



Unitywater

Serving you today, investing in tomorrow.

# Drinking Water Quality Performance Report

2018-2019



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# Message from the CEO

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Providing our customers with a safe and reliable water supply is the reason Unitywater is in operation. This Annual Drinking Water Quality Performance Report for 2018-19 documents how well we met our obligations in this vital area of our business during the year.

Throughout the year we have made sure our drinking water continues to meet the quality guidelines set out by the National Health and Medical Research Council, while we advance our development of a smart water supply network. Our use of digital technology is growing, each year allowing us to further improve our understanding of our networks. Our aim with this technology is to optimise planned works, maintain water quality, and minimise the occurrence of unplanned outages and their resulting inconvenience to our consumers.

In January our ability to deliver drinking water to our customers in the Coolum area was severely tested when a section of a relatively new, large water main split without prior warning. I'm very proud that Unitywater was able to maintain supply of quality drinking water to everyone while we undertook the technically difficult emergency repairs, and later replace the main.

Unitywater's Back to Tap campaign, which aims to reduce the impact of single-use plastic water bottles on our local environment, expanded during the year. Our growing network of permanent water refill stations across our service area, and our Back to Tap vans at community events, are spreading the word that tap water is a convenient, quality and considerably cheaper alternative to buying bottled water.

We are proud of the role we play in keeping our communities healthy and work 24 hours a day, 365 days a year to provide a safe and reliable water supply.

If you have any questions or feedback on the content of this report, please call our Customer Contact Centre on 1300 086 489.



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George Theo  
Chief Executive Officer

# Unitywater at a glance

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Unitywater provides water and sewerage services to the Moreton Bay, Sunshine Coast and Noosa local authority regions.

We operate and maintain more than \$3.5 billion of water and sewerage infrastructure, supplying services to residential and business customers across 5,223 square kilometres.



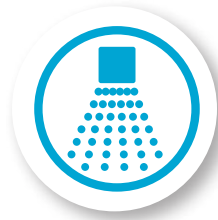
103  
*reservoirs*



57,830 ML  
*of water supplied to*  
328,318  
*customers connections*  
*in 2018-19*









