisbane

22 ***qldwater*** Fundamentals Webinar #12 Guide to CT Measurement and Application presented by Murray Thompson

July

15 ***qldwater*** Essentials Webinar #21

21-22 ***qldwater*** Regional Conference, Charters Towers

29-30 AWA NQ Regional Conference, Mackay

August

19 ***qldwater*** Essentials Webinar #22

September

7 ***qldwater*** Annual Forum 2021 Day 1: Automated Metering Workshop

8 ***qldwater*** Annual Forum 2021 Day 2: North Stradbroke Island Site Tour & presentations

9 ***qldwater*** Annual Forum 2021 Day 3: Roadmap and Asset Management

10 ***qldwater*** SPG Meeting, Eagle Farm

16 ***qldwater*** Essentials Webinar #23

October

12-14 IPWEAQ Annual Conference 2021, Cairns

21 ***qldwater*** Essentials Webinar #24

November

18 ***qldwater*** Essentials Webinar #25

December

3 ***qldwater*** SPG Meeting, Virtual

16 ***qldwater*** Essentials Webinar #26

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"The Queensland Water Directorate (*qldwater*) is the central advisory and advocacy body within Queensland's urban water industry and represents members from Local Government and other water service providers across Queensland."