UrbanUtilities

2019/20

DRINKING WATER QUALITY MANAGEMENT PLAN REPORT

ENRICH QUALITY OF LIFE

OUR PURPOSE

Enrich quality of life.

OUR VISION

We play a valued role in enhancing the liveability of our communities.

OUR VALUES

Participation
Activate. Collaborate. Accelerate.

Customers and Community
Listen. Understand. Respond.

Accountability
See it. Own it. Solve it.

Safety
Everyone. Everywhere. Every day.

Deliver Value
Define it. Create it. Deliver it.

Creativity
Initiate. Create. Inspire.

WELCOME

We are pleased to present Urban Utilities' *Drinking Water Quality Management Plan Report* for 2019/20.

The report showcases our operational performance with respect to drinking water quality and shows how we have been implementing key improvement actions detailed in our *Drinking Water Quality Management Plan* (DWQMP).

This report informs the Department of Natural Resources, Mines and Energy (the Regulator) on how we complied with our DWQMP and its approval conditions. It also allows us to meet our compliance obligations under the *Water Supply (Safety and Reliability) Act 2008*.

This report also provides our customers with information about the quality of their drinking water.

READERSHIP

The report is intended to provide important information to a broad range of stakeholders including our customers, current and future employees, our shareholders, government departments and agencies, non-government organisations, and our partners.

ACCESSING THIS REPORT

This report is available on our website:
urbanutilities.com.au/publications

INTERPRETER SERVICE STATEMENT

We are committed to providing accessible services to our customers and stakeholders from culturally and linguistically diverse backgrounds. If you have difficulty in understanding this report, please contact us on 13 14 50 and we will arrange an interpreter to communicate the report to you effectively.

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Email us at:
customerservice@urbanutilities.com.au

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ACKNOWLEDGEMENT

We acknowledge the Traditional Owners of the lands on which we operate and recognise their continuing connection to the land, waters and community. We pay our respects to them and their cultures, and to elders both past and present.

CONTENTS

2019/20 IN REVIEW

98,694ML of drinking water to **610,000** residential properties

42,400ML of drinking water to **30,500** non-residential properties

107 drinking water reservoirs
63 water pump stations
87 water boosters

141,094ML of drinking water delivered through **9,559km** of water mains

9 incident notifications of the 112,000 water quality tests, nine sample results required notification to the Regulator. (see page 18)

112,000 water quality tests conducted (includes samples for health-related compliance) (see page 16)

Drinking water quality performance

Achieved 100% compliance with the *Australian Drinking Water Guidelines* health-related parameters.

Achieved 100% compliance with the *Australian Drinking Water Guidelines* chemical-related parameters.

Achieved 100% compliance with the *Australian Drinking Water Guidelines* aesthetic-related parameters.

(see page 16)

CHAPTER 1: ABOUT US

WHO WE ARE

Urban Utilities is a statutory body under the *South East Queensland Water (Distribution and Retail Restructuring) Act 2009 (Qld)*, and as a service provider (SPID 521) under the *Water Supply (Safety and Reliability) Act 2008 (Qld)*. Our shareholders are the councils of Brisbane, Ipswich, Lockyer Valley, Scenic Rim, and Somerset, and we are governed by an independent Board.

WHAT WE DO

We are responsible for delivering drinking water, recycled water and sewerage services to 1.5 million customers in South East Queensland. Our 14,384km^2 geographic area is made up of the five local government areas and equates to around two-thirds of South East Queensland. We operate in a unique environment where we serve the same customers and communities as our shareholders.

We provide our drinking water service through the management of an extensive water distribution system, including:

- 9,559 km of potable water pipeline,
- 150 water pump stations & boosters, and
- 107 drinking water reservoirs.

OUR STRATEGIC DIRECTION

Our purpose

Enrich quality of life.

Our vision

We play a valued role in enhancing the liveability of our communities.

Our strategic statement

Our strategic direction is underpinned by our commitment to customer-centricity; every decision we make is considered through the lens of the customer.

As we build on our solid foundations and our constructive culture, we will pursue growth through the development of partnerships that deliver environmental, economic and social benefits.

These outcomes will be valued by our customers, communities and shareholders, and enhance the health, affordability and amenity of our region.

Our strategic goals

Our strategic goals outline where we will focus our efforts to achieve our purpose and vision.

CONSTRUCTIVE CULTURE
We inspire, create and sustain a constructive culture to deliver high performance.

FOUNDATIONAL SUCCESS
We know our business, we know our customers and we deliver value for both.

ENVIRONMENTAL LEADERSHIP
We protect and enhance our environment for current and future generations through excellence in water cycle management.

SOCIAL & ECONOMIC VALUE
We advance the wellbeing and prosperity of society by leveraging our unique capabilities.

OUR STAKEHOLDERS

As a water and sewerage service provider, the important work we do has the ability to, directly and indirectly, impact a wide range of external stakeholders. Equally, external activities such as policy changes, elections or local planning decisions can influence our activities and the way we work. Our key partners in the South East Queensland water and sewerage industry are shown in Figure 1.

Figure 1: Our stakeholders


New Guinea
(Irian)
PAPUA NEW
East Timor
7820
PORT MORESBY
Darwin
Townsville
AUSTRALIA
CANBERRA
Sydney
Melbourne
Tasmania I.
Tasman

CHAPTER 2: DELIVERING WATER TO OUR CUSTOMERS

Figure 2: Urban Utilities' drinking water supply schemes

CHAPTER 2: DELIVERING WATER TO OUR CUSTOMERS

We provide drinking water services to 1.5 million people residing within a 14,384km^2 geographic area, which stretches from Cape Moreton in the east to the foot of the Toowoomba Range in the west, and from the Yabba State Forest in the north to the New South Wales border in the south.

The drinking water we supply to our customers is sourced from Seqwater, a Queensland Government statutory authority responsible for the bulk supply of drinking water which includes catchment management, treatment, storage, and transportation. We distribute this water to our customers through 12 water supply schemes:

1. Beaudesert,
2. Boonah – Kalbar also servicing localities extending out to Mt Alford and Aratula,
3. Canungra,
4. Esk – Toogoolawah,
5. Jimna,
6. Kilcoy,
7. Kooralbyn,
8. Linville,
9. Lowood – servicing townships in the Lockyer Valley and Somerset regions of Tarampa, Minden, Prenzlau, Coolana, Lowood, Vernor and Fernvale.
10. Rathdowney,
11. Somerset Township, and
12. South East Queensland (Brisbane and Ipswich) Water Supply System (SEQWSS) including the Scenic Rim townships of Harrisville, Peak Crossing and Warrill View.

These schemes begin at the water treatment plants and reservoirs operated and owned by Seqwater and end at the customer's water meter. Figure 2 shows the location of our water supply schemes across the local government areas (see page 11).

The SEQWSS makes up around 89% of the total water supply network, with schemes in the Lockyer Valley, Scenic Rim and Somerset making up the remaining 11%.

Your drinking water supply scheme

If you would like to know which supply scheme services your suburb refer to *Appendix A: Suburbs by drinking water supply scheme* (see page 49). There are some suburbs which are not connected to our drinking water network, this means that residents in these areas do not receive drinking water directly to their properties via our distribution system.

CHAPTER 3: MANAGING SAFE DRINKING WATER

LEGISLATIVE REQUIREMENTS

The supply of safe and reliable drinking water in Queensland is regulated by various pieces of state legislation, including the *Water Supply (Safety and Reliability) Act 2008*, the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*, the *Public Health Act 2005*, the *Public Health Regulation 2018*, and the *Water Fluoridation Act 2008*.

Under the *Water Supply (Safety and Reliability) Act 2008*, a drinking water service provider may only carry out a registered drinking water service in accordance with an approved *Drinking Water Quality Management Plan* (DWQMP).

Under the *Public Health Act 2005* and *Water Fluoridation Act 2008*, Queensland Health (QHealth) regulates the standards for drinking water quality related to *E. coli* and fluoride[1], respectively these standards, together with the health guideline levels in the *Australian Drinking Water Guidelines 2011*[2] (ADWG), comprise the water quality criteria for drinking water in Queensland, as set out in the *Water Supply (Safety and Reliability) Act 2008*.

OUR APPROACH TO MANAGING DRINKING WATER QUALITY

We use a risk management approach to drinking water quality which allows us to identify the substances that may pose a risk to public health. Our methodology to managing drinking water quality is embedded in our Drinking Water Quality Management System (DWQMS), which is based on the ADWG Framework for Management of Drinking Water Quality. Figure 3 shows the 12 elements of the framework:

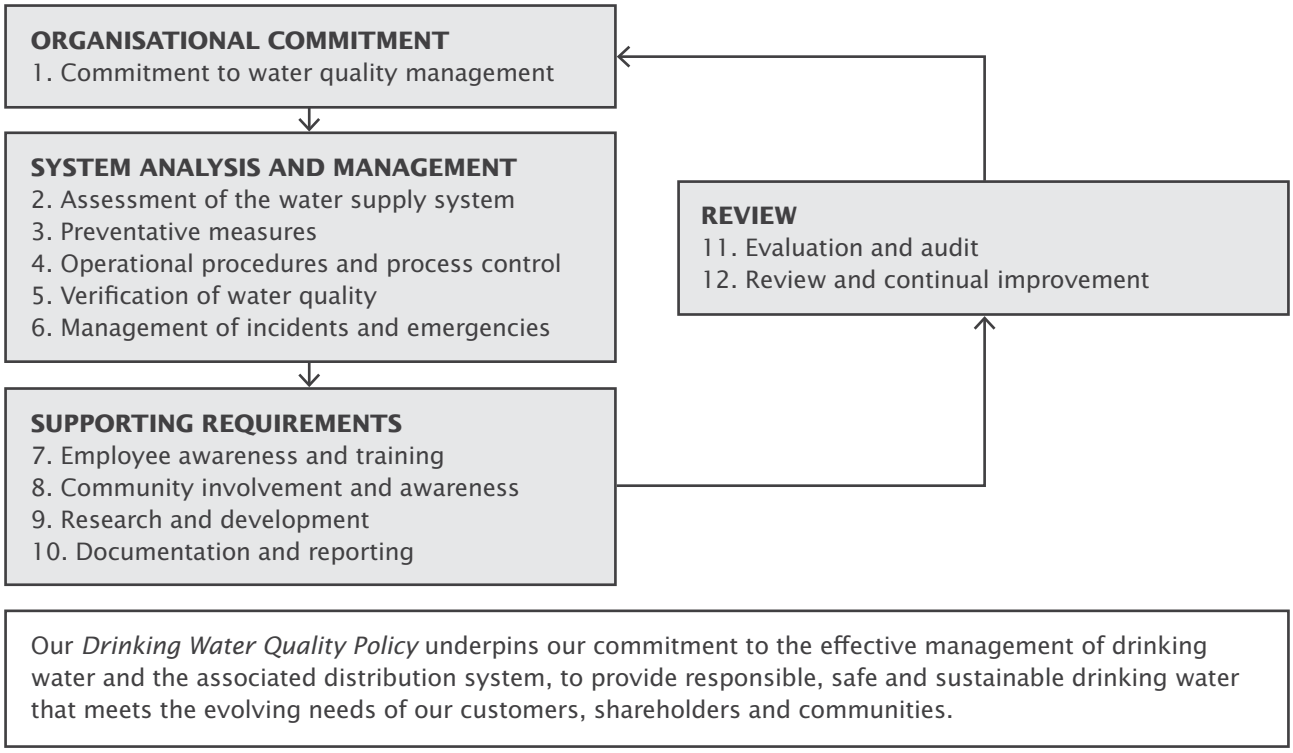


Figure 3: Framework for the management of drinking water quality

[1]Low levels of fluoride occur naturally in many water sources. Seqwater adds fluoride to eight of our twelve water supply schemes. For this reason, we are required to test for fluoride in these eight schemes - Beaudesert, Boonah-Kalbar, Canungra, Esk-Toogoolawah, Kilcoy, Kooralbyn, Lowood and the SEQWSS.
[2]Version 3.5, update August 2018

CHAPTER 3: MANAGING SAFE DRINKING WATER

Verification monitoring program

The supply of safe drinking water is our greatest public health responsibility. A critical component of water quality management is verifying our product continues to meet the stringent standards articulated in the relevant legislation and regulations. We assure the quality of the drinking water supply through Drinking Water Quality Verification Monitoring Program (VMP). The VMP is a comprehensive program designed to maximise visibility of drinking water quality as it travels through the 9,559km of water mains that service our communities.

Monitoring is the final check of drinking water quality performance and is routinely performed throughout the year. Insights from the VMP inform the continuous improvement of our procedures and processes, and guides capital and operational investment decisions. The VMP alerts us to emergent changes or sudden occurrences which may impact the drinking water, allowing us to proactively manage the quality of the product we supply to our customers. The VMP provides us with confidence in managing drinking water quality and supports our commitment to the maintenance of protection barriers and prevention of contamination.

Independent audits are conducted to assure our compliance with the VMP. These audits, completed by a third-party managed by our Corporate Affairs group, inform our continuous improvement program and provide oversight to our Board and Executive Leadership Team that drinking water quality is being managed appropriately. No concerns were raised from the audits for 2019/20, with a small number of exceptions due to known factors such as temporary unavailability of a testing point, with no impact on water quality.

SUMMARY ASSESSMENT OF DRINKING WATER COMPLIANCE

The Scientific Analytical Services Laboratory[3] (SAS Lab) is our trusted laboratory service provider and performs our sampling and analytical requirements. In 2019/20, SAS Lab routinely sampled from over 320 dedicated drinking water sample points (SP) collecting over 11,400 samples and performed over 112,000 tests of our drinking water. The drinking water quality parameters were monitored and reviewed in accordance with Queensland legislative requirements and the ADWG.

In 2019/20, we met the prescribed health-related and aesthetic standards for all 12 drinking water supply schemes (see Table 1).

OVERALL			
Scheme	***E.coli***	**Health**	**Aesthetic**
Beaudesert	☑	☑	☑
Boonah-Kalbar	☑	☑	☑
Canungra	☑	☑	☑
Esk-Toogoolawah	☑	☑	☑
Jimna	☑	☑	☑
Kilcoy	☑	☑	☑
Kooralbyn	☑	☑	☑
Linville	☑	☑	☑
Lowood	☑	☑	☑
Rathdowney	☑	☑	☑
Somerset	☑	☑	☑
SEQWSS	☑	☑	☑

Table 1: Drinking water supply scheme results 1 July 2019 – 30 June 2020

[3]The SAS Lab is accredited by the National Association of Testing Authorities (NATA).

Escherichia coli (*E. coli*)

We continued to achieve excellent health performance in 2019/20 in managing *E. coli* across all drinking water schemes, in accordance with legislative requirements. For each scheme, sampling was undertaken in accordance with regulations and the standard for drinking water of no detection of *E. coli* in 98% of samples collected over a 12-month period was achieved. *E. coli* was detected in six samples, and on each occasion Urban Utilities provided notification to the Regulator and took the necessary actions to ensure the supply of drinking water was safe.

E. coli water quality compliance details are provided in Appendix B, including the month-by-month performance for each drinking water supply scheme (see page 66).

Health-related chemical assessment

The VMP analyses health-related chemicals which are continuously trended and assessed against ADWG health-related limits and operational control triggers. These include:

- Arsenic
- Barium
- Cadmium
- Chlorine (Free)
- Chlorine (Total)
- Chromium
- Copper
- Dichloroacetic Acid
- Fluoride
- Lead
- Manganese
- Monochloroacetic Acid
- Nickel
- Trichloroacetic Acid
- Trihalomethanes (Total)

In 2019/20, all 12 drinking water schemes complied with the health-related chemical limit values defined in the ADWG, using the 95th percentile (95th-%ile) calculation.

Health assessment details for each drinking water supply scheme are provided in Appendix C (see page 72).

Aesthetic assessment

We take advantage of the VMP to continuously assess non-health related parameters which contribute to the way our water tastes, smells and appears. We understand these physical aspects of drinking water are important in enriching the quality of life. In 2019/20, our drinking water schemes performed within the aesthetic guideline values detailed in the ADWG. The aesthetic assessment for each drinking water supply scheme is provided in Appendix D (see page 79).

CHAPTER 4: NOTIFYING THE REGULATOR

Under sections 102 and 102A of the *Water Supply (Safety and Reliability) Act 2008*, Urban Utilities is required to immediately inform the Regulator if the quality of water supplied from the drinking water service does not comply with the water quality criteria as specified in the ADWG, or if it becomes aware a prescribed incident has happened.

Our water quality incidents represent the number of times a water quality sample did not meet the ADWG parameters when first tested, resulting in the immediate notification of the incident to the Regulator.

In 2019/20, we took over 11,400 water samples and conducted in excess of 112,000 water quality tests. Of those samples, nine tests did not meet the requirements of the ADWG requiring us to report these as incidents to the Regulator.

Of the nine notifications, six related to the detection of *E. coli* in the SEQWSS. The remaining three notifications related to a detection of *E.coli* in the Lockyer Valley, and detection of Trihalomethanes[4] (THM) in the Lockyer Valley and Scenic Rim.

For details on how we managed the incidents in your region refer to *Chapter 7 – Water quality performance by region* (see page 28).

NOTIFICATIONS TO THE REGULATOR

	E. coli	THM
Brisbane	4	0
Ipswich	2	0
Lockyer Valley	1	1
Scenic Rim	0	1
Somerset	0	0
TOTAL	**7**	**2**

THM (2) *E. coli* (7)

Figure 4: Urban Utilities' notifications to the Regulator 2019/20 by type

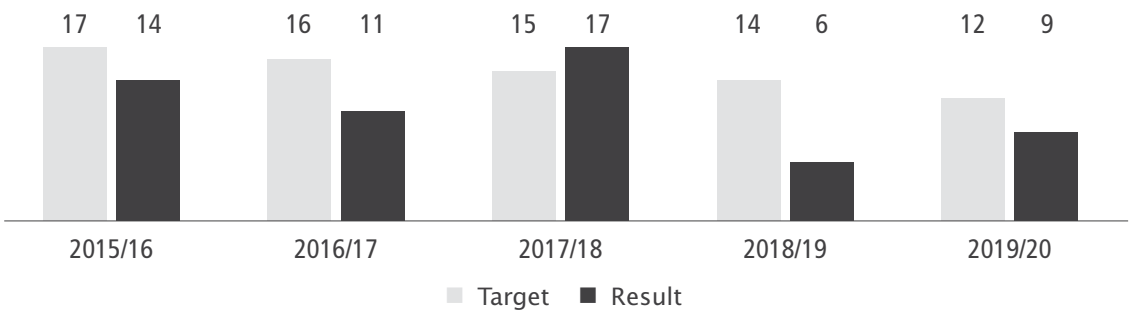


Figure 5: Urban Utilities' notifications to the Regulator 2015/16 to 2019/20

[4]A group of by-products that may form under certain conditions when chlorine is used to disinfect drinking water.

CHAPTER 5: IMPROVING DRINKING WATER QUALITY

We are committed to continual improvement and innovation in the management of our drinking water supply so that we provide our customers with a safe, high-quality and reliable product. It's how we enrich quality of life.

DRINKING WATER QUALITY STRATEGY

In 2018/19, we were proud to launch our first enterprise *Drinking Water Quality Strategy* (DWQS). The purpose of the DWQS is to ensure our customers and communities receive water that is always safe to drink and always aesthetically pleasing – tastes, looks and smells great.

The framework of the DWQS is consistent with the preventative risk management framework advocated in the ADWG. It is supported by extensive literature research, and lessons learnt from 25 of the most significant waterborne disease outbreaks in affluent nations. It is also informed by the guiding principles that were identified as a result of the New Zealand government's inquiry into the Havelock North gastroenteritis outbreak in August 2016[5].

During 2019/20, we commenced the development of the action plans to support the delivery of the DWQS. The action plans are based on five key themes:

1. Safe water starts at the source
2. Maintaining our protection barriers to prevent contamination
3. Change precedes contamination
4. We own water quality
5. We embrace a high standard of care

The delivery of the actions plans will occur over the next four years, and we will report on the progress of implementation in future DWQMP reports.

[5]For more information on this outbreak refer to the Department of Internal Affairs Report at https://www.dia.govt.nz/Report-of-the-Havelock-North-Drinking-Water-Inquiry---Stage-2

CHAPTER 5: IMPROVING DRINKING WATER QUALITY

WATER QUALITY OPERATIONAL IMPROVEMENTS PROGRAM

Reservoir water safety

During 2019/20, we continued to embed our reservoir water safety programs into our asset management strategy for drinking water reservoirs and applied the program to an additional seven reservoirs.

This continuous improvement program provides valuable insights and helps drives decisions in regard to the assets that require an upgrade to improve the quality of the water stored in the reservoirs. Our innovative roof flood testing procedure is an integral step in this program and validates that all works have been satisfactorily completed to ensure the safety of the water delivered to our customers.