*Serviced customers with*  
6,147 KM  
*of water mains*

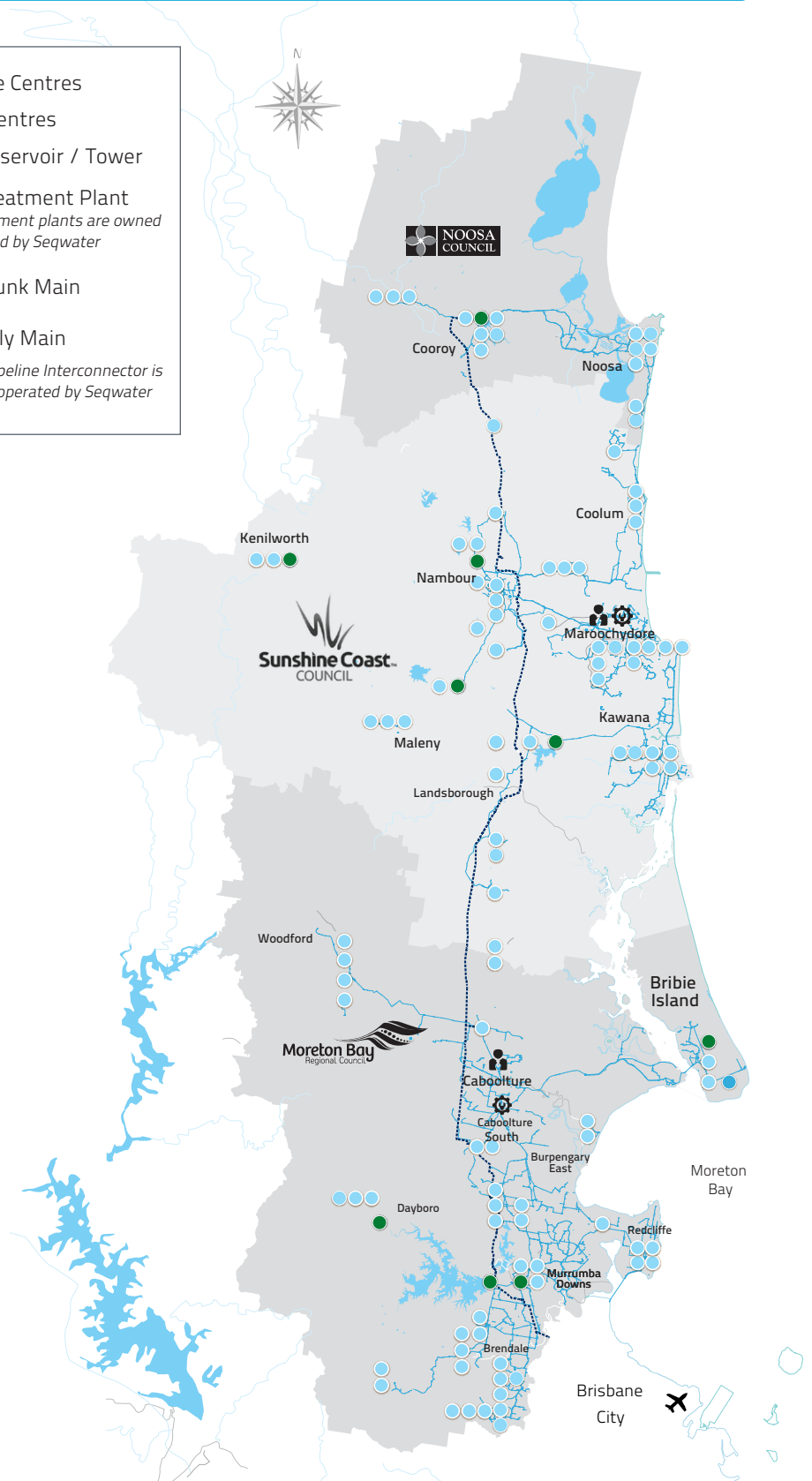


*Cleaned*  
270 KM  
*of water mains*  
*in 2018-19*



# Our supply area

-  Corporate Centres
-  Service Centres
-  Water Reservoir / Tower
-  Water Treatment Plant  
*Water treatment plants are owned and operated by Seqwater*
-  Water Trunk Main
-  NPI Supply Main  
*Northern Pipeline Interconnector is owned and operated by Seqwater*



# Where we sit in the grid

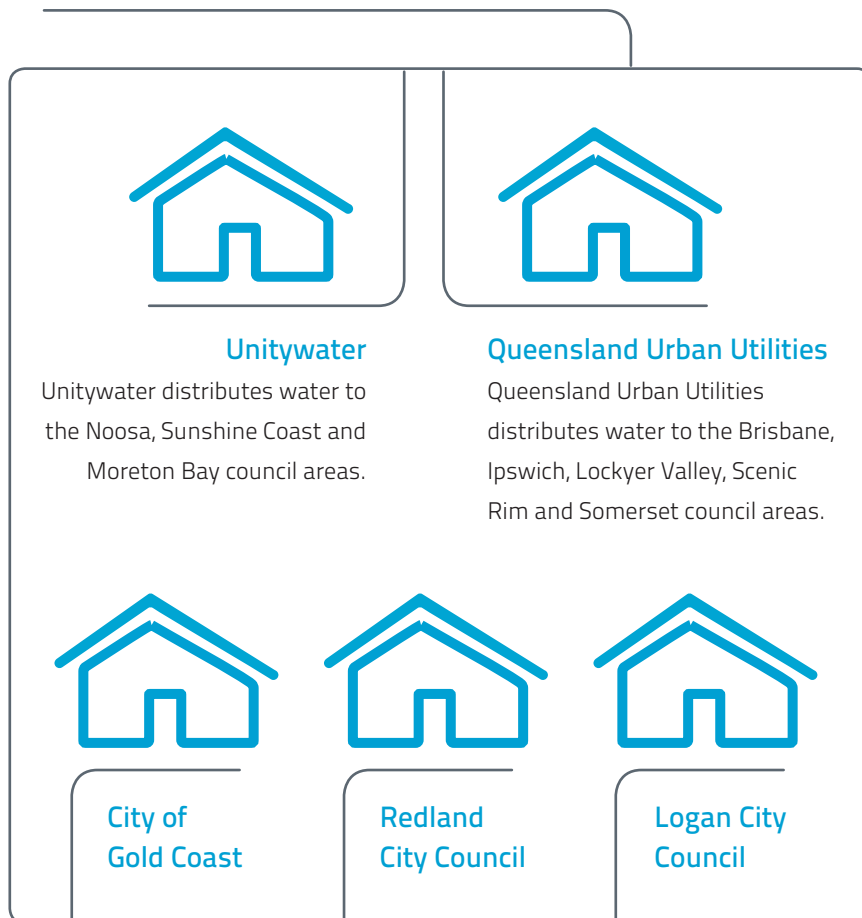
The South-East Queensland water grid connects the water supplies from Noosa and the Sunshine Coast, through greater Brisbane and down to the Gold Coast.