Disinfection management

We also continued to invest in disinfection management through our drinking water networks. Our fleet of mobile water quality field devices continues to monitor our disinfection throughout the water supply network and allows us to respond quickly to any changes in our disinfection quality and initiate remedial actions. In addition, the data derived from these devices is used in the investigation of any customer concerns and informs the resolution to ensure the safety of the water delivered to our customers.

During the year, we continued the proactive practice of deep cycling of reservoir operational levels during the summer period. Deep cycling is a process whereby we empty the reservoir below its normal operating level and then fill the reservoir with fresh drinking water. This reduces water age and maintains the safety of the drinking water held in the reservoir.

Additional disinfection management measures included the strategic placement of chlorine dosing units in our network where we know operational changes cannot ensure disinfection is maintained in the water delivered to our customers.

In 2019/20, we completed an audit of all our chlorine dosing units and commenced upgrading these sites with new equipment. This provides us with better visibility and control of the disinfection maintained to our customers. We have also implemented a daily management dashboard to monitor the performance of our chlorine dosing units and determine when changes may be required. This change in process was implemented in response to the Withcott *E.coli* incident where we had a failure of the chlorine dosing unit (see page 36).

Trihalomethane management

In 2019/20, we continued to exercise our Trihalomethane[6] (THM) management plan throughout our water supply networks. Our THM management plan, introduced in February 2019, has a series of escalation triggers to alert us to increasing THMs in our networks. At each trigger level a series of operational actions and messaging protocols are initiated to ensure we manage any potential risk presented by an increase in THMs. In 2019/20, the plan was tested on several occasions demonstrating it is as an effective operational tool, and its significance to our commitment to protect public health.

Nevertheless, there were some limitations identified when actioning the plan, primarily some of the water age reduction measures deployed during water restrictions. Water age is a general indicator of THM risk in the water networks. One treatment measure is the flushing of the water mains to bring in fresh water, with the displaced water being distributed into the environment.

We understand our customers' frustrations when asked to reduce the water consumption yet witness us removing water from the network in order to reduce THM levels in the water supplied to them. In late 2019, we faced the challenges of severe water supply issues, and protecting the quality of the water supplied to our non-Grid[7] connected communities which can be more susceptible to THM concentrations and were approaching our THM trigger levels. Investigations will continue into improving techniques of managing THMs and minimising water displacement techniques. During 2020/21, we will continue to work with our bulk water supplier and invest in alternate operational actions to mitigate THM risk at some high-risk locations.

WATER QUALITY CAPITAL IMPROVEMENTS PROGRAM

We continued to invest in upgrades of our assets to ensure the quality and safety of our drinking water. This program of works included the rehabilitation of four reservoirs, including installation of new reservoir roofs, and refurbishment of floor and wall joints.

Our capital program also renewed a further 28km of water mains. This program aims to reduce the likelihood of disruptions to our customers' water service by improving the reliability and efficiency of our water supply, whilst providing the associated benefit of a reduced risk to water quality.

DRIVING CHANGE THROUGH COLLABORATION

During 2019/20, we continued to collaborate with our bulk water supplier and other South East Queensland water supply partners to improve the disinfection through our Grid[8] connected communities.

During the summer period, when increased temperatures can lead to a reduction in disinfection residuals in the network, Seqwater increased the target total chlorine concentration supplied to our Brisbane and Ipswich customers. This increase contributed to the management of drinking water disinfection through the most challenging season of the year. The trial, the third of its kind, resulted in improved disinfection concentrations throughout our network in comparison to previous summer periods. We are currently working with Seqwater and our water supply partners to determine a summer operating profile aimed at improving drinking water quality outcomes for our customers.

We also continued our involvement in many collaborative programs, including:

- implementation of the regionally endorsed asset infrastructure investment strategy developed with our South East Queensland water supply partners,
- optimising operational efficiencies to improve how we disinfect the drinking water supply across South East Queensland,
- collaboration with Seqwater to determine how we can provide the township of Beaudesert with a more resilient water supply, including enhanced drinking water quality, and
- collaboration with Seqwater to build more resilience in the Lowood water supply scheme to ensure the continuity of water supply, including consistency in the quality of the drinking water.

[6]A group of disinfection by-products that may form under certain conditions when chlorine is used to disinfect drinking water.
[7]Communities not supplied through the SEQWSS.
[8]Communities supplied through the SEQWSS.

CHAPTER 6: CUSTOMER SATISFACTION

We recognise the value of community engagement in building trust in our brand, and the delivery of service excellence. We recognise that customers or members of the community may need to provide feedback if a service or product fails to meet their expectations or our standards. This feedback is captured, recorded and monitored to help identify any trends and possible areas of improvement in the operation, maintenance and management of our drinking water network. This commitment is a key component of our continued pursuit of innovative ways of doing business, and our transformation into a customer-centric organisation.

While we receive various water quality enquiries throughout the year, a 'water quality complaint' is registered when a person contacts us and expresses dissatisfaction regarding the quality of our drinking water[9].

In 2019/20, we received 931 water quality enquiries of which 289 (31%) were classified as water quality complaints. This is marked reduction on the 2018/19 result of 1,220 enquiries and 424 complaints. While it can be difficult to identify a particular causal factor for the 32% reduction in complaints, we did make the following observations which influenced this outcome, including:

- a 24% reduction in water quality enquiries from 2018/19 to 2019/20,
- cementing the change to our water quality complaints reporting methodology[10], and
- a reduction of both water quality enquiries and complaints at the height of the COVID-19 restrictions during April and June 2020.

Water quality complaints in 2019/20 followed a typical pattern, with 42% related to discoloured water. Taste and odour complaints were the next prevalent at 22% and can vary widely based on a customer's perception. The most common complaint descriptions included chlorine, metallic and chemical tastes. These were addressed by flushing the water main when required. Investigation of each complaint found no public health risks.

Illness complaints accounted for 17% of complaints in 2019/20. These complaints were received from customers who suspected their drinking water may be associated with an illness they were experiencing. Our Water Quality Officers investigated each complaint related to perceived illness from our drinking water, typically by testing at the customer's tap. During 2019/20, we could not confirm that the drinking water from our water supply network was linked to an illness complaint.

The breakdown of water quality complaints by type and region is shown in Figure 6, with Figure 7 showing performance from 1 July 2015 to 30 June 2020 (see page 25).

[9]AS ISO 10002-2006 Customer satisfaction – guidelines for complaints handling in organizations
[10]On 1 July 2018, we changed the way we classify and report water quality complaints to align with the *Australian/International Standard 10002-2006 Customer satisfaction – guidelines for complaints handling in organizations*, and consistency with other water utilities.

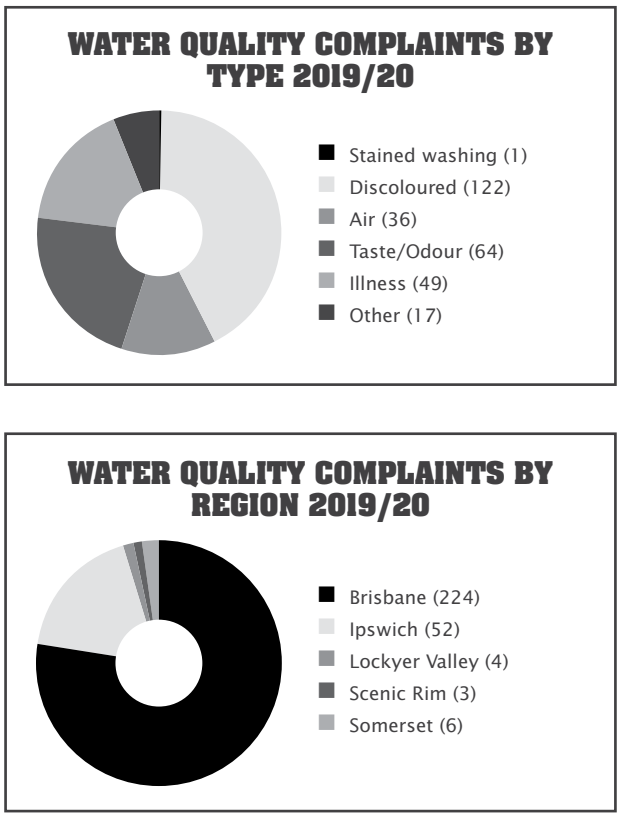


Figure 6: Water quality complaints by type and region – 2019/20

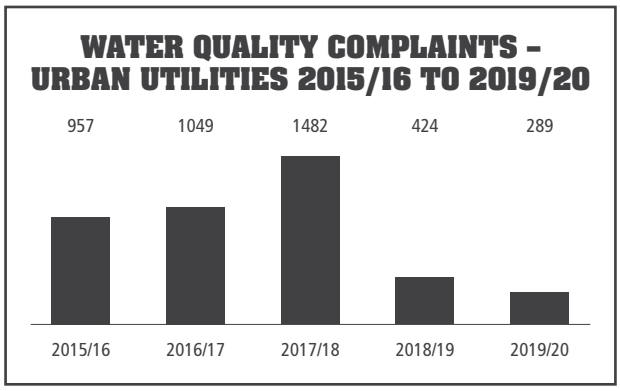


Figure 7: Water quality complaints 1 July 2015 to 30 June 2020

CHAPTER 6: CUSTOMER SATISFACTION

Figure 8 shows Urban Utilities' performance against the customer service standards as published in the Residential and Business Customer Charters, and a comparison with comparable water service providers across Australia with similar complexities and risks relating to the supply of drinking water.

Our Charters outline the commitments, responsibilities and standards that our customers can expect from us in relation to the water we provide. In 2019/20, our customer service standard for water quality was less than or equal to six water quality complaints per 1,000 property connections. In 2019/20, we remained well under the customer service standard.

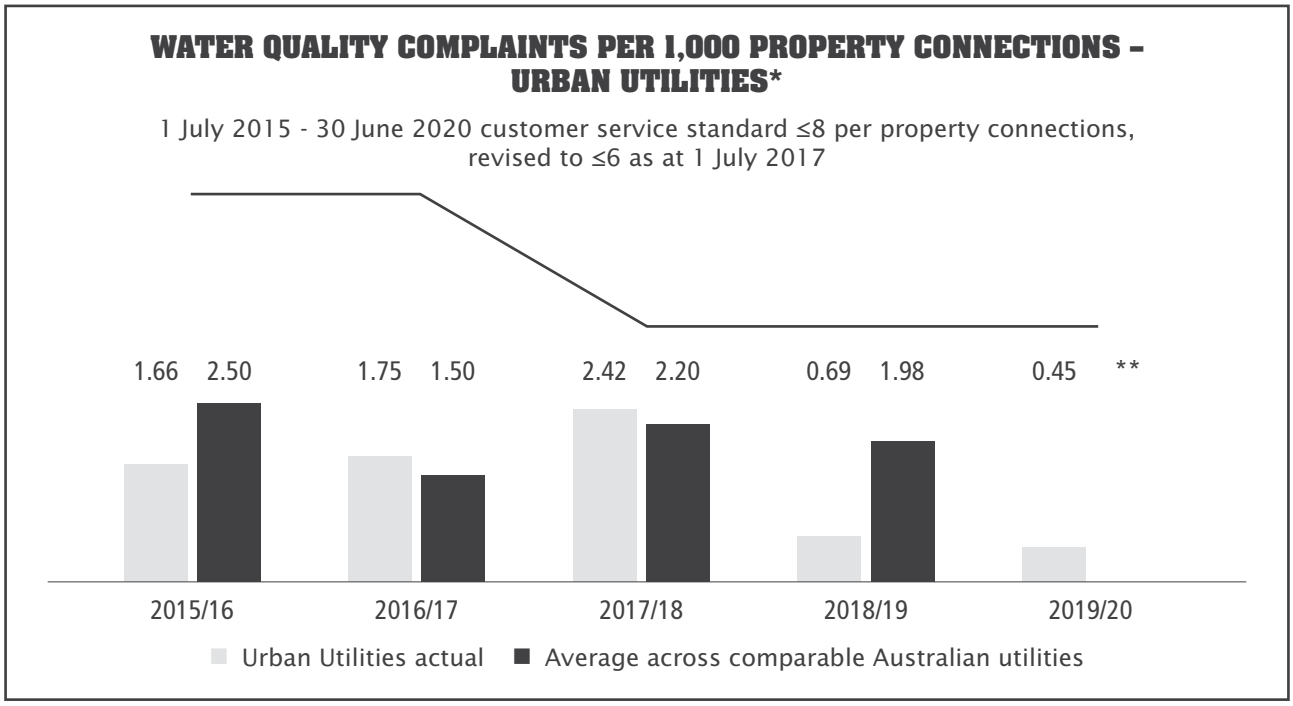


Figure 8: Water quality complaints per 1,000 property connections 1 July 2015 to 30 June 2020

*The value for comparable Australian Utilities is sourced from the Bureau of Meteorology's *National performance report (NPR) 2018-19: urban water utilities*: Indicator Code C9 – water quality complaints, by utility size group (100,000+ size group).

**The NPR data for 2019/20 is expected to be available in March/April 2021.

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

BRISBANE REGION

The SEQWSS supplies drinking water to our customers in Brisbane[11]. Water supplied to Brisbane is provided mostly from Seqwater's Mount Crosby Water Treatment Plant (WTP) and North Pine WTP. When required, the Seqwater Southern and Northern Regional Pipelines can supply water in both directions.

Notifications to the Regulator

Our water quality incidents represent the number of times a water quality sample does not meet the ADWG parameters, resulting in an immediate notification of the incident to the Regulator. During 2019/20, four incidents occurred in the Brisbane region which required advice to the Regulator. Table 2 summarises these notifications and how we responded to the event. Figure 9 shows performance over the last five years.

Sample date	Type	Location	Description	Immediate corrective action	Investigation outcomes and further actions
1/7/19	*E. coli*	Lota	The non-compliance was a detection of *E. coli* from a routine sample taken at SP088[12]. 1MPN *E. coli* organisms per 100mL was detected.	The network was flushed, and responsive samples were taken from the relevant sample points in the Manly supply zone. Follow up samples exhibited no continued presence of *E. coli*.	While no causal factors were identified we continue to improve disinfection management activities.
19/11/19	*E. coli*	Woolloongabba	The non-compliance was a detection of *E. coli* from a routine sample taken at SP362. 1MPN *E. coli* organisms per 100mL was detected.	The network was flushed, and responsive samples were taken from the relevant sample points in the Tarragindi supply zone. Follow up samples exhibited no continued presence of *E. coli*.	The available network data did not indicate any abnormalities, and there was no maintenance work being undertaken in the local area which may have contributed to the detection of *E. coli*. While no causal factors were identified we continue to improve disinfection management activities.

[11]The SEQWSS also supplies drinking water to our customers in Ipswich, as well as those in Peak Crossing, Harrisville and Warrill View in the Scenic Rim.
[12]SP is the prefix used to indicate a water sample point.

Sample date	Type	Location	Description	Immediate corrective action	Investigation outcomes and further actions
9/3/20	*E. coli*	Forest Lake	The non-compliance was a detection of *E.coli* from routine a sample taken at SP044 and SP327. 3MPN/100mL organisms and 1MPN/100mL organisms were detected, respectively.	The Richland Reservoir and Forest Lake Tank were isolated from the network. After isolation the associated supply zones were resampled. Follow up samples exhibited no continued presence of *E.coli*.	Flood testing of the reservoir and tank roofs exhibited points of storm water ingress. Corrective maintenance of the Richland Reservoir was undertaken. Post the maintenance activity the reservoir was returned to service on 30 March 2020. The Forest Lake Tank will remain isolated from the water distribution network.
19/3/20	*E. coli*	Mt Gravatt	The non-compliance was a detection of *E.coli* from a routine sample taken at SP173. 1MPN *E. coli* organisms per 100mL was detected.	On 20 March 2020, precautionary measures were undertaken, and the Mt Gravatt Reservoir was isolated from the network. Follow up samples exhibited no continued presence of *E.coli*.	No causal factors were identified, and the reservoir was returned to service on 21 March 2020.

Table 2: Notifications to the Regulator – Brisbane: 1 July 2019 to 30 June 2020

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

BRISBANE REGION (CONTINUED)

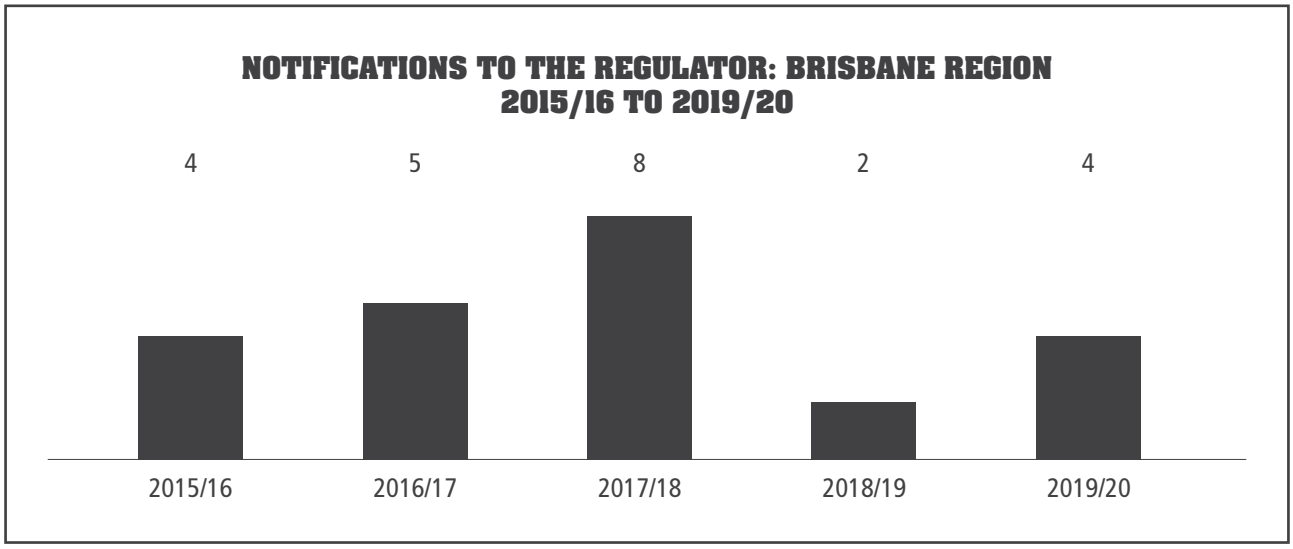


Figure 9: Notifications to the Regulator – Brisbane: 1 July 2015 to 30 June 2020

Customer satisfaction

In 2019/20, Urban Utilities investigated 224 water quality complaints in the Brisbane region, which accounts for 78% of total water quality complaints across our service area. The 2019/20 result is a 33% decrease on the number of water quality complaints received in 2018/19. With 0.42 complaints per 1,000 property connections, the Brisbane region remained well under the customer service standard of ≤6 complaints per 1,000 property connections.

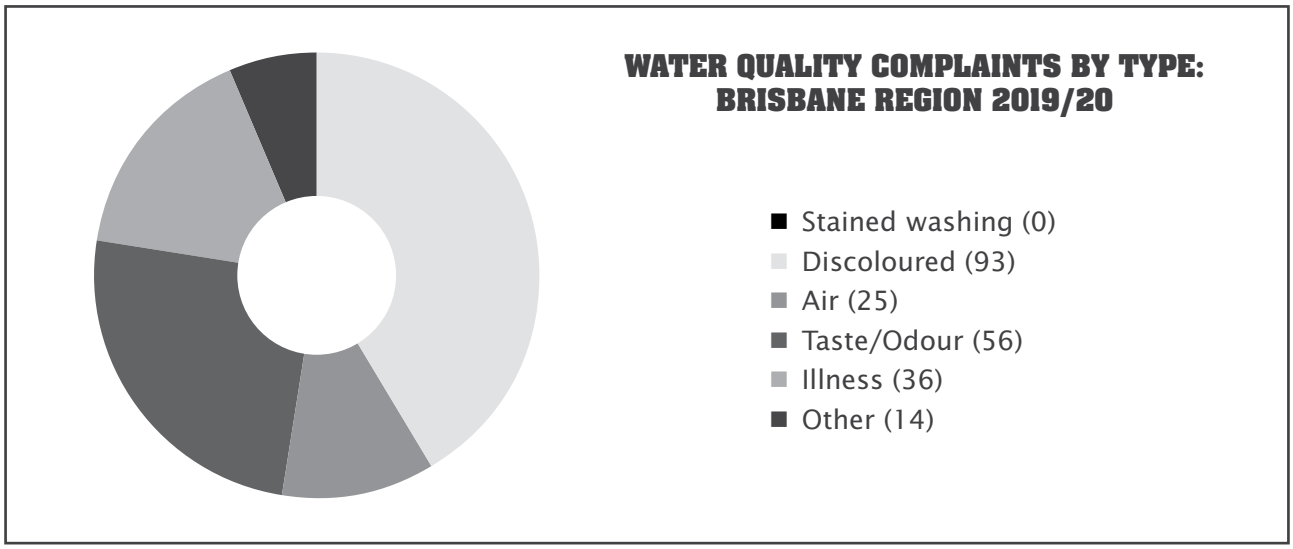
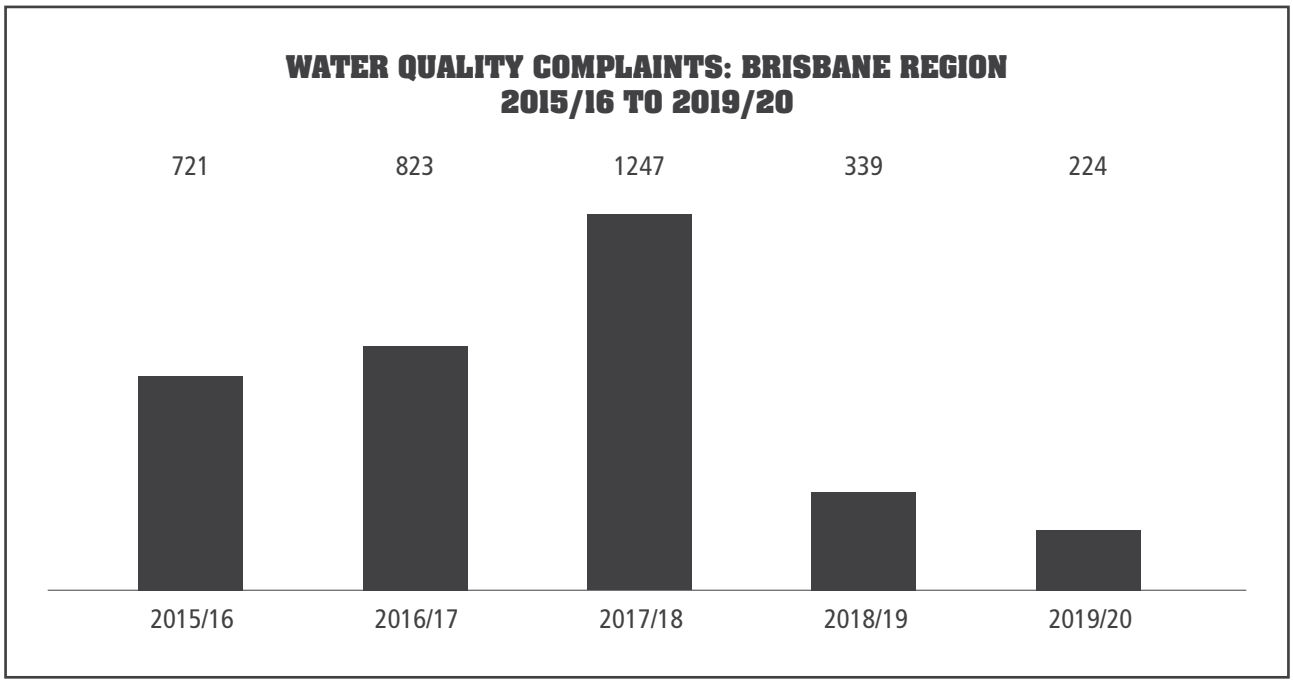


Figure 10: Customer satisfaction: Brisbane region



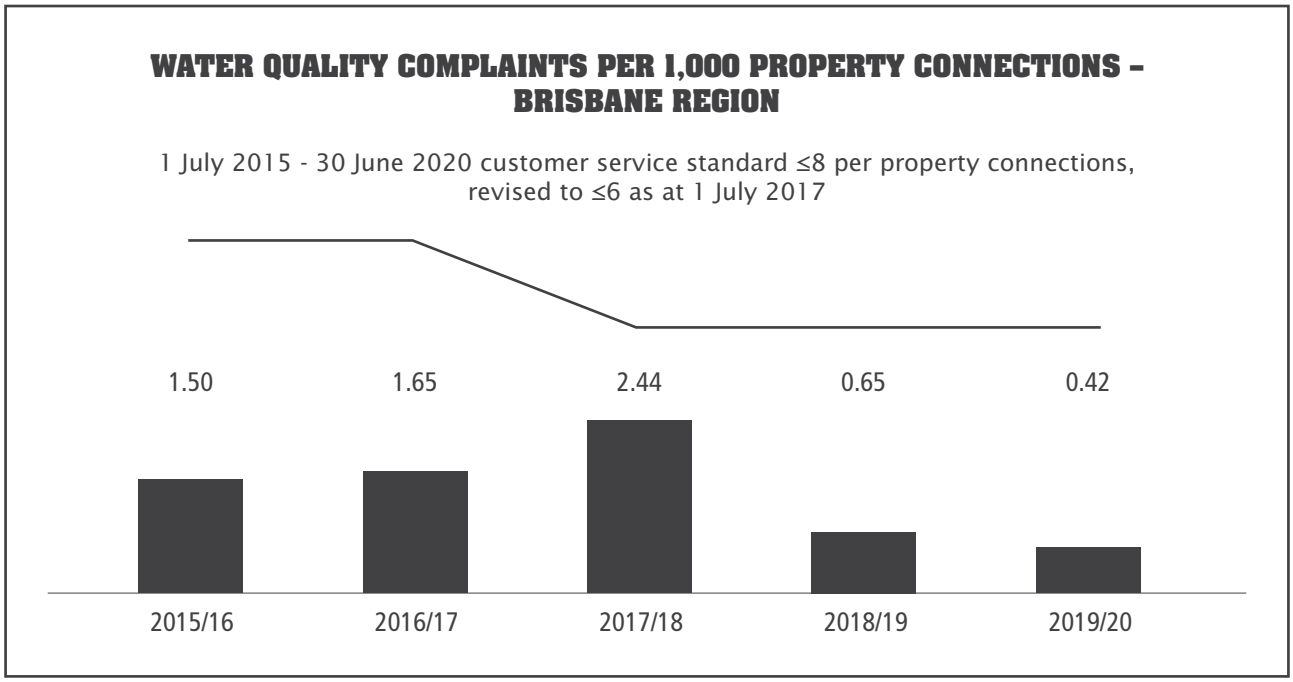


Figure 10: Customer satisfaction: Brisbane region

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

IPSWICH REGION

The SEQWSS supplies drinking water to our customers in Ipswich[13]. Water supplied to Ipswich is provided from the Seqwater Mount Crosby WTP, and via the Southern Regional Water Pipeline.

Notifications to the Regulator

Our water quality incidents represent the number of times a water quality sample does not meet the ADWG parameters, resulting in the immediate reporting of the incident to the Regulator. During 2019/20, two incidents occurred in the Ipswich region which required an immediate notification to the Regulator. Table 3 summarises these notifications, and how we responded to the event, with Figure 11 showing performance over the last five years.

Sample date	Type	Location	Description	Immediate corrective action	Investigation outcomes and further actions
27/4/20	*E. coli*	Deebing Heights	The non-compliance was a detection of *E.coli* from a routine sample taken at SP416. 3MPN *E. coli* organisms per 100mL was detected.	The network was flushed, and responsive samples were taken from the relevant sample points in the Deebing Heights high level and low-level supply zones. Follow up samples exhibited no continued presence of *E. coli*.	Investigations found the chlorine dosing unit was not operational. Business processes were reviewed to prevent a reoccurrence. In addition, divers inspected the Ripley reservoirs and no source contamination was identified.
26/5/20	*E. coli*	Camira	The non-compliance was a detection of *E.coli* from a routine sample taken at SP831. 38MPN *E. coli* organisms per 100mL was detected.	Initial actions included network flushing and boundary valve checks. Recent flood testing results for Springfield College Dr and Panorama Dr reservoirs were reviewed and did not present ingress or vermin entry risk. Follow up samples exhibited no continued presence of *E.coli*.	The investigation did not identify the source of the contamination and no causal factors were identified.

Table 3: Notifications to the Regulator – Ipswich: 1 July 2019 – 30 June 2020

[13]The SEQWSS also supplies drinking water to our customers in Brisbane, as well as those in Peak Crossing, Harrisville and Warrill View in the Scenic Rim.

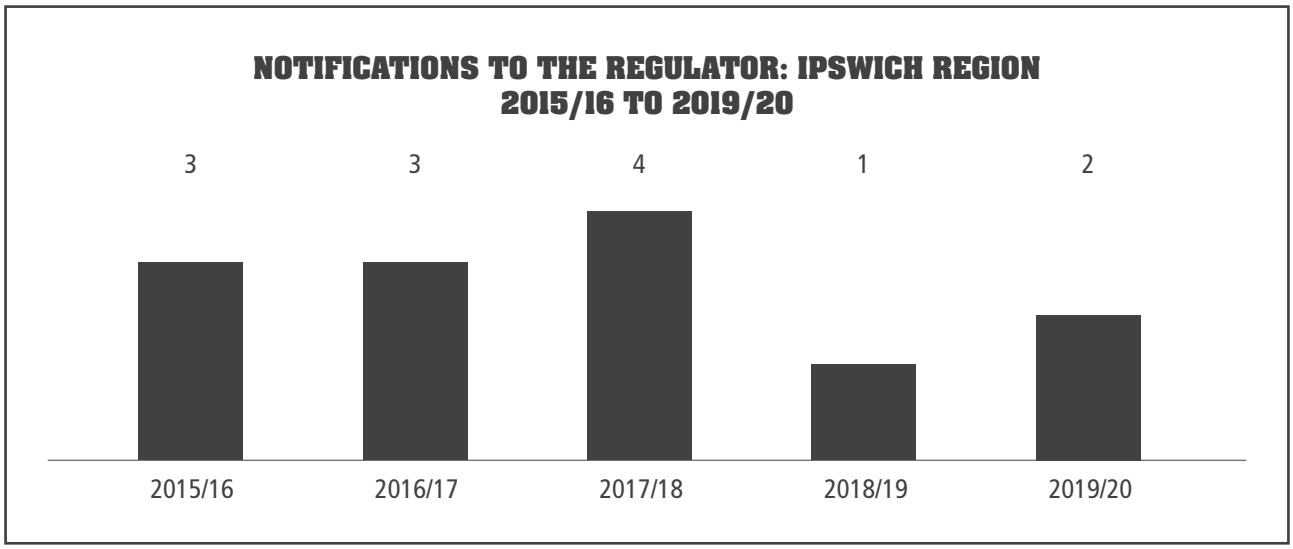


Figure 11: Notifications to the Regulator – Ipswich region: 1 July 2015 to 30 June 2019

Customer satisfaction

In 2019/20, Urban Utilities investigated 52 water quality complaints in the Ipswich region. This is a slight increase on the number of water quality complaints received in 2018/19, with changes observed in taste/odour, air and illness complaints. Nevertheless, with 0.63 complaints per 1,000 property connections, the Ipswich region remained well under the customer service standard of ≤6 complaints per 1,000 property connections.

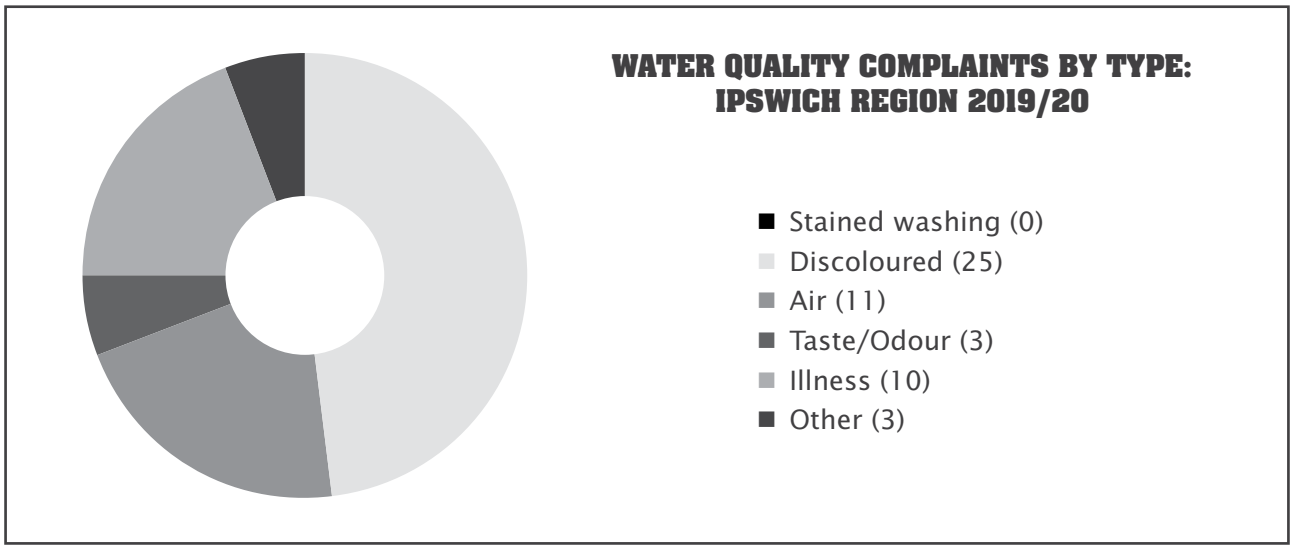
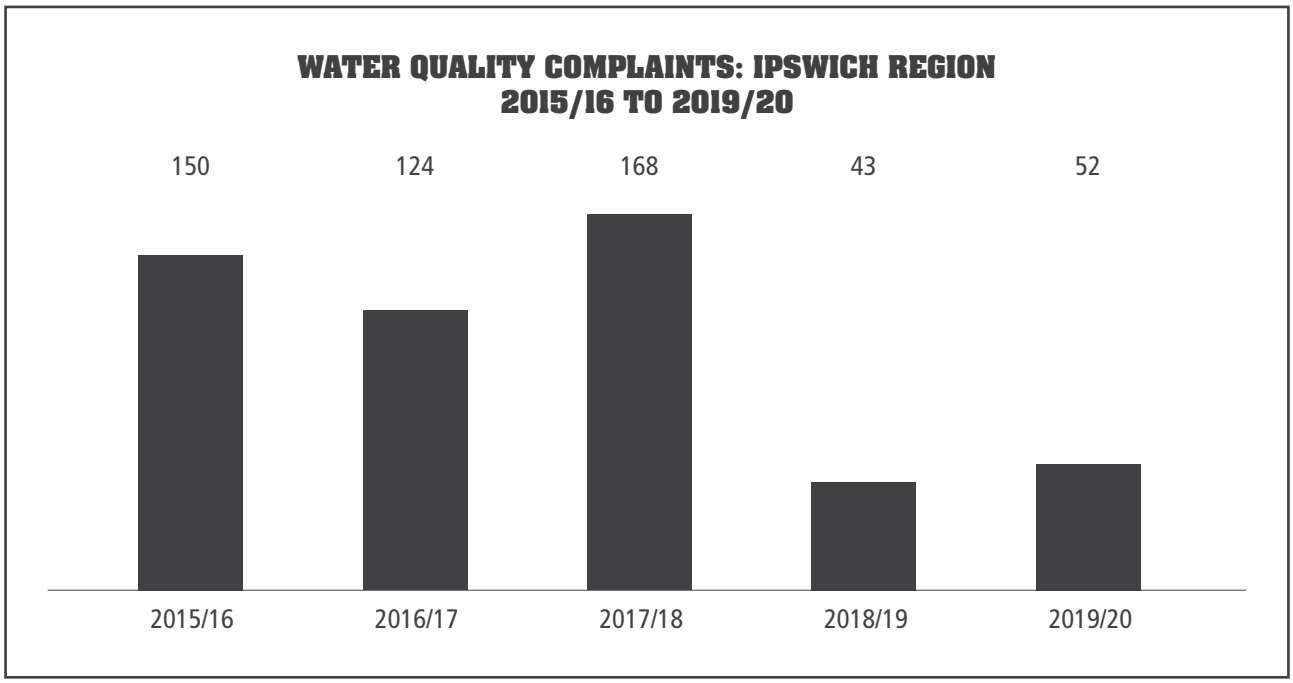


Figure 12: Customer satisfaction: Ipswich region

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

IPSWICH REGION (CONTINUED)



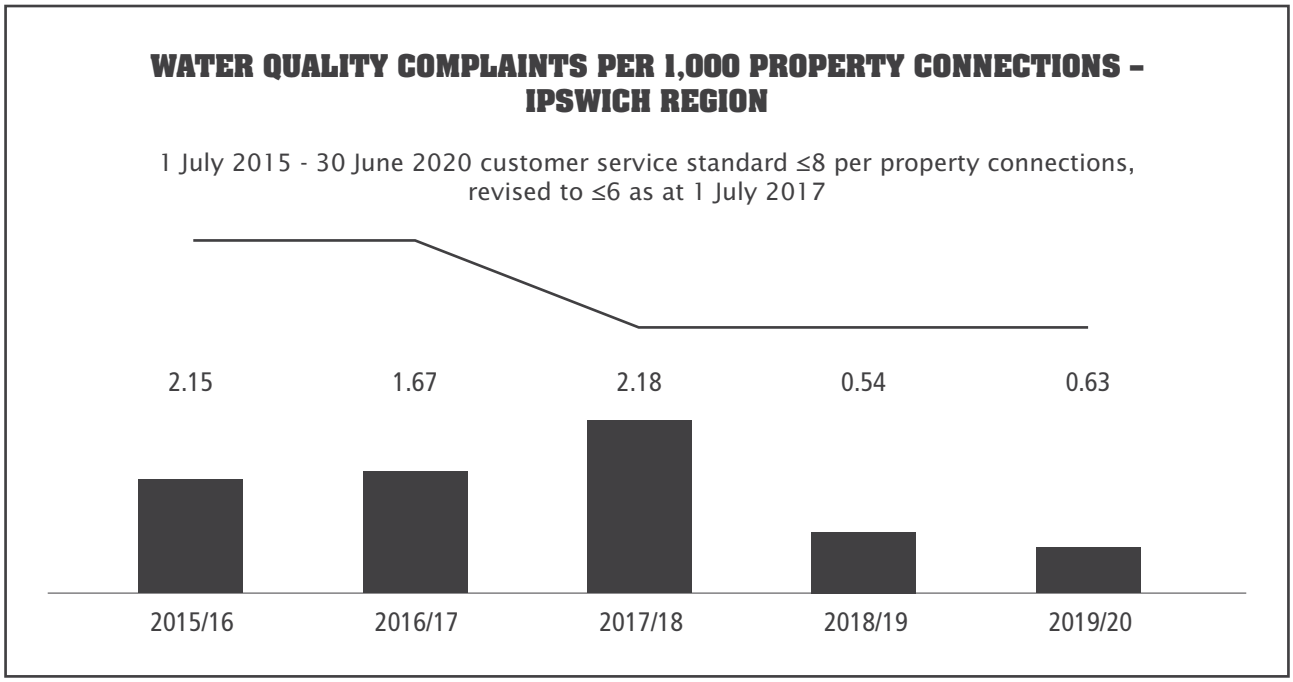


Figure 12: Customer satisfaction: Ipswich region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CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

LOCKYER VALLEY REGION

In the Lockyer Valley region, water treated at Seqwater's Lowood WTP in the Somerset region is distributed to the seven townships and surrounding areas of Forest Hill, Gatton, Grantham, Helidon, Laidley, Plainland and Withcott.

Notifications to the Regulator

Our water quality incidents represent the number of times a water quality sample does not meet the ADWG parameters, resulting in the immediate reporting of the incident to the Regulator. During 2019/20, there were two incidents in the Lockyer Valley region that required an immediate notification to the Regulator. Of these two, one related to the detection of *E. coli* and one related to the detection of THMs.[14] Table 4 summarises these notifications, and how we responded to the event, with Figure 13 showing performance over the last five years.

Sample date	Type	Location	Description	Immediate corrective action	Investigation outcomes and further actions
3/2/20	*E. coli*	Withcott	The non-compliance was a detection of *E.coli* from a routine taken at SP674. 1MPN *E. coli* organisms per 100mL was detected.	Follow-up samples exhibited no continue presence of *E.coli*.	The investigation determined that the dosing point on the chlorine dosing unit had become blocked with scale and the dosing unit was not performing as intended. As a result, corrective maintenance was initiated. We also conducted an inspection of the reservoir which confirmed no ongoing contamination source was present.

[14]Trihalomethanes – A group of disinfection by-products that may form under certain conditions when chlorine is used to disinfect drinking water.