This arrangement allows Seqwater to move treated 'bulk' drinking water from one area to another, reducing the risk of any single source being used up (i.e. during drought conditions). For more detail on the bulk water supply network, go to: [seqwater.com.au/water-supply/supply-network](http://seqwater.com.au/water-supply/supply-network)



## Seqwater

Seqwater manage the catchments, dams and production of bulk drinking water for the SEQ region



# Water supply sources

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Unitywater purchases bulk treated water from Seqwater. Seqwater is responsible for management of 'raw water' (the lakes and dams), the water treatment plants (WTPs) and the delivery of treated 'bulk' water to the bulk supply points, from where Unitywater is responsible for the management and delivery of this water to our consumers.

Please direct any queries on water sources or treatment to Seqwater [seqwater.com.au/contacts](https://seqwater.com.au/contacts)

Treated drinking water enters the Unitywater network either directly from a WTP or via the major pipeline called the Northern Pipeline Interconnector (NPI). The NPI was built by the Queensland Government to provide long term water supply and security to the Brisbane and Sunshine Coast regions. The NPI allows water to be transferred between the Sunshine Coast, Moreton Bay and Brisbane Council, and is owned and operated by Seqwater.

The NPI flow direction is dependent on source water availability and regional demand and negotiated between Seqwater and the Distribution Retail Entities (Unitywater, Queensland Urban Utilities, Logan City Council, Redland City Council, and Gold Coast City Council).

The Unitywater service area during the 2018-19 financial year had five supply regions, which are then broken down into 14 schemes. These regions include:

- Dayboro – Dayboro
- Kenilworth – Kenilworth
- Pine Rivers North (Petrie) – Pine Rivers North
- NPI North (Northern Grid) – Noosa, Maroochy North (South Maroochy River), Maroochy South, Caloundra Coastal, Caloundra Railway Towns, Maleny
- NPI South (Southern Grid) – Caboolture, Bribie Island, Woodford, Redcliffe, Pine Rivers South.



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## DAYBORO

**This includes the Dayboro township and surrounds that receive reticulated water.**

General operation:

This area is normally supplied from the Dayboro WTP operated by Seqwater.

- The Dayboro WTP treats water extracted from bores located in the North Pine River and supplies the Dayboro region.
- Dayboro is not connected to the South East Queensland water grid. Water can be imported via water tankers if necessary.

## KENILWORTH

**This includes the Kenilworth township and surrounds that receive reticulated water.**

General operation:

This area is normally supplied from the Kenilworth WTP operated by Seqwater.

- The Kenilworth WTP treats water extracted from bores located in the Mary River and supplies the Kenilworth region.
- Kenilworth is not connected to the South East Queensland water grid. Water can be imported via water tankers if necessary.

## PINE RIVERS NORTH

**This includes North Lakes, Murrumba Downs, Kallangur and surrounding suburbs that receive reticulated water.**

Prior to March 2018, the Petrie WTP was the sole source of water to these areas.

Throughout March and April 2018, these areas were transitioned to the new grid-connected supply. In future, this region will be grouped together with the south region for referencing purposes.

General operation:

- This area is normally supplied from the North Pine WTP, which treats water from North Pine Dam and supplies the Pine Rivers North region via the NPI.

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## NORTH

**This includes all areas within the Sunshine Coast and Noosa councils that receive reticulated water, i.e. Caloundra, Maleny, Maroochy North, Maroochy South, Noosa and Railway Towns (excluding Kenilworth).**

General operation:

This area is normally supplied from the Lake Macdonald, Image Flat and Landers Shute WTPs with supplementary supply via the NPI - Stage 2.

- The Lake Macdonald WTP treats raw water from Lake Macdonald and the Mary River to supply the Noosa area (includes Pomona and Cooroy).
- The Image Flat WTP treats raw water from Cooloolabin Dam, Wappa Dam and Poona Dam to supply the Maroochy North area. Bli Bli and Coolum zones are supplemented by the Nambour NPI - Stage 2.
- The Landers Shute WTP treats raw water from Baroon Pocket Dam and supplies the Maroochy South, Maleny, Caloundra and Railway Towns area.
- The Ewen Maddock WTP treats raw water from Ewen Maddock Dam and supplies the Caloundra area.

## SOUTH

**This includes all areas within the Moreton Bay Regional Council that receive reticulated water, i.e. Bribie Island, Caboolture, Redcliffe, Pine Rivers South and Woodford (excluding Dayboro).**

General operation:

- North Pine WTP treats water from North Pine Dam and supplies the Redcliffe and Pine Rivers South region via the NPI. The Woodford, Caboolture and Bribie areas are supplied primarily by North Pine WTP, with supplementary feed from Landers Shute WTP via the NPI.