Sample date	Type	Location	Description	Immediate corrective action	Investigation outcomes and further actions
3/3/20	THM	Withcott	The non-compliance was a detection of total Trihalomethanes (THM) from a routine sample taken on 28 February 2020 at SP673, 320ug/L was detected. This incident is reported as occurring in March 2020 as the test results were received on 3 March 2020, and subsequently reported to the Regulator.	The reservoir was scoured, and the network flushed from hydrants at the end of the network to reduce water age. The reservoir was then filled, and the network strategically flushed Follow-up samples returned results that were under the limit set (250ug/L) in the *Australian Drinking Water Guidelines*.	We undertook an audit of network locations and identified areas where THMs are likely to occur. Sampling frequencies for these locations will be increased to weekly during the high-risk period of October to April. In addition, we identified an opportunity for improvement in regard to reporting times from the SAS Lab. As a result, the SAS Lab has committed to submitting analytical test results for THMs within five business days from time of sampling.

Table 4: Notifications to the Regulator – Lockyer Valley: 1 July 2019 to 30 June 2020

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

LOCKYER VALLEY REGION (CONTINUED)

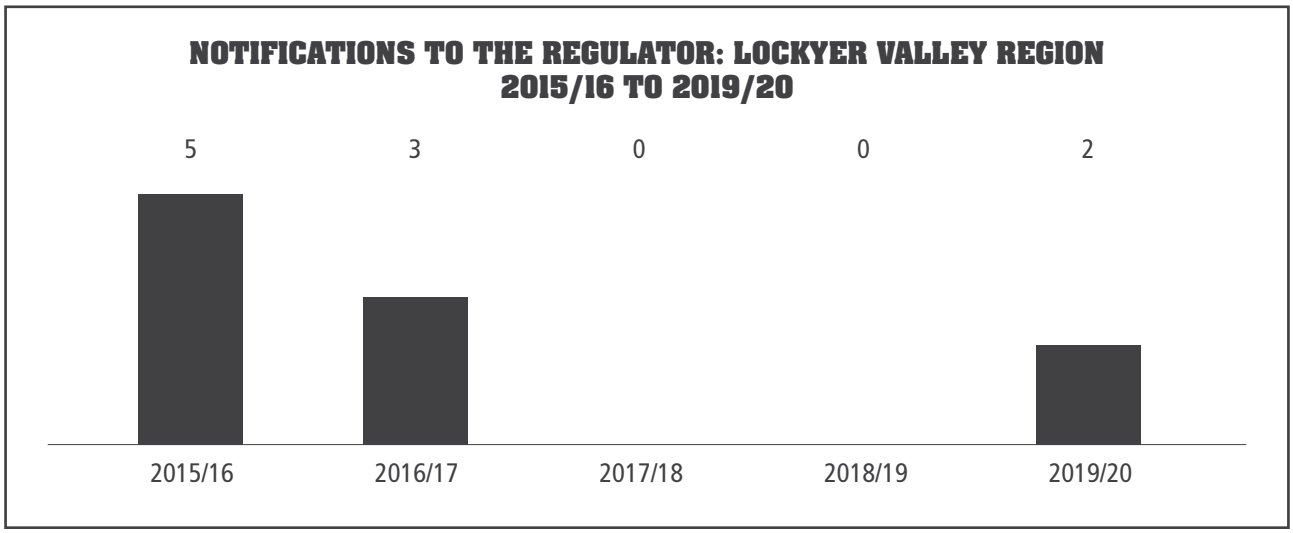


Figure 13: Notifications to the Regulator – Lockyer Valley region: 1 July 2015 to 30 June 2020

Customer satisfaction

In 2019/20, Urban Utilities investigated four water quality complaints in the Lockyer Valley region. This result represents a 90% decrease in complaints since 2015/16. In addition, with 0.33 complaints per 1,000 property connections, the Lockyer Valley region remained well under the customer service standard of ≤6 complaints per 1,000 property connections.

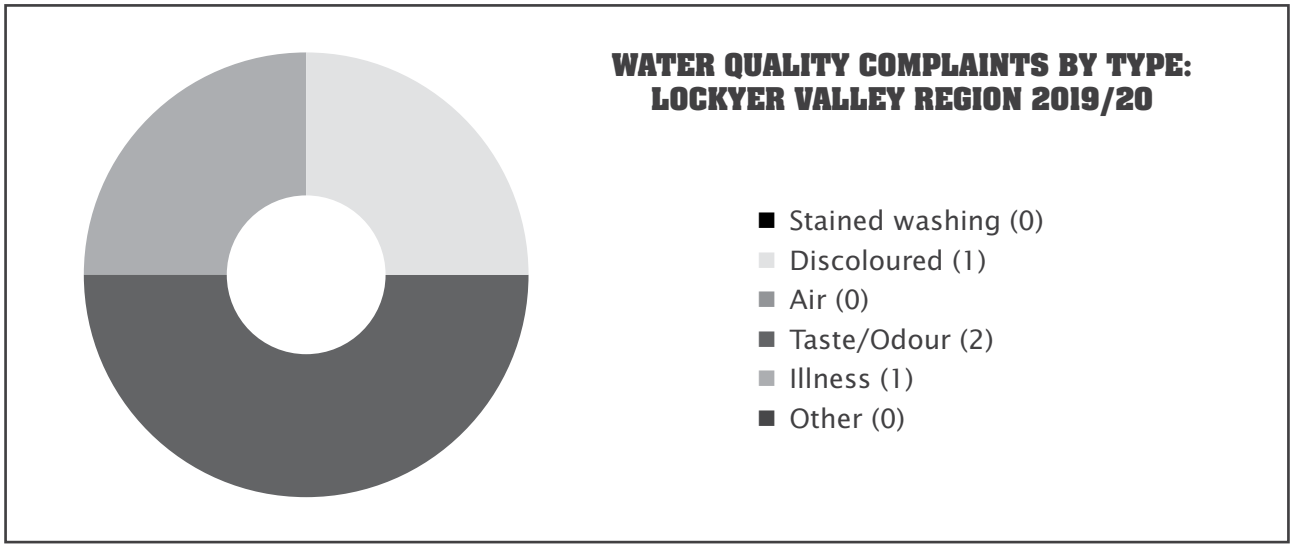
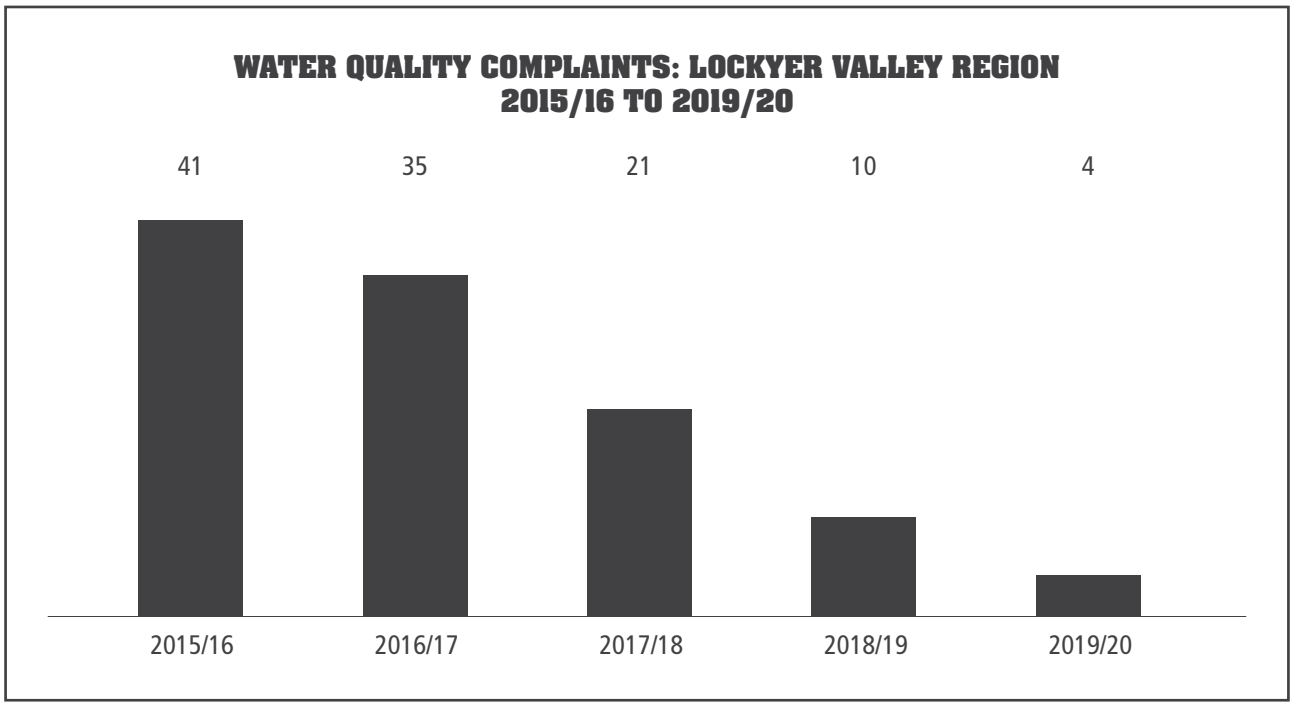


Figure 14: Customer satisfaction: Lockyer Valley region



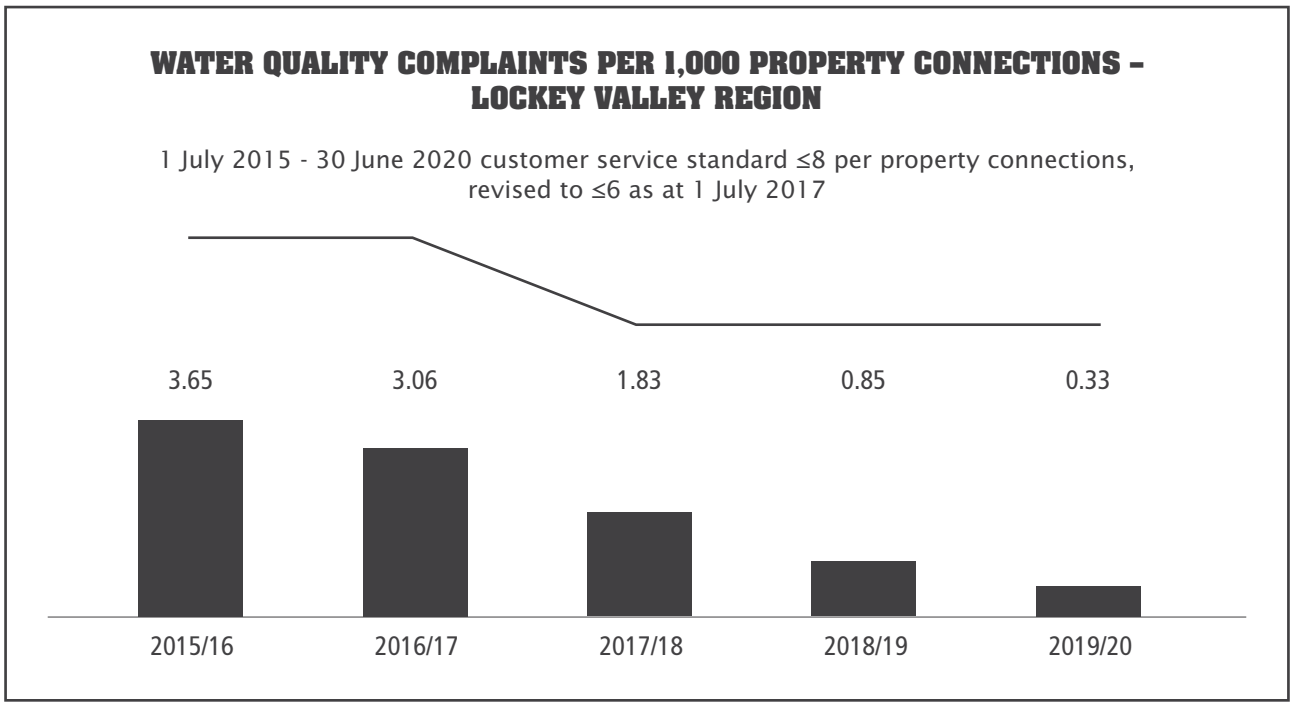


Figure 14: Customer satisfaction: Lockyer Valley region

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

SCENIC RIM REGION

In Scenic Rim, Seqwater operates WTPs at Beaudesert, Canungra, Kalbar, Kooralbyn and Rathdowney. Each WTP is connected to the Urban Utilities network, which supplies water to our customers in these towns. Water from the Kalbar WTP is supplied to Aratula, Kalbar, Boonah and Mount Alford. Chlorine is used as a disinfection residual in the distribution network.

The South East Queensland Water Supply Scheme, which services Brisbane and Ipswich also supplies drinking water to our customers in Harrisville, Peak Crossing and Warrill View in the Scenic Rim.

Notifications to the Regulator

Our water quality incidents represent the number of times a water quality sample does not meet the ADWG parameters, resulting in the immediate reporting of the incident to the Regulator. During 2019/20, one incident occurred in the Scenic Rim region which required an immediate notification to the Regulator. Table 5 summarises this notification and how we responded to the event, with Figure 15 showing performance over the last five years.

Sample date	Type	Location	Description	Immediate corrective action	Investigation outcomes and further actions
12/2/20	THM	Beaudesert	The non-compliance was a detection of total Trihalomethanes (THM) from a routine sample taken on 12 February 2020 at SP507, 280ug/L was detected.	We undertook strategic flushing of the water network and commenced responsive sampling. Follow-up samples returned results that were under the limit set (250ug/L) in the *Australian Drinking Water Guidelines*.	While no specific causal factor was identified we do understand environmental influences in summer increase the likelihood of higher THM concentrations. We continue to work with Seqwater on THM reduction initiatives.

Table 5: Notifications to the Regulator – Scenic Rim: 1 July 2019 to 30 June 2020

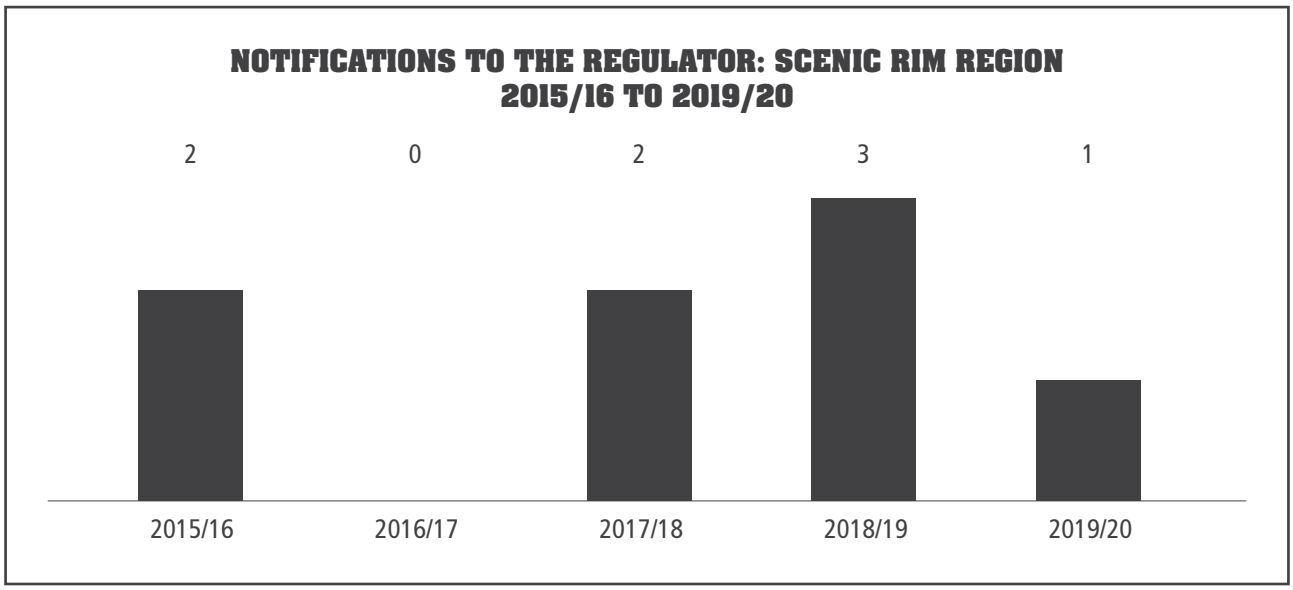


Figure 15: Notifications to the Regulator – Scenic Rim region: 1 July 2015 to 30 June 2020

Customer satisfaction

In 2019/20, Urban Utilities investigated three water quality complaints in the Scenic Rim region, which equates to 0.42 complaints per 1,000 property connections and is well under the customer service standard of ≤6 complaints per 1,000 property connections.

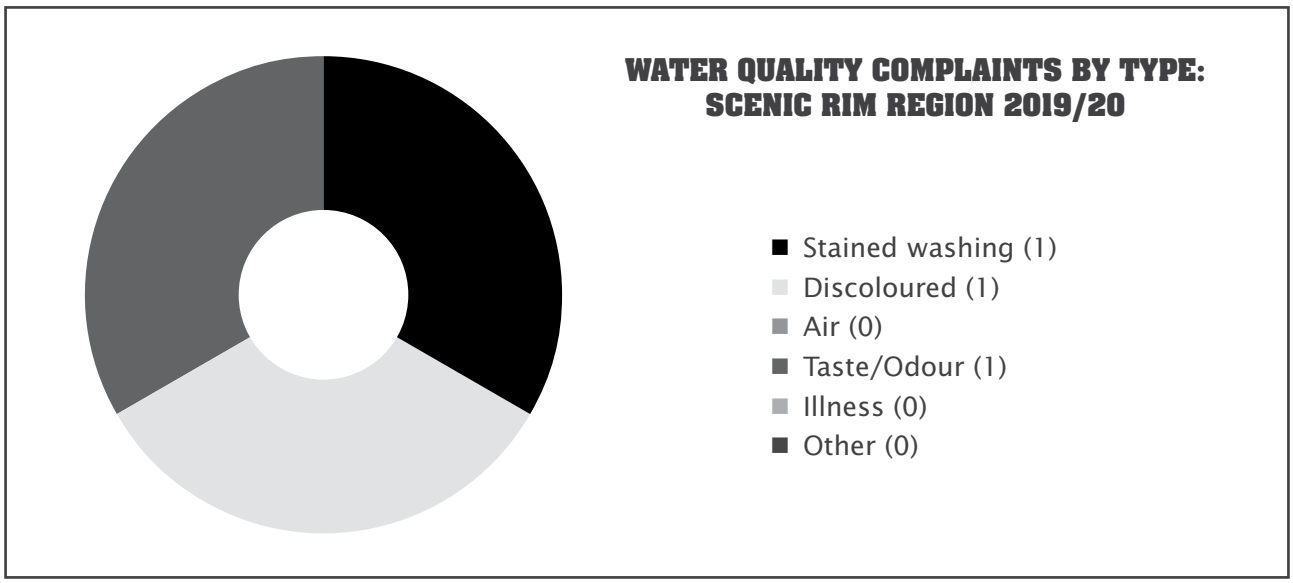
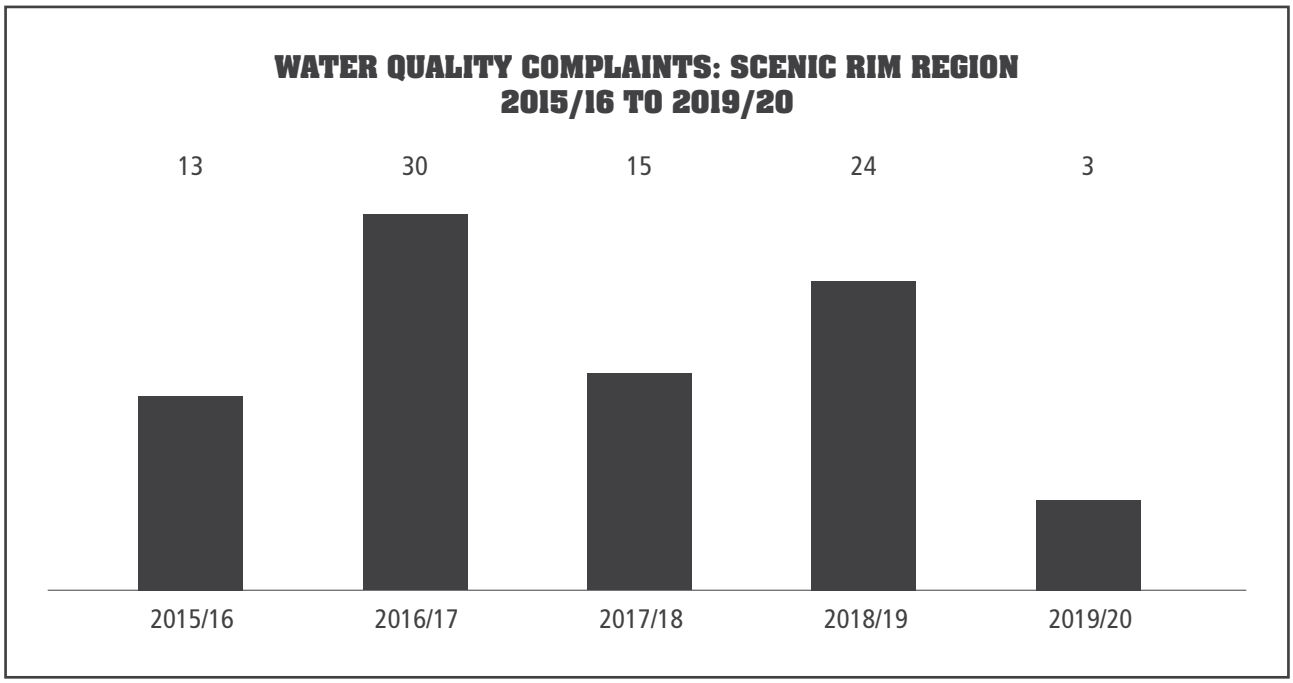


Figure 17: Customer satisfaction: Scenic Rim region

CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

SCENIC RIM REGION (CONTINUED)



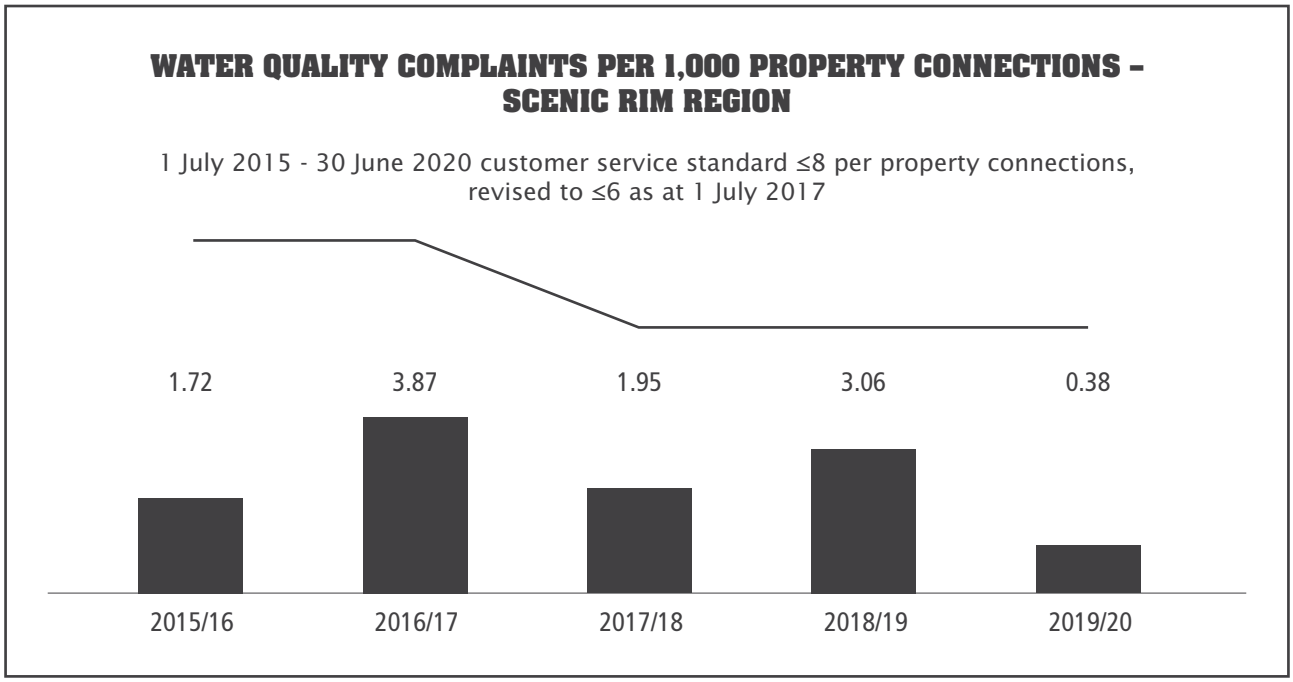


Figure 17: Customer satisfaction: Scenic Rim region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CHAPTER 7: WATER QUALITY PERFORMANCE BY REGION

SOMERSET REGION

In Somerset, Seqwater operates WTPs at Esk, Jimna, Kilcoy, Linville and Somerset township. Each WTP is connected to our network, which supplies water to our customers in these areas. The townships of Fernvale and Lowood, in the Somerset Regional Council area, are also supplied from the same Lowood WTP that supplies the Lockyer Valley. The Esk WTP supplies drinking water to Toogoolawah and Esk.

In 2013, floods associated with Cyclone Oswald compromised the bore that supplies the Linville WTP. As a result, Seqwater continued to supply water by tanker from Kilcoy to Linville until April 2020. In April 2020, a new drinking water treatment plant which now has filtration commenced supply to Linville using the source water from the bore. The water supplied to Linville from the bore is higher in total dissolved solids and hardness in comparison to the tankered Kilcoy supply.

Chlorine is used as a disinfection residual in the distribution networks in the Somerset region.

Notifications to the Regulator

Our water quality incidents represent the number of times a water quality sample does not meet the ADWG parameters, resulting in the immediate reporting of the incident to the Regulator. During 2019/20, there were no incidents in the Somerset region that required an immediate notification to the Regulator. This is the fourth time in the past five years we have achieved this outcome.

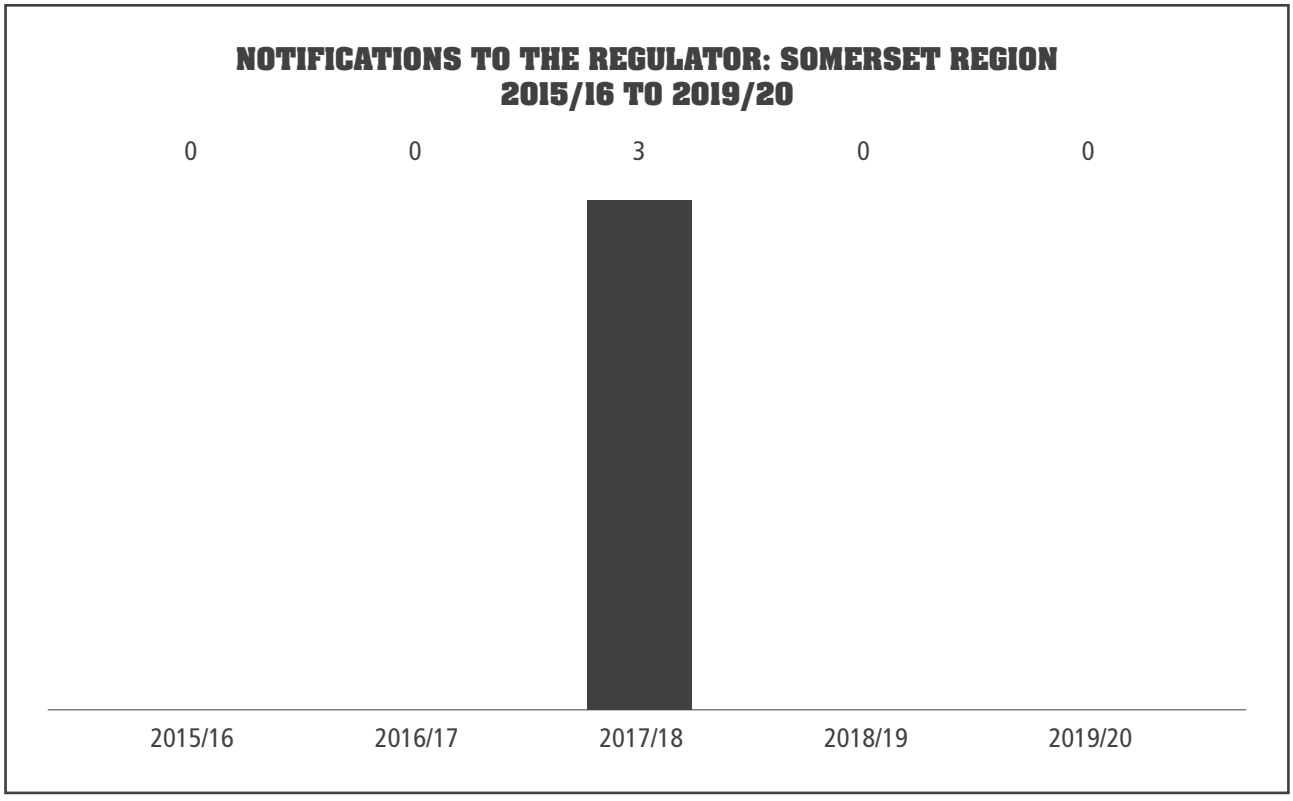
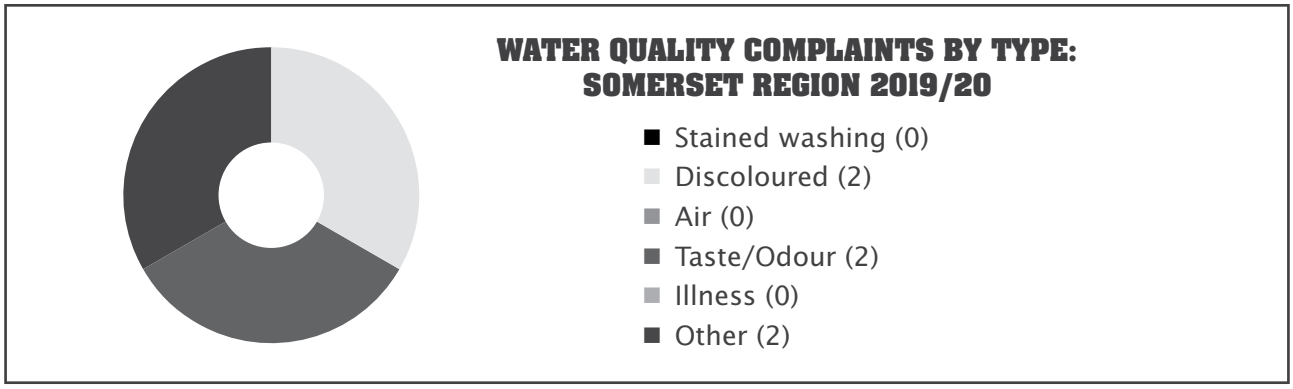
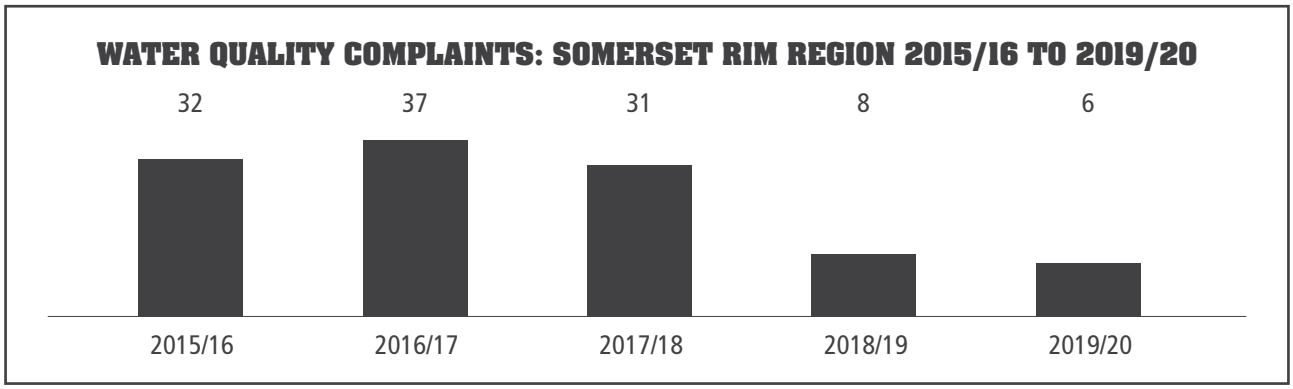


Figure 16: Notifications to the Regulator – Somerset region: 1 July 2015 to 30 June 2020

Customer satisfaction

In 2019/20, Urban Utilities investigated six water quality complaints in the Somerset region, the lowest result in the last five years. With 0.98 complaints per 1,000 property connections, the Somerset region remained well under the customer service standard of ≤6 complaints per 1,000 property connections.





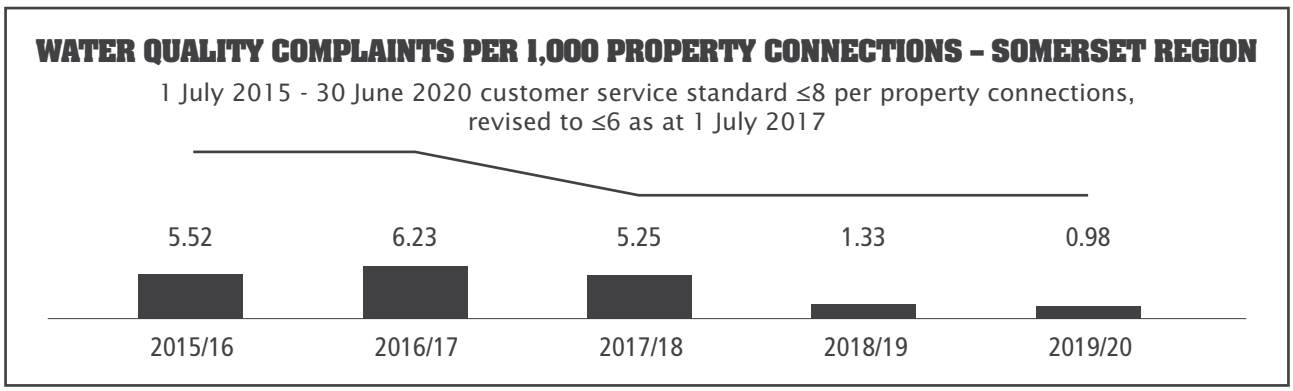


Figure 17: Customer satisfaction: Somerset region

CHAPTER 8: REVIEW AND AUDIT ACTIVITIES

DWQMP regular review

We are required to carry out reviews of our approved DWQMP on a biennial cycle, or as otherwise directed by the Regulator. In accordance with section 10.1 of the *Amendment Information Notice* for approval of Urban Utilities' DWQMP (2018), we were required to complete a review of our DWQMP by 31 January 2020. This review was completed by the due date.

The purpose of a regular review is to ensure the plan remains relevant, having regard for the current circumstances and operation of the water service. Specifically, the review is to:

- ensure the plan is relevant, accurate and current in terms of the operating environment and implementation,
- identify any improvements required to ensure the drinking water remains protective of public health and meets the water quality criteria, and
- fulfil the statutory requirements for undertaking the regular review.

The review in 2019/20 concluded that the DWQMP framework is being implemented and the commitment to continuous improvement is visible. We have complied with the DWQMP water quality criteria, indicating the delivery of safe, quality water to customers.

The improvement actions identified in the approved DWQMP are being implemented. The management of incidents has been effective, with lessons learned being used to improve processes, and the monitoring program has been revised to ensure it remains relevant and representative.

Nevertheless, we took the opportunity to restructure the Plan to reflect current practices, provide additional data and analysis, and more detail on how our 12 drinking water supply schemes are managed. The review also resulted in the inclusion of more information on the water quality characteristics specific to each drinking water supply scheme, which assists us in identifying any potential hazards and hazardous events during the risk assessment process. As a result of these revisions, the DWQMP risk assessment was also refreshed and restructured.

On this basis, the revised Plan was submitted to the Regulator for approval. The Regulator approved the revised DWQMP on 15 May 2020. Further reviews are required to be completed every two years.

DWQMP regular audit

We are required to carry out an audit of our approved DWQMP on a four-year cycle, or as otherwise directed by the Regulator. In accordance with section 10.2 of the *Amendment Information Notice* for approval of Urban Utilities' DWQMP (2020), we are required to complete the audit by 31 January 2021. The outcome of the audit will be reported in the 2020/21 Drinking Water Quality Management Report.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APPENDICES

APPENDIX A: SUBURBS BY WATER SUPPLY SCHEMES

Suburb	P/Code	Local Government Area	
Acacia Ridge	4110	Brisbane	South East Queensland Water Supply Scheme
Adare	4343	Lockyer Valley	Lowood
Albion	4010	Brisbane	South East Queensland Water Supply Scheme
Alderley	4051	Brisbane	South East Queensland Water Supply Scheme
Algester	4115	Brisbane	South East Queensland Water Supply Scheme
Allandale	4310	Scenic Rim	Boonah-Kalbar
Allenview	4285	Scenic Rim	Not connected to the Urban Utilities network[15]
Amberley	4306	Ipswich	South East Queensland Water Supply Scheme
Annerley	4103	Brisbane	South East Queensland Water Supply Scheme
Anstead	4070	Brisbane	South East Queensland Water Supply Scheme
Anthony	4310	Scenic Rim	Not connected to the Urban Utilities network
Aratula	4309	Scenic Rim	Boonah-Kalbar
Archerfield	4108	Brisbane	South East Queensland Water Supply Scheme
Ascot	4007	Brisbane	South East Queensland Water Supply Scheme
Ashgrove	4060	Brisbane	South East Queensland Water Supply Scheme
Ashwell	4340	Ipswich	South East Queensland Water Supply Scheme
Aspley	4034	Brisbane	South East Queensland Water Supply Scheme
Atkinson Dam	4311	Lockyer Valley	Not connected to the Urban Utilities network
Auchenflower	4066	Brisbane	South East Queensland Water Supply Scheme
Augustine Heights	4300	Ipswich	South East Queensland Water Supply Scheme
Avoca Vale	4305	Somerset	Not connected to the Urban Utilities network
Bald Hills	4036	Brisbane	South East Queensland Water Supply Scheme
Ballard	4352	Lockyer Valley	Not connected to the Urban Utilities network
Balmoral	4171	Brisbane	South East Queensland Water Supply Scheme
Banks Creek	4306	Somerset	Not connected to the Urban Utilities network
Banyo	4014	Brisbane	South East Queensland Water Supply Scheme
Bardon	4065	Brisbane	South East Queensland Water Supply Scheme
Barellan Point	4306	Ipswich	South East Queensland Water Supply Scheme
Barney View	4287	Scenic Rim	Not connected to the Urban Utilities network
Basin Pocket	4305	Ipswich	South East Queensland Water Supply Scheme
Beaudesert	4285	Scenic Rim	Beaudesert
Beechmont	4211	Scenic Rim	Not connected to the Urban Utilities network
Bellbird Park	4300	Ipswich	South East Queensland Water Supply Scheme
Bellbowrie	4070	Brisbane	South East Queensland Water Supply Scheme

[15]There are some suburbs which are not connected to our drinking water network, this means that residents in these areas do not receive drinking water directly to their properties via our distribution system.