## YOUR SUBURB AND ITS WATER SUPPLY REGION

To find out more about the water supply and quality in your area, go to this link and use your postcode to view the annual water quality results.

[unitywater.com/about-us/our-business/water-quality](https://unitywater.com/about-us/our-business/water-quality)

# Water quality summary

In 2018-19, Unitywater collected approximately 7,000 drinking water samples and performed over 75,000 water quality tests. Out of these 75,000 tests, only two results exceeded a health-based guideline value. Our detailed performance summaries, including information on the two health-based guideline value exceedances, are provided in the following sections.

## *E. COLI*

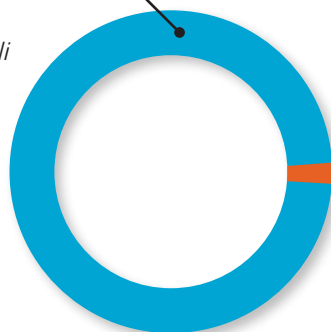
As a Queensland water service provider, Unitywater is obligated to meet the requirements of the *Public Health Regulation 2018*. One of these requirements is to undertake *E. coli* analysis, with a minimum of 98% of samples returning a negative result. In 2018-19 we achieved 99.97%.

### MICROBIOLOGICAL REGULATORY COMPLIANCE REQUIREMENT

**>98%**

of samples free of *E. coli*

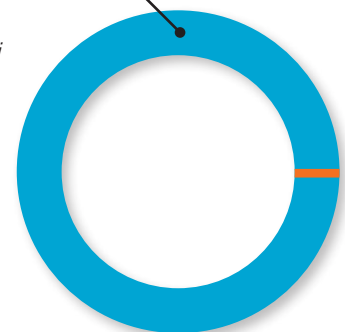
- Negative
- Positive



### OUR 2018-19 PERFORMANCE

**99.97%**

of samples free of *E. coli*



*E. coli* was detected once in the Kenilworth drinking water scheme. The results were 1 MPN/100ml with a free chlorine result of 0.79mg/L. Testing and verification of the surrounding network found no further *E. coli* and that levels of disinfectant through the Kenilworth network were adequate. The investigation concluded it was not a systemic issue. Overhanging vegetation and rain on the day of sampling were possible contributing factors to the *E. coli* detection.

## TOTAL CHLORINE

An elevated total chlorine result was detected in the Bribie Island drinking water scheme. A result of 5.7mg/L total chlorine, which is above the Australian Drinking Water Guidelines value of 5mg/L, was detected by the Scientific Services Laboratory team at the Bellara Reservoir. An immediate investigation found that other sample taps in the area were unaffected, and there were no known issues at the Bellara reservoir. Online analysers verified the total chlorine level in the reservoir was 1.72mg/L. It was concluded that the elevated chlorine result was not a true reflection of water quality in the drinking water network. All analysers on site were checked and the Scientific Services Laboratory team calibrated all field equipment.

## DRINKING WATER QUALITY PERFORMANCE SNAPSHOT

The table below briefly summarises drinking water performance across three categories, by each supply region: microbiological, chemical (health) and chemical (aesthetic) performance in accordance with regulatory compliance requirements under the *Public Health Regulation 2018*.

Microbiological performance is said to have met the performance requirement if more than 98% of samples from the supply region over a 12-month period returned a nil result for *E. coli*.

Chemical (health) performance is said to have met the performance requirement if the 95th percentile for each chemical over a 12-month period is below the Australian Drinking Water Guidelines health value for that chemical.

Chemical (aesthetic) performance is said to have met the performance requirement if the average result for each chemical over a 12-month period is below the Australian Drinking Water Guidelines aesthetic value for that chemical.

Supply region	Microbiological performance	Chemical (health) performance	Chemical (aesthetic) performance
Dayboro	✓	✓	✓
Kenilworth	✓	✓	✓
Northern Grid	✓	✓	✓
Pine Rivers North	✓	✓	✓
Southern Grid	✓	✓	✓

## MICROBIOLOGICAL PERFORMANCE IN DETAIL

The table below summarises our microbiological performance against the requirements of the *Public Health Regulation 2018*:

Supply region	Number of <i>E. coli</i> samples tested	Number of positive <i>E. coli</i> results	Required performance (PHR*)	Actual performance	Met PHR?
Dayboro	99	0	98%	100%	✓
Kenilworth	139	1	98%	99.28%	✓
Northern Grid	1691	0	98%	100%	✓
Pine Rivers North	401	0	98%	100%	✓
Southern Grid	1639	0	98%	100%	✓
Overall	3969	1	98%	99.97%	✓

\* PHR = Public Health Regulation (2018).