APPENDICES

Suburb	P/Code	Local Government Area	
Belmont	4153	Brisbane	South East Queensland Water Supply Scheme
Benobble	4275	Scenic Rim	Not connected to the Urban Utilities network
Berrinba	4117	Brisbane	South East Queensland Water Supply Scheme
Biarra	4313	Somerset	Not connected to the Urban Utilities network
Biddaddaba	4275	Scenic Rim	Not connected to the Urban Utilities network
Binna Burra	4211	Scenic Rim	Not connected to the Urban Utilities network
Birnam	4285	Scenic Rim	Not connected to the Urban Utilities network
Black Duck Creek	4343	Lockyer Valley	Not connected to the Urban Utilities network
Blacksoil	4306	Ipswich	South East Queensland Water Supply Scheme
Blackstone	4304	Ipswich	South East Queensland Water Supply Scheme
Blanchview	4352	Lockyer Valley	Not connected to the Urban Utilities network
Blantyre	4310	Scenic Rim	Not connected to the Urban Utilities network
Blenheim	4341	Lockyer Valley	Lowood
Boonah	4310	Scenic Rim	Boonah-Kalbar
Boondall	4034	Brisbane	South East Queensland Water Supply Scheme
Booval	4304	Ipswich	South East Queensland Water Supply Scheme
Borallon	4306	Somerset	Not connected to the Urban Utilities network
Bowen Hills	4006	Brisbane	South East Queensland Water Supply Scheme
Boyland	4275	Scenic Rim	Not connected to the Urban Utilities network
Bracken Ridge	4017	Brisbane	South East Queensland Water Supply Scheme
Braemore	4313	Somerset	Not connected to the Urban Utilities network
Brassall	4305	Ipswich	South East Queensland Water Supply Scheme
Bridgeman Downs	4035	Brisbane	South East Queensland Water Supply Scheme
Brighton	4017	Brisbane	South East Queensland Water Supply Scheme
Brightview	4311	Lockyer Valley	Lowood
Brightview	4311	Somerset	Lowood
Brisbane	4000	Brisbane	South East Queensland Water Supply Scheme
Brisbane Airport	4008	Brisbane	South East Queensland Water Supply Scheme
Bromelton	4285	Scenic Rim	Not connected to the Urban Utilities network
Brookfield	4069	Brisbane	South East Queensland Water Supply Scheme
Brookwater	4300	Ipswich	South East Queensland Water Supply Scheme
Bryden	4312	Somerset	Not connected to the Urban Utilities network
Buaraba	4311	Somerset	Not connected to the Urban Utilities network
Buaraba South	4343	Lockyer Valley	Not connected to the Urban Utilities network
Bulimba	4171	Brisbane	South East Queensland Water Supply Scheme

Suburb	P/Code	Local Government Area	
Bulwer	4025	Brisbane	South East Queensland Water Supply Scheme
Bunburra	4310	Scenic Rim	Boonah-Kalbar
Bundamba	4304	Ipswich	South East Queensland Water Supply Scheme
Bunjurgen	4310	Scenic Rim	Boonah-Kalbar
Burbank	4156	Brisbane	South East Queensland Water Supply Scheme
Burnett Creek	4310	Scenic Rim	Not connected to the Urban Utilities network
Caboonbah	4312	Somerset	Not connected to the Urban Utilities network
Caffey	4344	Lockyer Valley	Not connected to the Urban Utilities network
Cainbable	4285	Scenic Rim	Not connected to the Urban Utilities network
Calamvale	4116	Brisbane	South East Queensland Water Supply Scheme
Calvert	4340	Ipswich	South East Queensland Water Supply Scheme
Camira	4300	Ipswich	South East Queensland Water Supply Scheme
Camp Hill	4152	Brisbane	South East Queensland Water Supply Scheme
Cannon Creek	4310	Scenic Rim	Not connected to the Urban Utilities network
Cannon Hill	4170	Brisbane	South East Queensland Water Supply Scheme
Canungra	4275	Scenic Rim	Canungra
Capalaba West	4157	Brisbane	South East Queensland Water Supply Scheme
Carina	4152	Brisbane	South East Queensland Water Supply Scheme
Carina Heights	4152	Brisbane	South East Queensland Water Supply Scheme
Carindale	4152	Brisbane	South East Queensland Water Supply Scheme
Carneys Creek	4310	Scenic Rim	Not connected to the Urban Utilities network
Carole Park	4300	Ipswich	South East Queensland Water Supply Scheme
Carpendale	4311	Lockyer Valley	Not connected to the Urban Utilities network
Carseldine	4034	Brisbane	South East Queensland Water Supply Scheme
Chandler	4155	Brisbane	South East Queensland Water Supply Scheme
Chapel Hill	4069	Brisbane	South East Queensland Water Supply Scheme
Charlwood	4309	Scenic Rim	Boonah-Kalbar
Chelmer	4068	Brisbane	South East Queensland Water Supply Scheme
Chermside	4032	Brisbane	South East Queensland Water Supply Scheme
Chermside West	4032	Brisbane	South East Queensland Water Supply Scheme
Chinghee Creek	4285	Scenic Rim	Not connected to the Urban Utilities network
Christmas Creek	4285	Scenic Rim	Not connected to the Urban Utilities network
Churchable	4343	Lockyer Valley	Not connected to the Urban Utilities network
Churchill	4305	Ipswich	South East Queensland Water Supply Scheme
Chuwar	4306	Brisbane	South East Queensland Water Supply Scheme

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Suburb	P/Code	Local Government Area	
Chuwar	4306	Ipswich	South East Queensland Water Supply Scheme
Clarendon	4311	Somerset	Not connected to the Urban Utilities network
Clayfield	4011	Brisbane	South East Queensland Water Supply Scheme
Clumber	4309	Scenic Rim	Not connected to the Urban Utilities network
Coal Creek	4312	Somerset	Not connected to the Urban Utilities network
Coalfalls	4305	Ipswich	South East Queensland Water Supply Scheme
Coleyville	4307	Scenic Rim	Not connected to the Urban Utilities network
Colinton	4306	Somerset	Not connected to the Urban Utilities network
College View	4311	Lockyer Valley	Lowood
Collingwood Park	4301	Ipswich	South East Queensland Water Supply Scheme
Coochin	4310	Scenic Rim	Not connected to the Urban Utilities network
Cooeeimbardi	4313	Somerset	Not connected to the Urban Utilities network
Coolana	4311	Somerset	Lowood
Coominya	4311	Somerset	Not connected to the Urban Utilities network
Coopers Plains	4108	Brisbane	South East Queensland Water Supply Scheme
Coorparoo	4151	Brisbane	South East Queensland Water Supply Scheme
Corinda	4075	Brisbane	South East Queensland Water Supply Scheme
Coulson	4310	Scenic Rim	Boonah-Kalbar
Cowan Cowan	4025	Brisbane	South East Queensland Water Supply Scheme
Cressbrook	4313	Somerset	Not connected to the Urban Utilities network
Croftby	4310	Scenic Rim	Not connected to the Urban Utilities network
Crossdale	4312	Somerset	Not connected to the Urban Utilities network
Crowley Vale	4352	Lockyer Valley	Lowood
Cryna	4285	Scenic Rim	Beaudesert
Darlington	4285	Scenic Rim	Not connected to the Urban Utilities network
Darra	4076	Brisbane	South East Queensland Water Supply Scheme
Deagon	4017	Brisbane	South East Queensland Water Supply Scheme
Deebing Heights	4306	Ipswich	South East Queensland Water Supply Scheme
Derrymore	4343	Lockyer Valley	Not connected to the Urban Utilities network
Dinmore	4303	Ipswich	South East Queensland Water Supply Scheme
Doolandella	4077	Brisbane	South East Queensland Water Supply Scheme
Drewvale	4116	Brisbane	South East Queensland Water Supply Scheme
Dugandan	4310	Scenic Rim	Boonah-Kalbar
Dundas	4306	Somerset	Not connected to the Urban Utilities network
Durack	4077	Brisbane	South East Queensland Water Supply Scheme

Suburb	P/Code	Local Government Area	
Dutton Park	4102	Brisbane	South East Queensland Water Supply Scheme
Eagle Farm	4009	Brisbane	South East Queensland Water Supply Scheme
East Brisbane	4169	Brisbane	South East Queensland Water Supply Scheme
East Haldon	4344	Lockyer Valley	Not connected to the Urban Utilities network
East Ipswich	4305	Ipswich	South East Queensland Water Supply Scheme
Eastern Heights	4305	Ipswich	South East Queensland Water Supply Scheme
Ebbw Vale	4304	Ipswich	South East Queensland Water Supply Scheme
Ebenezer	4304	Ipswich	South East Queensland Water Supply Scheme
Egypt	4352	Lockyer Valley	Not connected to the Urban Utilities network
Eight Mile Plains	4113	Brisbane	South East Queensland Water Supply Scheme
Ellen Grove	4078	Brisbane	South East Queensland Water Supply Scheme
England Creek	4306	Brisbane	South East Queensland Water Supply Scheme
England Creek	4306	Somerset	Not connected to the Urban Utilities network
Enoggera	4051	Brisbane	South East Queensland Water Supply Scheme
Enoggera Reservoir	4520	Brisbane	South East Queensland Water Supply Scheme
Esk	4312	Somerset	Esk-Toogoolawah
Eskdale	4312	Somerset	Not connected to the Urban Utilities network
Everton Park	4053	Brisbane	South East Queensland Water Supply Scheme
Fairfield	4103	Brisbane	South East Queensland Water Supply Scheme
Fairney View	4306	Somerset	Not connected to the Urban Utilities network
Fassifern	4309	Scenic Rim	Boonah-Kalbar
Fassifern Valley	4309	Scenic Rim	Boonah-Kalbar
Fernvale	4306	Somerset	Lowood
Ferny Glen	4275	Scenic Rim	Not connected to the Urban Utilities network
Ferny Grove	4055	Brisbane	South East Queensland Water Supply Scheme
Fifteen Mile	4344	Lockyer Valley	Not connected to the Urban Utilities network
Fig Tree Pocket	4069	Brisbane	South East Queensland Water Supply Scheme
Fitzgibbon	4018	Brisbane	South East Queensland Water Supply Scheme
Flagstone Creek	4343	Lockyer Valley	Not connected to the Urban Utilities network
Flinders	4305	Ipswich	South East Queensland Water Supply Scheme
Flying Fox	4275	Scenic Rim	Not connected to the Urban Utilities network
Fordsdale	4342	Lockyer Valley	Not connected to the Urban Utilities network
Forest Hill	4343	Lockyer Valley	Lowood
Forest Lake	4078	Brisbane	South East Queensland Water Supply Scheme
Fortitude Valley	4006	Brisbane	South East Queensland Water Supply Scheme

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Suburb	P/Code	Local Government Area	
Frazerview	4309	Scenic Rim	Not connected to the Urban Utilities network
Frenches Creek	4310	Scenic Rim	Not connected to the Urban Utilities network
Gailes	4300	Ipswich	South East Queensland Water Supply Scheme
Gatton	4341	Lockyer Valley	Lowood
Gaythorne	4051	Brisbane	South East Queensland Water Supply Scheme
Geebung	4034	Brisbane	South East Queensland Water Supply Scheme
Glamorganvale	4306	Somerset	Not connected to the Urban Utilities network
Glen Cairn	4342	Lockyer Valley	Not connected to the Urban Utilities network
Glen Esk	4312	Somerset	Esk-Toogoolawah
Glen Fern	4515	Somerset	Not connected to the Urban Utilities network
Gleneagle	4285	Scenic Rim	Beaudesert
Glenore Grove	4217	Lockyer Valley	Lowood
Goodna	4300	Ipswich	South East Queensland Water Supply Scheme
Goolman	4306	Ipswich	South East Queensland Water Supply Scheme
Gordon Park	4031	Brisbane	South East Queensland Water Supply Scheme
Graceville	4075	Brisbane	South East Queensland Water Supply Scheme
Grandchester	4340	Ipswich	South East Queensland Water Supply Scheme
Grange	4051	Brisbane	South East Queensland Water Supply Scheme
Grantham	4340	Lockyer Valley	Lowood
Greenslopes	4120	Brisbane	South East Queensland Water Supply Scheme
Gregors Creek	4313	Somerset	Not connected to the Urban Utilities network
Gumdale	4154	Brisbane	South East Queensland Water Supply Scheme
Haigslea	4306	Ipswich	South East Queensland Water Supply Scheme
Haigslea	4306	Somerset	Not connected to the Urban Utilities network
Hamilton	4007	Brisbane	South East Queensland Water Supply Scheme
Harlin	4306	Somerset	Not connected to the Urban Utilities network
Harrisville	4307	Scenic Rim	South East Queensland Water Supply Scheme
Hatton Vale	4341	Lockyer Valley	Lowood
Hawthorne	4171	Brisbane	South East Queensland Water Supply Scheme
Hazeldean	4515	Somerset	Not connected to the Urban Utilities network
Heathwood	4110	Brisbane	South East Queensland Water Supply Scheme
Helidon	4344	Lockyer Valley	Lowood
Helidon Spa	4343	Lockyer Valley	Lowood
Hemmant	4174	Brisbane	South East Queensland Water Supply Scheme
Hendra	4011	Brisbane	South East Queensland Water Supply Scheme

Suburb	P/Code	Local Government Area	
Herston	4006	Brisbane	South East Queensland Water Supply Scheme
Highgate Hill	4101	Brisbane	South East Queensland Water Supply Scheme
Hillview	4285	Scenic Rim	Not connected to the Urban Utilities network
Holland Park	4121	Brisbane	South East Queensland Water Supply Scheme
Holland Park West	4121	Brisbane	South East Queensland Water Supply Scheme
Hoya	4310	Scenic Rim	Boonah-Kalbar
Illinbah	4275	Scenic Rim	Not connected to the Urban Utilities network
Inala	4077	Brisbane	South East Queensland Water Supply Scheme
Indooroopilly	4068	Brisbane	South East Queensland Water Supply Scheme
Ingoldsby	4344	Lockyer Valley	Not connected to the Urban Utilities network
Innisplain	4285	Scenic Rim	Not connected to the Urban Utilities network
Ipswich	4305	Ipswich	South East Queensland Water Supply Scheme
Iredale	4343	Lockyer Valley	Lowood
Ironbark	4306	Ipswich	South East Queensland Water Supply Scheme
Ivory Creek	4313	Somerset	Not connected to the Urban Utilities network
Jamboree Heights	4074	Brisbane	South East Queensland Water Supply Scheme
Jeebropilly	4340	Ipswich	South East Queensland Water Supply Scheme
Jimna	4515	Somerset	Jimna
Jindalee	4074	Brisbane	South East Queensland Water Supply Scheme
Josephville	4285	Scenic Rim	Not connected to the Urban Utilities network
Junction View	4341	Lockyer Valley	Not connected to the Urban Utilities network
Kagaru	4285	Scenic Rim	Not connected to the Urban Utilities network
Kalbar	4309	Scenic Rim	Boonah-Kalbar
Kangaroo Point	4169	Brisbane	South East Queensland Water Supply Scheme
Karalee	4306	Ipswich	South East Queensland Water Supply Scheme
Karana Downs	4306	Brisbane	South East Queensland Water Supply Scheme
Karawatha	4117	Brisbane	South East Queensland Water Supply Scheme
Karrabin	4306	Ipswich	South East Queensland Water Supply Scheme
Kedron	4031	Brisbane	South East Queensland Water Supply Scheme
Kelvin Grove	4059	Brisbane	South East Queensland Water Supply Scheme
Kenmore	4069	Brisbane	South East Queensland Water Supply Scheme
Kenmore Hills	4069	Brisbane	South East Queensland Water Supply Scheme
Kensington Grove	4341	Lockyer Valley	Lowood
Kents Lagoon	4309	Scenic Rim	Not connected to the Urban Utilities network
Kents Pocket	4310	Scenic Rim	Boonah-Kalbar

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Suburb	P/Code	Local Government Area	
Kentville	4341	Lockyer Valley	Not connected to the Urban Utilities network
Keperra	4054	Brisbane	South East Queensland Water Supply Scheme
Kerry	4285	Scenic Rim	Not connected to the Urban Utilities network
Kholo	4306	Brisbane	South East Queensland Water Supply Scheme
Kilcoy	4515	Somerset	Kilcoy
Kingaham	4515	Somerset	Not connected to the Urban Utilities network
Knapp Creek	4285	Scenic Rim	Not connected to the Urban Utilities network
Kooralbyn	4285	Scenic Rim	Kooralbyn
Kooringal	4025	Brisbane	South East Queensland Water Supply Scheme
Kulgun	4309	Scenic Rim	Not connected to the Urban Utilities network
Kuraby	4112	Brisbane	South East Queensland Water Supply Scheme
Laidley	4343	Lockyer Valley	Lowood
Laidley Creek West	4341	Lockyer Valley	Not connected to the Urban Utilities network
Laidley Heights	4341	Lockyer Valley	Lowood
Laidley North	4341	Lockyer Valley	Lowood
Laidley South	4341	Lockyer Valley	Lowood
Lake Clarendon	4343	Lockyer Valley	Lowood
Lake Manchester	4306	Brisbane	South East Queensland Water Supply Scheme
Lake Manchester	4305	Somerset	Not connected to the Urban Utilities network
Lake Wivenhoe	4306	Somerset	Not connected to the Urban Utilities network
Lamington	4285	Scenic Rim	Not connected to the Urban Utilities network
Lanefield	4340	Ipswich	South East Queensland Water Supply Scheme
Larapinta	4110	Brisbane	South East Queensland Water Supply Scheme
Laravale	4285	Scenic Rim	Not connected to the Urban Utilities network
Lark Hill	4306	Somerset	Lowood
Lawes	4343	Lockyer Valley	Lowood
Lefthand Branch	4344	Lockyer Valley	Not connected to the Urban Utilities network
Leichhardt	4305	Ipswich	South East Queensland Water Supply Scheme
Lilydale	4342	Lockyer Valley	Not connected to the Urban Utilities network
Limestone Ridges	4305	Scenic Rim	Not connected to the Urban Utilities network
Linville	4306	Somerset	Linville
Lockrose	4344	Lockyer Valley	Lowood
Lockrose	4342	Somerset	Lowood
Lockyer	4311	Lockyer Valley	Lowood
Lockyer Waters	4343	Lockyer Valley	Not connected to the Urban Utilities network

Suburb	P/Code	Local Government Area	
Lota	4179	Brisbane	South East Queensland Water Supply Scheme
Lower Cressbrook	4313	Somerset	Not connected to the Urban Utilities network
Lower Mount Walker	4340	Ipswich	South East Queensland Water Supply Scheme
Lower Mount Walker	4340	Scenic Rim	Not connected to the Urban Utilities network
Lower Tenthill	4341	Lockyer Valley	Lowood
Lowood	4311	Somerset	Lowood
Lutwyche	4030	Brisbane	South East Queensland Water Supply Scheme
Lytton	4178	Brisbane	South East Queensland Water Supply Scheme
Ma Ma Creek	4343	Lockyer Valley	Not connected to the Urban Utilities network
Macgregor	4109	Brisbane	South East Queensland Water Supply Scheme
Mackenzie	4156	Brisbane	South East Queensland Water Supply Scheme
Manly	4179	Brisbane	South East Queensland Water Supply Scheme
Manly West	4179	Brisbane	South East Queensland Water Supply Scheme
Mansfield	4122	Brisbane	South East Queensland Water Supply Scheme
Marburg	4346	Ipswich	South East Queensland Water Supply Scheme
Marburg	4346	Somerset	Not connected to the Urban Utilities network
Maroon	4310	Scenic Rim	Not connected to the Urban Utilities network
Mcdowall	4053	Brisbane	South East Queensland Water Supply Scheme
Merryvale	4340	Scenic Rim	Not connected to the Urban Utilities network
Middle Park	4074	Brisbane	South East Queensland Water Supply Scheme
Milbong	4310	Scenic Rim	Not connected to the Urban Utilities network
Milford	4310	Scenic Rim	Boonah-Kalbar
Milora	4309	Scenic Rim	Not connected to the Urban Utilities network
Milton	4064	Brisbane	South East Queensland Water Supply Scheme
Minden	4311	Somerset	Lowood
Mitchelton	4053	Brisbane	South East Queensland Water Supply Scheme
Moggill	4070	Brisbane	South East Queensland Water Supply Scheme
Monsildale	4515	Somerset	Not connected to the Urban Utilities network
Moogerah	4309	Scenic Rim	Not connected to the Urban Utilities network
Moombra	4312	Somerset	Not connected to the Urban Utilities network
Moorang	4340	Scenic Rim	Not connected to the Urban Utilities network
Moore	4306	Somerset	Not connected to the Urban Utilities network
Moores Pocket	4305	Ipswich	South East Queensland Water Supply Scheme
Moorooka	4105	Brisbane	South East Queensland Water Supply Scheme
Moreton Island	4025	Brisbane	South East Queensland Water Supply Scheme

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Suburb	P/Code	Local Government Area	
Morningside	4170	Brisbane	South East Queensland Water Supply Scheme
Morton Vale	4340	Lockyer Valley	Not connected to the Urban Utilities network
Morwincha	4309	Scenic Rim	Not connected to the Urban Utilities network
Mount Alford	4310	Scenic Rim	Boonah-Kalbar
Mount Archer	4701	Somerset	Not connected to the Urban Utilities network
Mount Barney	4287	Scenic Rim	Not connected to the Urban Utilities network
Mount Beppo	4313	Somerset	Not connected to the Urban Utilities network
Mount Berryman	4341	Lockyer Valley	Not connected to the Urban Utilities network
Mount Edwards	4309	Scenic Rim	Not connected to the Urban Utilities network
Mount Forbes	4340	Ipswich	South East Queensland Water Supply Scheme
Mount Forbes	4340	Scenic Rim	Not connected to the Urban Utilities network
Mount French	4310	Scenic Rim	Boonah-Kalbar
Mount Gipps	4285	Scenic Rim	Not connected to the Urban Utilities network
Mount Kilcoy	4515	Somerset	Not connected to the Urban Utilities network
Mount Lindesay	4287	Scenic Rim	Not connected to the Urban Utilities network
Mount Marrow	4306	Ipswich	South East Queensland Water Supply Scheme
Mount Mort	4340	Ipswich	South East Queensland Water Supply Scheme
Mount Stanley	4313	Somerset	Not connected to the Urban Utilities network
Mount Tarampa	4311	Somerset	Not connected to the Urban Utilities network
Mount Walker	4340	Scenic Rim	Not connected to the Urban Utilities network
Mount Walker West	4340	Ipswich	South East Queensland Water Supply Scheme
Mount Walker West	4340	Scenic Rim	Not connected to the Urban Utilities network
Mt Byron	4312	Somerset	Not connected to the Urban Utilities network
Mt Coot-tha	4066	Brisbane	South East Queensland Water Supply Scheme
Mt Crosby	4306	Brisbane	South East Queensland Water Supply Scheme
Mt Gravatt	4122	Brisbane	South East Queensland Water Supply Scheme
Mt Gravatt East	4122	Brisbane	South East Queensland Water Supply Scheme
Mt Hallen	4312	Somerset	Not connected to the Urban Utilities network
Mt Ommaney	4074	Brisbane	South East Queensland Water Supply Scheme
Mt Sylvia	4311	Lockyer Valley	Not connected to the Urban Utilities network
Mt Tarampa	4311	Somerset	Somerset
Mt Whitestone	4352	Lockyer Valley	Not connected to the Urban Utilities network
Muirlea	4306	Ipswich	South East Queensland Water Supply Scheme
Mulgowie	4343	Lockyer Valley	Not connected to the Urban Utilities network
Munbilla	4309	Scenic Rim	Not connected to the Urban Utilities network

Suburb	P/Code	Local Government Area	
Murarrie	4172	Brisbane	South East Queensland Water Supply Scheme
Murphys Creek	4341	Lockyer Valley	Lowood
Murrumba	4312	Somerset	Not connected to the Urban Utilities network
Mutdapilly	4307	Scenic Rim	South East Queensland Water Supply Scheme
Mutdapilly	4307	Ipswich	South East Queensland Water Supply Scheme
Nathan	4111	Brisbane	South East Queensland Water Supply Scheme
New Chum	4303	Ipswich	South East Queensland Water Supply Scheme
New Farm	4005	Brisbane	South East Queensland Water Supply Scheme
Newmarket	4051	Brisbane	South East Queensland Water Supply Scheme
Newstead	4006	Brisbane	South East Queensland Water Supply Scheme
Newtown	4305	Ipswich	South East Queensland Water Supply Scheme
Nindooinbah	4285	Scenic Rim	Not connected to the Urban Utilities network
Norman Park	4170	Brisbane	South East Queensland Water Supply Scheme
North Booval	4304	Ipswich	South East Queensland Water Supply Scheme
North Ipswich	4305	Ipswich	South East Queensland Water Supply Scheme
North Tivoli	4305	Ipswich	South East Queensland Water Supply Scheme
Northgate	4013	Brisbane	South East Queensland Water Supply Scheme
Nudgee	4014	Brisbane	South East Queensland Water Supply Scheme
Nudgee Beach	4014	Brisbane	South East Queensland Water Supply Scheme
Nundah	4012	Brisbane	South East Queensland Water Supply Scheme
Oaky Creek	4285	Scenic Rim	Not connected to the Urban Utilities network
Obum Obum	4309	Scenic Rim	Boonah-Kalbar
One Mile	4305	Ipswich	South East Queensland Water Supply Scheme
O'reilly	4211	Scenic Rim	Not connected to the Urban Utilities network
Ottaba	4313	Somerset	Not connected to the Urban Utilities network
Oxley	4075	Brisbane	South East Queensland Water Supply Scheme
Paddington	4064	Brisbane	South East Queensland Water Supply Scheme
Palen Creek	4287	Scenic Rim	Not connected to the Urban Utilities network
Pallara	4110	Brisbane	South East Queensland Water Supply Scheme
Parkinson	4115	Brisbane	South East Queensland Water Supply Scheme
Patrick Estate	4311	Somerset	Not connected to the Urban Utilities network
Peak Crossing	4306	Scenic Rim	South East Queensland Water Supply Scheme
Petrie Terrace	4000	Brisbane	South East Queensland Water Supply Scheme
Pine Mountain	4306	Ipswich	South East Queensland Water Supply Scheme
Pinjarra Hills	4069	Brisbane	South East Queensland Water Supply Scheme

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Suburb	P/Code	Local Government Area	
Pinkenba	4008	Brisbane	South East Queensland Water Supply Scheme
Placid Hills	4352	Lockyer Valley	Lowood
Plainland	4311	Lockyer Valley	Lowood
Port of Brisbane	4178	Brisbane	South East Queensland Water Supply Scheme
Postmans Ridge	4352	Lockyer Valley	Lowood
Prenzlau	4311	Somerset	Lowood
Prenzlau	4311	Somerset	Lowood
Preston	4343	Lockyer Valley	Not connected to the Urban Utilities network
Pullenvale	4069	Brisbane	South East Queensland Water Supply Scheme
Purga	4306	Ipswich	South East Queensland Water Supply Scheme
Raceview	4305	Ipswich	South East Queensland Water Supply Scheme
Radford	4307	Scenic Rim	Not connected to the Urban Utilities network
Ransome	4154	Brisbane	South East Queensland Water Supply Scheme
Rathdowney	4287	Scenic Rim	Rathdowney
Red Hill	4059	Brisbane	South East Queensland Water Supply Scheme
Redbank	4301	Ipswich	South East Queensland Water Supply Scheme
Redbank Creek	4312	Somerset	Not connected to the Urban Utilities network
Redbank Plains	4301	Ipswich	South East Queensland Water Supply Scheme
Regency Downs	4344	Lockyer Valley	Lowood
Richlands	4077	Brisbane	South East Queensland Water Supply Scheme
Rifle Range	4311	Somerset	Lowood
Ringwood	4343	Lockyer Valley	Not connected to the Urban Utilities network
Ripley	4306	Ipswich	South East Queensland Water Supply Scheme
Riverhills	4074	Brisbane	South East Queensland Water Supply Scheme
Riverview	4303	Ipswich	South East Queensland Water Supply Scheme
Roadvale	4310	Scenic Rim	Not connected to the Urban Utilities network
Robertson	4109	Brisbane	South East Queensland Water Supply Scheme
Rochedale	4123	Brisbane	South East Queensland Water Supply Scheme
Rocklea	4106	Brisbane	South East Queensland Water Supply Scheme
Rockmount	4343	Lockyer Valley	Not connected to the Urban Utilities network
Rockside	4340	Lockyer Valley	Not connected to the Urban Utilities network
Ropeley	4344	Lockyer Valley	Not connected to the Urban Utilities network
Rosevale	4340	Scenic Rim	Not connected to the Urban Utilities network
Rosewood	4340	Ipswich	South East Queensland Water Supply Scheme
Runcorn	4113	Brisbane	South East Queensland Water Supply Scheme

Suburb	P/Code	Local Government Area	
Running Creek	4287	Scenic Rim	Not connected to the Urban Utilities network
Sadliers Crossing	4305	Ipswich	South East Queensland Water Supply Scheme
Salisbury	4107	Brisbane	South East Queensland Water Supply Scheme
Sandgate	4017	Brisbane	South East Queensland Water Supply Scheme
Sandy Creek	4570	Somerset	Not connected to the Urban Utilities network
Sarabah	4275	Scenic Rim	Not connected to the Urban Utilities network
Scrub Creek	4313	Somerset	Not connected to the Urban Utilities network
Seven Hills	4170	Brisbane	South East Queensland Water Supply Scheme
Seventeen Mile	4343	Lockyer Valley	Not connected to the Urban Utilities network
Seventeen Mile Rocks	4073	Brisbane	South East Queensland Water Supply Scheme
Sheep Station Creek	4515	Somerset	Kilcoy
Sherwood	4075	Brisbane	South East Queensland Water Supply Scheme
Shorncliffe	4017	Brisbane	South East Queensland Water Supply Scheme
Silkstone	4304	Ipswich	South East Queensland Water Supply Scheme
Silver Ridge	4344	Lockyer Valley	Not connected to the Urban Utilities network
Silverdale	4307	Scenic Rim	Not connected to the Urban Utilities network
Sinnamon Park	4073	Brisbane	South East Queensland Water Supply Scheme
Somerset Dam	4312	Somerset	Somerset
South Brisbane	4101	Brisbane	South East Queensland Water Supply Scheme
South Ripley	4306	Ipswich	South East Queensland Water Supply Scheme
Southern Lamington	4211	Scenic Rim	Not connected to the Urban Utilities network
Split Yard Creek	4306	Somerset	Not connected to the Urban Utilities network
Spring Creek	4340	Lockyer Valley	Lowood
Spring Hill	4000	Brisbane	South East Queensland Water Supply Scheme
Spring Mountain	4300	Ipswich	South East Queensland Water Supply Scheme
Springfield	4300	Ipswich	South East Queensland Water Supply Scheme
Springfield Central	4300	Ipswich	South East Queensland Water Supply Scheme
Springfield Lakes	4300	Ipswich	South East Queensland Water Supply Scheme
St Lucia	4067	Brisbane	South East Queensland Water Supply Scheme
Stafford	4053	Brisbane	South East Queensland Water Supply Scheme
Stafford Heights	4053	Brisbane	South East Queensland Water Supply Scheme
Stockyard	4344	Lockyer Valley	Not connected to the Urban Utilities network
Stretton	4116	Brisbane	South East Queensland Water Supply Scheme
Summerholm	4341	Lockyer Valley	Not connected to the Urban Utilities network
Sumner	4074	Brisbane	South East Queensland Water Supply Scheme

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Suburb	P/Code	Local Government Area	
Sunnybank	4109	Brisbane	South East Queensland Water Supply Scheme
Sunnybank Hills	4109	Brisbane	South East Queensland Water Supply Scheme
Swanbank	4306	Ipswich	South East Queensland Water Supply Scheme
Tabooba	4285	Scenic Rim	Not connected to the Urban Utilities network
Tabragalba	4285	Scenic Rim	Not connected to the Urban Utilities network
Taigum	4018	Brisbane	South East Queensland Water Supply Scheme
Tallegalla	4340	Ipswich	South East Queensland Water Supply Scheme
Tamborine	4270	Scenic Rim	Not connected to the Urban Utilities network
Tamborine Mountain	4272	Scenic Rim	Not connected to the Urban Utilities network
Tamrookum	4285	Scenic Rim	Not connected to the Urban Utilities network
Tamrookum Creek	4285	Scenic Rim	Not connected to the Urban Utilities network
Tarampa	4311	Somerset	Lowood
Taringa	4068	Brisbane	South East Queensland Water Supply Scheme
Tarome	4309	Scenic Rim	Not connected to the Urban Utilities network
Tarragindi	4121	Brisbane	South East Queensland Water Supply Scheme
Templin	4310	Scenic Rim	Boonah-Kalbar
Teneriffe	4005	Brisbane	South East Queensland Water Supply Scheme
Tennyson	4105	Brisbane	South East Queensland Water Supply Scheme
Teviotville	4309	Scenic Rim	Boonah-Kalbar
Thagoona	4306	Ipswich	South East Queensland Water Supply Scheme
The Bluff	4340	Ipswich	South East Queensland Water Supply Scheme
The Gap	4061	Brisbane	South East Queensland Water Supply Scheme
Thornton	4344	Lockyer Valley	Not connected to the Urban Utilities network
Tingalpa	4173	Brisbane	South East Queensland Water Supply Scheme
Tivoli	4305	Ipswich	South East Queensland Water Supply Scheme
Toogoolawah	4313	Somerset	Esk-Toogoolawah
Toowong	4066	Brisbane	South East Queensland Water Supply Scheme
Townson	4352	Lockyer Valley	Not connected to the Urban Utilities network
Undullah	4285	Scenic Rim	Not connected to the Urban Utilities network
Upper Brookfield	4069	Brisbane	South East Queensland Water Supply Scheme
Upper Flagstone	4343	Lockyer Valley	Not connected to the Urban Utilities network
Upper Kedron	4055	Brisbane	South East Queensland Water Supply Scheme
Upper Lockyer	4347	Lockyer Valley	Not connected to the Urban Utilities network
Upper Mt Gravatt	4122	Brisbane	South East Queensland Water Supply Scheme
Upper Tenthill	4343	Lockyer Valley	Not connected to the Urban Utilities network

Suburb	P/Code	Local Government Area	
Veradilla	4359	Lockyer Valley	Lowood
Veresdale	4285	Scenic Rim	Not connected to the Urban Utilities network
Veresdale Scrub	4285	Scenic Rim	Not connected to the Urban Utilities network
Vernor	4306	Somerset	Lowood
Villeneuve	4514	Somerset	Not connected to the Urban Utilities network
Vinegar Hill	4352	Lockyer Valley	Not connected to the Urban Utilities network
Virginia	4014	Brisbane	South East Queensland Water Supply Scheme
Wacol	4076	Brisbane	South East Queensland Water Supply Scheme
Wakerley	4154	Brisbane	South East Queensland Water Supply Scheme
Wallaces Creek	4310	Scenic Rim	Not connected to the Urban Utilities network
Walloon	4306	Ipswich	South East Queensland Water Supply Scheme
Wanora	4306	Somerset	Not connected to the Urban Utilities network
Warrill View	4307	Scenic Rim	South East Queensland Water Supply Scheme
Washpool	4306	Scenic Rim	Not connected to the Urban Utilities network
Wavell Heights	4012	Brisbane	South East Queensland Water Supply Scheme
West End	4101	Brisbane	South East Queensland Water Supply Scheme
West Haldon	4347	Lockyer Valley	Not connected to the Urban Utilities network
West Ipswich	4305	Ipswich	South East Queensland Water Supply Scheme
Westlake	4074	Brisbane	South East Queensland Water Supply Scheme
White Mountain	4352	Lockyer Valley	Not connected to the Urban Utilities network
White Rock	4306	Ipswich	South East Queensland Water Supply Scheme
Willawong	4110	Brisbane	South East Queensland Water Supply Scheme
Willowbank	4306	Ipswich	South East Queensland Water Supply Scheme
Wilsons Plains	4307	Scenic Rim	Not connected to the Urban Utilities network
Wilston	4051	Brisbane	South East Queensland Water Supply Scheme
Windsor	4030	Brisbane	South East Queensland Water Supply Scheme
Winwill	4343	Lockyer Valley	Not connected to the Urban Utilities network
Winya	4515	Somerset	Kilcoy
Wishart	4122	Brisbane	South East Queensland Water Supply Scheme
Withcott	4343	Lockyer Valley	Lowood
Witheren	4275	Scenic Rim	Not connected to the Urban Utilities network
Wivenhoe Hill	4311	Somerset	Not connected to the Urban Utilities network
Wivenhoe Pocket	4306	Somerset	Not connected to the Urban Utilities network
Wonglepong	4275	Scenic Rim	Not connected to the Urban Utilities network
Woodbine	4343	Lockyer Valley	Not connected to the Urban Utilities network

APPENDICES

Suburb	P/Code	Local Government Area	
Woodend	4305	Ipswich	South East Queensland Water Supply Scheme
Woodlands	4343	Lockyer Valley	Not connected to the Urban Utilities network
Woolloongabba	4102	Brisbane	South East Queensland Water Supply Scheme
Woolmar	4515	Somerset	Kilcoy
Wooloman	4310	Scenic Rim	Not connected to the Urban Utilities network
Wooloowin	4030	Brisbane	South East Queensland Water Supply Scheme
Woolshed	4340	Ipswich	South East Queensland Water Supply Scheme
Wulkuraka	4305	Ipswich	South East Queensland Water Supply Scheme
Wyaralong	4310	Scenic Rim	Not connected to the Urban Utilities network
Wynnum	4178	Brisbane	South East Queensland Water Supply Scheme
Wynnum West	4178	Brisbane	South East Queensland Water Supply Scheme
Yamanto	4305	Ipswich	South East Queensland Water Supply Scheme
Yeerongpilly	4105	Brisbane	South East Queensland Water Supply Scheme
Yeronga	4104	Brisbane	South East Queensland Water Supply Scheme
Yimbun	4313	Somerset	Not connected to the Urban Utilities network
Zillmere	4034	Brisbane	South East Queensland Water Supply Scheme


Daniel
Urban Utilities

APPENDIX B: 2019-20 WATER QUALITY COMPLIANCE – *E. COLI*

All water supply schemes						
Scheme	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
Beaudesert	64	307	0	98	100	☑
Boonah-Kalbar	52	370	0	98	100	☑
Canungra	52	101	0	98	100	☑
Esk-Toogoolawah	52	114	0	98	100	☑
Jimna	12	53	0	98	100	☑
Kilcoy	52	106	0	98	100	☑
Kooralbyn	52	158	0	98	100	☑
Linville	12	53	0	98	100	☑
Lowood	124	1558	1	98	99.9	☑
Rathdowney	12	53	0	98	100	☑
SEQWSS	1728	8477	7*	98	99.9	☑
Somerset	12	53	0	98	100	☑

*This table is compiled from data that resides in the Treatment Plant Licence Compliance (TPLC) database, which is generated by our VMP. While we recorded seven detections of *E. coli* in the SEWQSS the detections at Forest Lake and Richlands during March 2020 were reported to the Regulator as one incident (see page 29).

Beaudesert *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	6	30	0	98	100	☑
August	5	24	0	98	100	☑
September	5	24	0	98	100	☑
October	6	30	0	98	100	☑
November	5	24	0	98	100	☑
December	5	23	0	98	100	☑
January	6	29	0	98	100	☑
February	5	24	0	98	100	☑
March	5	24	0	98	100	☑
April	6	29	0	98	100	☑
May	5	23	0	98	100	☑
June	5	23	0	98	100	☑

Boonah-Kalbar *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	5	30	0	98	100	☑
August	4	33	0	98	100	☑
September	4	30	0	98	100	☑
October	5	31	0	98	100	☑
November	4	30	0	98	100	☑
December	4	35	0	98	100	☑
January	5	28	0	98	100	☑
February	4	27	0	98	100	☑
March	4	28	0	98	100	☑
April	5	30	0	98	100	☑
May	4	33	0	98	100	☑
June	4	35	0	98	100	☑

Canungra *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	5	9	0	98	100	☑
August	4	7	0	98	100	☑
September	4	7	0	98	100	☑
October	5	10	0	98	100	☑
November	4	8	0	98	100	☑
December	4	8	0	98	100	☑
January	5	10	0	98	100	☑
February	4	8	0	98	100	☑
March	4	8	0	98	100	☑
April	5	10	0	98	100	☑
May	4	8	0	98	100	☑
June	4	8	0	98	100	☑

APPENDIX B: 2019-20 WATER QUALITY COMPLIANCE – *E. COLI*

Esk-Toogoolawah *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	5	8	0	98	100	☑
August	4	10	0	98	100	☑
September	4	8	0	98	100	☑
October	5	10	0	98	100	☑
November	4	8	0	98	100	☑
December	4	10	0	98	100	☑
January	5	8	0	98	100	☑
February	4	8	0	98	100	☑
March	4	8	0	98	100	☑
April	5	10	0	98	100	☑
May	4	11	0	98	100	☑
June	4	15[16]	0	98	100	☑

Jimna *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	1	4	0	98	100	☑
August	1	5	0	98	100	☑
September	1	4	0	98	100	☑
October	1	5	0	98	100	☑
November	1	4	0	98	100	☑
December	1	5	0	98	100	☑
January	1	4	0	98	100	☑
February	1	4	0	98	100	☑
March	1	4	0	98	100	☑
April	1	5	0	98	100	☑
May	1	4	0	98	100	☑
June	1	5	0	98	100	☑

[15]In May 2020, an additional sample point was introduced to increase water quality data coverage of the scheme.

Kilcoy *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	5	8	0	98	100	☑
August	4	10	0	98	100	☑
September	4	8	0	98	100	☑
October	5	10	0	98	100	☑
November	4	8	0	98	100	☑
December	4	10	0	98	100	☑
January	5	8	0	98	100	☑
February	4	8	0	98	100	☑
March	4	8	0	98	100	☑
April	5	10	0	98	100	☑
May	4	8	0	98	100	☑
June	4	10	0	98	100	☑

Kooralbyn *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	5	14	0	98	100	☑
August	4	12	0	98	100	☑
September	4	15	0	98	100	☑
October	5	9	0	98	100	☑
November	4	15	0	98	100	☑
December	4	15	0	98	100	☑
January	5	12	0	98	100	☑
February	4	12	0	98	100	☑
March	4	12	0	98	100	☑
April	5	15	0	98	100	☑
May	4	12	0	98	100	☑
June	4	15	0	98	100	☑

APPENDIX B: 2019-20 WATER QUALITY COMPLIANCE – *E. COLI*

Linville *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	1	4	0	98	100	☑
August	1	5	0	98	100	☑
September	1	4	0	98	100	☑
October	1	5	0	98	100	☑
November	1	4	0	98	100	☑
December	1	5	0	98	100	☑
January	1	4	0	98	100	☑
February	1	4	0	98	100	☑
March	1	4	0	98	100	☑
April	1	5	0	98	100	☑
May	1	4	0	98	100	☑
June	1	5	0	98	100	☑

Lowood *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	11	138	0	98	100	☑
August	10	131	0	98	100	☑
September	10	129	0	98	100	☑
October	11	141	0	98	100	☑
November	10	120	0	98	100	☑
December	10	138	0	98	100	☑
January	11	132	0	98	100	☑
February	10	120	1	98	99.9	☑
March	10	138	0	98	99.9	☑
April	11	123	0	98	99.9	☑
May	10	129	0	98	99.9	☑
June	10	119	0	98	99.9	☑

Rathdowney *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	1	5	0	98	100	☑
August	1	4	0	98	100	☑
September	1	5	0	98	100	☑
October	1	3	0	98	100	☑
November	1	5	0	98	100	☑
December	1	5	0	98	100	☑
January	1	4	0	98	100	☑
February	1	4	0	98	100	☑
March	1	4	0	98	100	☑
April	1	5	0	98	100	☑
May	1	4	0	98	100	☑
June	1	5	0	98	100	☑

South East Queensland Water Supply *E.coli*						
2019 – 2020 Month	**Number of samples required**	**Actual Number of Samples**	**Number of samples *E.coli* detected**	**Required Performance (%)**	**Actual Performance (%)**	**Compliant**
July	148	697	1	98	99.9	☑
August	142	741	0	98	99.9	☑
September	142	674	0	98	99.9	☑
October	148	724	0	98	99.9	☑
November	142	694	1	98	99.9	☑
December	142	743	0	98	99.9	☑
January	148	726	0	98	99.9	☑
February	142	648	0	98	100	☑
March	142	713	3*	98	99.9	☑
April	148	760	1	98	99.9	☑
May	142	643	1	98	99.9	☑
June	142	714	0	98	99.9	☑

*This table is compiled from data that resides in the Treatment Plant Licence Compliance (TPLC) database, which is generated by our VMP. While we recorded three detections of *E. coli* in the SEWQSS during March 2020 the detections at Forest Lake and Richlands were reported to the Regulator as one incident (see page 29).

APPENDIX C: 2019-20 WATER QUALITY COMPLIANCE – HEALTH ASSESSMENT

Beaudesert Health Assessment

Parameter	Units	ADWG Health Guideline	Number of tests	Exceedence Count	Maximum Result	95th %-ile	Meets ADWG
Arsenic	mg/L	0.01	8	0	<0.001	<0.001	☑
Barium	mg/L	2	8	0	0.054	0.053	☑
Cadmium	mg/L	0.002	8	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	307	0	2.7	2.0	☑
Chlorine (Total)	mg/L	5	307	0	2.9	2.3	☑
Chromium	mg/L	0.05	8	0	<0.001	<0.001	☑
Copper	mg/L	2	8	0	0.014	0.012	☑
Dichloroacetic Acid	ug/L	100	8	0	41	38	☑
Fluoride	mg/L	1.5	13	0	1.1	1.1	☑
Lead	mg/L	0.01	8	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	104	0	0.002	<0.001	☑
Monochloroacetic Acid	ug/L	150	8	0	<10	<10	☑
Nickel	mg/L	0.02	8	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	8	0	26	26	☑
Trihalomethanes (Total)	ug/L	250	80	1	260	210	☑

Boonah-Kalbar Health Assessment

Parameter	Units	ADWG Health Guideline	Number of tests	Exceedence Count	Maximum Result	95th %-ile	Meets ADWG
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.034	0.033	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	370	0	3.1	1.8	☑
Chlorine (Total)	mg/L	5	370	0	3.2	2.1	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	<0.001	<0.001	☑
Dichloroacetic Acid	ug/L	100	12	0	38	32	☑
Fluoride	mg/L	1.5	14	0	1.1	1.0	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	152	0	0.004	<0.001	☑
Monochloroacetic Acid	ug/L	150	12	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	12	0	31	25	☑
Trihalomethanes (Total)	ug/L	250	55	0	190	170	☑

Canungra Health Assessment							
Parameter	**Units**	**ADWG Health Guideline**	**Number of tests**	**Exceedence Count**	**Maximum Result**	**95th %-ile**	**Meets ADWG**
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.010	0.009	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	101	0	3.2	2.8	☑
Chlorine (Total)	mg/L	5	101	0	3.3	3.0	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.001	<0.001	☑
Dichloroacetic Acid	ug/L	150	3	0	26	26	☑
Fluoride	mg/L	1.5	13	0	1.2	1.1	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	52	0	0.043	0.021	☑
Monochloroacetic Acid	ug/L	100	3	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	150	3	0	31	30	☑
Trihalomethanes (Total)	ug/L	250	13	0	120	110	☑

Esk-Toogoolawah Health Assessment							
Parameter	**Units**	**ADWG Health Guideline**	**Number of tests**	**Exceedence Count**	**Maximum Result**	**95th %-ile**	**Meets ADWG**
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.032	0.032	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	114	0	2.3	2.0	☑
Chlorine (Total)	mg/L	5	114	0	2.6	2.4	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.002	0.002	☑
Dichloroacetic Acid	ug/L	100	4	0	27	25	☑
Fluoride	mg/L	1.5	14	0	1.1	1.1	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	106	0	0.026	0.017	☑
Monochloroacetic Acid	ug/L	150	4	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	4	0	15	14	☑
Trihalomethanes (Total)	ug/L	250	21	0	170	150	☑
Chlorate	mg/L	-	14	0	0.40	0.22	☑

APPENDIX C: 2019-20 WATER QUALITY COMPLIANCE – HEALTH ASSESSMENT

Jimna Health Assessment

Parameter	Units	ADWG Health Guideline	Number of tests	Exceedence Count	Maximum Result	95th %-ile	Meets ADWG
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.022	0.021	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	53	0	3.4	2.4	☑
Chlorine (Total)	mg/L	5	53	0	3.9	2.7	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.003	0.003	☑
Dichloroacetic Acid	ug/L	100	4	0	66	64	☑
Fluoride	mg/L	1.5	9	0	0.56	0.56	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	53	0	0.009	0.004	☑
Monochloroacetic Acid	ug/L	150	4	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	4	0	73	70	☑
Trihalomethanes (Total)	ug/L	250	21	0	240	190	☑

Kilcoy Health Assessment

Parameter	Units	ADWG Health Guideline	Number of tests	Exceedence Count	Maximum Result	95th %-ile	Meets ADWG
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.026	0.026	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	106	0	2.1	1.6	☑
Chlorine (Total)	mg/L	5	106	0	2.2	2.0	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.002	0.002	☑
Dichloroacetic Acid	ug/L	100	4	0	36	36	☑
Fluoride	mg/L	1.5	14	0	1.00	0.97	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	53	0	0.010	0.003	☑
Monochloroacetic Acid	ug/L	150	4	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	4	0	35	32	☑
Trihalomethanes (Total)	ug/L	250	21	0	130	130	☑

Kooralbyn Health Assessment							
Parameter	**Units**	**ADWG Health Guideline**	**Number of tests**	**Exceedence Count**	**Maximum Result**	**95th %-ile**	**Meets ADWG**
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.040	0.039	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	158	0	2.6	2.1	☑
Chlorine (Total)	mg/L	5	158	0	2.8	2.3	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.002	0.002	☑
Dichloroacetic Acid	ug/L	100	4	0	28	27	☑
Fluoride	mg/L	1.5	14	0	1.2	1.2	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	53	0	0.012	0.005	☑
Monochloroacetic Acid	ug/L	150	4	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	4	0	15	14	☑
Trihalomethanes (Total)	ug/L	250	55	0	200	160	☑

Linville Health Assessment							
Parameter	**Units**	**ADWG Health Guideline**	**Number of tests**	**Exceedence Count**	**Maximum Result**	**95th %-ile**	**Meets ADWG**
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.037	0.035	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	53	0	3.0	2.5	☑
Chlorine (Total)	mg/L	5	53	0	3.0	2.6	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.005	0.004	☑
Dichloroacetic Acid	ug/L	100	4	0	20	19	☑
Fluoride	mg/L	1.5	14	0	0.99	0.96	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	53	0	0.013	0.005	☑
Monochloroacetic Acid	ug/L	150	4	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	4	0	43	39	☑
Trihalomethanes (Total)	ug/L	250	21	0	170	170	☑

APPENDIX C: 2019-20 WATER QUALITY COMPLIANCE – HEALTH ASSESSMENT

Lowood Health Assessment

Parameter	Units	ADWG Health Guideline	Number of tests	Exceedence Count	Maximum Result	95th %-ile	Meets ADWG
Arsenic	mg/L	0.01	32	0	<0.001	<0.001	☑
Barium	mg/L	2	32	0	0.083	0.050	☑
Cadmium	mg/L	0.002	32	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	1558	0	4.1	2.4	☑
Chlorine (Total)	mg/L	5	1558	0	4.2	2.7	☑
Chromium	mg/L	0.05	32	0	<0.001	<0.001	☑
Copper	mg/L	2	32	0	0.100	0.008	☑
Dichloroacetic Acid	ug/L	100	38	0	34	30	☑
Fluoride	mg/L	1.5	104	0	1.2	1.1	☑
Lead	mg/L	0.01	32	0	0.005	0.001	☑
Manganese	mg/L	0.5	596	0	0.330	0.004	☑
Monochloroacetic Acid	ug/L	150	38	0	42	<10	☑
Nickel	mg/L	0.02	32	0	0.002	<0.001	☑
Trichloroacetic Acid	ug/L	100	38	0	22	19	☑
Trihalomethanes (Total)	ug/L	250	151	1	320	200	☑

Rathdowney Health Assessment

Parameter	Units	ADWG Health Guideline	Number of tests	Exceedence Count	Maximum Result	95th %-ile	Meets ADWG
Arsenic	mg/L	0.01	4	0	<0.001	<0.001	☑
Barium	mg/L	2	4	0	0.061	0.060	☑
Cadmium	mg/L	0.002	4	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	53	0	1.7	1.4	☑
Chlorine (Total)	mg/L	5	53	0	1.8	1.7	☑
Chromium	mg/L	0.05	4	0	<0.001	<0.001	☑
Copper	mg/L	2	4	0	0.003	0.003	☑
Dichloroacetic Acid	ug/L	100	4	0	18	18	☑
Fluoride	mg/L	1.5	13	0	0.64	0.57	☑
Lead	mg/L	0.01	4	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	53	0	0.002	<0.001	☑
Monochloroacetic Acid	ug/L	150	4	0	<10	<10	☑
Nickel	mg/L	0.02	4	0	<0.001	<0.001	☑
Trichloroacetic Acid	ug/L	100	4	0	16	15	☑
Trihalomethanes (Total)	ug/L	250	20	0	120	100	☑

South East Queensland Water Supply System (Brisbane and Ipswich) Health Assessment							
Parameter	**Units**	**ADWG Health Guideline**	**Number of tests**	**Exceedence Count**	**Maximum Result**	**95th %-ile**	**Meets ADWG**
Arsenic	mg/L	0.01	12	0	<0.001	<0.001	☑
Barium	mg/L	2	12	0	0.038	0.036	☑
Cadmium	mg/L	0.002	12	0	<0.001	<0.001	☑
Chlorine (Free)	mg/L	5	1261	0	3.6	1.0	☑
Chlorine (Total)	mg/L	5	8479	0	4.1	3.1	☑
Chromium	mg/L	0.05	12	0	<0.001	<0.001	☑
Copper	mg/L	2	12	0	0.018	0.016	☑
Dichloroacetic Acid	ug/L	100	34	0	46	23	☑
Fluoride	mg/L	1.5	155	0	1.4	1.2	☑
Lead	mg/L	0.01	12	0	<0.001	<0.001	☑
Manganese	mg/L	0.5	2701	0	0.180	0.005	☑
Monochloroacetic Acid	ug/L	150	34	0	<10	<10	☑
Nickel	mg/L	0.02	12	0	<0.001	<0.001	☑
Nitrate	mg/L	50	1785	0	1.6	0.7	☑
Nitrite (as N)	mg/L	3	1785	0	0.48	0.26	☑
Trichloroacetic Acid	ug/L	100	34	0	29	20	☑
Trihalomethanes (Total)	ug/L	250	332	0	200	120	☑

APPENDIX D: 2019-20 WATER QUALITY– AESTHETIC ASSESSMENT

Parameter (Median values)	Units	ADWG Aesthetic Guideline Value	Beaudesert	Boonah-Kalbar	Canungra	Esk-Toogoolawah	Jimna	Kilcoy	Kooralbyn	Linville	Lowood	Rathdowney	SEQ Water Supply Scheme	Somerset Township
2-Methyl	ng/L	-	2.6	<2	<2	3.3	<2	2.8	<2	<2	2.5	<2	<2	3.9
isoborneol	mg/L	0.2	0.020	0.042	0.011	0.056	0.023	0.018	0.023	0.025	0.028	0.015	0.052	0.030
Aluminium	mg/L	0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.3	NT
Ammonia (Total, as N)	mg/L	250	61	38	23	67	40	40	49	42	73	51	71	41
Chloride	PCU	15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Colour (Apparent)	PCU	15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Colour (True)	uS/													
Conductivity	cm	1000	480	400	210	480	380	350	380	360	490	360	480	350
Geosmin	ng/L	-	2.5	<2	<2	<2	2.5	<2	<2	<2	<2	<2	<2	<2
Iron	mg/L	0.3	0.020	0.004	0.004	0.005	0.003	0.016	0.004	0.008	0.013	0.005	0.009	0.043
Langelier Index	-	-	-0.45	-0.43	-0.41	-0.34	-1.2	-0.66	-0.21	-0.47	-0.47	-0.14	-0.2	-0.74
pH	pH Unit	6.5 - 8.5	7.5	7.6	8.0	7.4	7.4	7.5	7.9	7.7	7.4	7.9	7.8	7.7
Silica	mg/L	80	14	1.9	20	1.9	9.1	2.4	13	2.7	1.8	8	2.7	1.5
Sodium	mg/L	180	45	44	18	45	60	35	36	37	41	35	43	40
Sulphate (as SO4)	mg/L	250	48	52	2.1	36	66	41	40	37	33	5.3	26	51
Temperature	deg C	-	24	24	24	25	22	24	23	24	24	23	25	26
Total Dissolved Solids	mg/L	600	300	260	130	310	240	220	240	230	310	230	310	230
Total Hardness	mg/L	200	120	92	65	120	45	76	99	80	130	83	110	67
Turbidity	NTU	5	0.1	<0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2
Zinc	mg/L	3	0.002	<0.001	0.002	<0.001	0.007	0.003	0.004	0.004	0.003	0.004	0.002	0.013
Meets ADWG Guideline	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑

GLOSSARY

<	Less than
>	Greater than
2-Methyl isoborneol	A compound produced from algae or bacteria in catchments contributing to taste and odour of water typically described as earthy, musty, swampy or metallic. May become noticeable at greater than 5ng/L.
Ammonia (NH3)	A highly soluble compound resulting from the decomposition of organic matter containing nitrogen. Ammonia will be detected in chloraminated water as it is a component of chloramine.
Australian Drinking Water Guidelines 2011 (ADWG)	The guidelines were developed by the National Health and Medical Research Council (NHMRC) and undergo rolling revision to ensure they represent the latest scientific evidence on good quality drinking water.
Bulk water	The treated water supplied from the Queensland Bulk Water Authority (Seqwater) to distributor retailers, including Urban Utilities.
Chloramination/chloramine	The application of chlorine and ammonia to create monochloramine (NH_2Cl), a stable disinfectant that is added to drinking water to inactivate bacteria or to oxidise undesirable compounds. Chloramines persist for a longer time than chlorine and as a result, are used in longer water distribution systems.
Chlorine – Free	The residual formed with chlorine dosage once all the chlorine demand has been satisfied. This chlorine is free to inactivate microorganisms.
Chlorine – Total	Total chlorine is the sum of combined and free chlorine including chloramine.
CFU/100mL	Colony Forming Units per 100 millilitres.
Colour (True)	Colour is mainly due to the presence of dissolved substances from organic matter in water, such as decaying leaves and vegetation. True colour refers to the colour of water after particles of organic matter have been removed through filtration and is the measurement of the extent to which light is absorbed by the water.
COVID-19	Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
Department of Natural Resources, Mines and Energy (DNRME)	The Queensland Government department responsible for overseeing Queensland's water industries to ensure these essential services are provided to Queenslanders in a safe, efficient and reliable way.
Dichloroacetic acid	Dichloroacetic acid is a disinfection by-product as a consequence of the reaction of chlorine with natural organic matter and bromide ions in the raw water supply.
Disinfectant	An agent that inactivates microorganisms which cause disease. Urban Utilities uses either chlorine or chloramine.
Disinfection by-products (DBPs)	A group of by-products that may form under certain conditions when chlorine is used to disinfect drinking water.
Drinking water	Water that is suitable for human consumption.

Drinking Water Quality Management Plan (DWQMP)	Drinking Water Quality Management Plan as required by the *Water Supply (Safety and Reliability) Act 2008*. The purpose of a DWQMP is to protect public health by implementing a risk-management system to manage the quality of drinking water.
Drinking Water Quality Management System (DWQMS)	Urban Utilities' DWQMS is used to ensure our drinking water supplies are managed effectively to provide high quality drinking water and to ensure the protection of public health.
Escherichia coli (*E. coli*)	A bacterium when present in water indicates that the water may be contaminated by faecal matter and therefore there is the potential to cause illness when people drink the water. *E. coli* can be killed by standard disinfection practices.
Fluoride (F)	Fluoride is regarded as a useful constituent of drinking water, particularly for the prevention of tooth decay. Concentration is maintained within the recommended levels set by QHealth.
Geosmin	A compound produced from algae or bacteria in catchments contributing to taste and odour of water typically described as earthy, musty, swampy or metallic. May become noticeable at greater than 5ng/L.
Haloacetic acids	A group of disinfectant by products that are formed when disinfectants, such as chlorine or chloramine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters.
Iron (Fe)	An element which, when found in water, can cause a brownish discolouration. Limits on the amount of iron in water are usually due to taste and appearance factors rather than any detrimental health effects.
km	A kilometre, which is 1,000 metres
Manganese (Mn)	Manganese in a water supply may affect taste, cause staining of clothes, produce deposits in pipes and contribute to turbidity.
Megalitre (ML)	One million litres or 1,000 kilolitres
Monochloroacetic acid	One of the groups of five haloacetic acids is formed when chlorine or other disinfectants are used to treat drinking water.
mg/L	milligrams per litre
MPN/100mL	Most Probable Number per 100 millilitres
Naturally occurring	Present in the natural environment as minerals, elements, salts and other substances.
ng/L	Nanograms per litre
Network	An arrangement or system of pipes, pumps and reservoirs used for distributing water.
Nephelometric Turbidity Unit (NTU)	A measure of turbidity which is the cloudiness or haziness of water caused by particles that are generally invisible to the naked eye. The measurement of turbidity is a key test of water quality.

GLOSSARY

Nitrate (NO_3)	The most stable form of combined nitrogen in water. Present in surface waters in small amounts generally not removed through treatment. Nitrate can be found in chloraminated water supplies as a result of chloramine breakdown.
pH	The pH value indicates if a substance is acidic, neutral or alkaline. It is calculated from the number of hydrogen ions present and is measured on a scale from zero to 14. A pH greater than seven is alkaline, less than seven is acidic and seven is neutral. The pH of public water supplies should be slightly alkaline to minimise corrosion and stabilise disinfection.
Reservoir	A water tower or tank used for the storage of treated water within the water distribution system.
SAS Lab	Scientific Analytical Services Laboratory, Urban Utilities.
Scheme	The system distributing drinking water to customers.
Seqwater	Queensland Bulk Water Supply Authority, trading as Seqwater. The bulk drinking water provider for Urban Utilities.
Shareholders	Brisbane and Ipswich City Councils, and the Lockyer Valley, Scenic Rim and Somerset Regional Councils.
Stakeholder	All those who are either affected by or who can affect the activities of an organisation, namely customers, governments, regulators, the media, non-government organisations, local residents and employees.
The Regulator	See Department of Natural Resources, Mines and Energy (DNRME).
Total Dissolved Solids (TDS)	A measure of inorganic salts and small amounts of organic matter that are dissolved in water. Usually determined by converting electrical conductivity to TDS values.
Total hardness	Total hardness is the sum of the concentrations of calcium and magnesium ions expressed as calcium carbonate ($CaCO_3$) equivalent. Waters with a high mineral content (a total hardness in excess of 200 mg/L) are considered hard.
Total Trihalomethanes (tTHMs)	A group of disinfection by-products that may form under certain conditions when chlorine is used to disinfect drinking water.
Trichloroacetic acid	One of the groups of five haloacetic acids is formed when chlorine or other disinfectants are used to treat drinking water.
Turbidity	Refers to the presence of suspended solids in water causing a muddy or discoloured appearance. Turbidity is measured in Nephelometric Turbidity Units (NTU).
Verification Monitoring Program (VMP)	Water quality verification monitoring is used as the final check that the barriers and preventive measures used in protecting the public health from drinking water risks are performing effectively. Verification monitoring is used to verify the quality of drinking water supplied to Urban Utilities' customers as well as collecting data to complement future operational monitoring programs.
Water Treatment Plant (WTP)	A plant that improves water quality by removing impurities through filtration and disinfection.


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For more information visit
urbanutilities.com.au
or call **13 26 57**

Urban Utilities
GPO Box 2765 Brisbane QLD 4001

ABN 86 673 835 011