# Chemical performance

## Dayboro

### CHEMICAL (HEALTH) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
<b>Arsenic</b>	mg/L	1	<0.001	<0.001	<0.001	<0.001	0.01	✓
<b>Bromate</b>	mg/L	4	<0.005	<0.005	<0.005	<0.005	0.02	✓
<b>Chlorate</b>	mg/L	28	<0.01	0.27	0.07	0.13	a	a
<b>Chlorine free</b>	mg/L	127	0.1	1.5	0.86	1.30	5	✓
<b>Chlorine total</b>	mg/L	127	0.2	1.6	0.95	1.40	5	✓
<b>Copper</b>	mg/L	28	<0.01	<0.01	<0.01	<0.01	2	✓
<b>Fluoride</b>	mg/L	25	0.71	0.93	0.84	0.91	1.5	✓
<b>HAAs</b>	ug/L	1	<60	<60	<60	<60	a	a
<b>Lead</b>	mg/L	28	<0.01	<0.01	<0.01	<0.01	0.01	✓
<b>Manganese</b>	mg/L	57	<0.01	<0.01	<0.01	<0.01	0.5	✓
<b>Nickel</b>	mg/L	28	<0.01	<0.01	<0.01	<0.01	0.02	✓
<b>THMs</b>	mg/L	28	0.012	0.068	0.033	0.062	0.25	✓

a - No guideline limit

## Dayboro

### CHEMICAL (AESTHETIC) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Alkalinity total	mg/L as CaCO <sub>3</sub>	28	40.6	100	87.78	95.90	a	a
Aluminium	mg/L	57	<0.02	0.03	<0.02	0.02	0.2	✓
Calcium	mg/L	28	11	14	12.29	14.00	a	a
Chloride	mg/L	4	29	37	32.50	36.40	250	✓
Colour Apparent	PCU	58	<1	4.8	1.24	2.23	15	✓
Colour true	PCU	58	<1	1.3	<1	<1	15	✓
Conductivity	uS/cm	127	247	335	286	309	1000	✓
Copper	mg/L	28	<0.01	<0.01	<0.01	<0.01	1	✓
Iron	mg/L	57	<0.01	0.04	0.01	0.03	0.3	✓
Magnesium	mg/L	28	7	10	8.71	9.65	a	a
Manganese	mg/L	57	<0.01	<0.01	<0.01	<0.01	0.1	✓
pH	pH Units	127	7.1	7.9	7.4	7.8	6.5-9.2	✓
Potassium	mg/L	4	1.4	1.7	1.53	1.69	a	a
Silica as SiO <sub>2</sub>	mg/L	1	14	14	14.00	14.00	80	✓
Sodium	mg/L	4	28	31	29.5	30.9	180	✓
Sulphate	mg/L	1	6.2	6.2	6.2	6.2	250	✓
Temperature	°C	127	14.9	29.4	22.5	28.2	a	a
Total hardness	mg/L as CaCO <sub>3</sub>	28	59	75	66.61	71.95	200	✓
Turbidity	NTU	124	0.09	0.65	0.19	0.30	5	✓
Zinc	mg/L	28	<0.01	<0.01	<0.01	<0.01	3	✓

a - No guideline limit

## Kenilworth

### CHEMICAL (HEALTH) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Arsenic	mg/L	2	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	6	<0.005	0.008	<0.005	0.007	0.02	✓
Chlorate	mg/L	36	0.06	0.26	0.13	0.25	a	a
Chlorine free	mg/L	175	0.3	1.6	1.00	1.40	5	✓
Chlorine total	mg/L	175	0.3	1.8	1.08	1.50	5	✓
Copper	mg/L	36	<0.01	0.01	<0.01	<0.01	2	✓
Fluoride	mg/L	29	<0.1	0.26	0.18	0.22	1.5	✓
HAAs	ug/L	2	<60	<60	<60	<60	a	a
Lead	mg/L	36	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	48	<0.01	<0.01	<0.01	<0.01	0.5	✓
Nickel	mg/L	36	<0.01	<0.01	<0.01	<0.01	0.02	✓
<b>THMs</b>	mg/L	36	0.005	0.072	0.024	0.046	0.25	✓

a - No guideline limit



## Kenilworth

### CHEMICAL (AESTHETIC) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Alkalinity total	mg/L as CaCO <sub>3</sub>	29	42	176	148.31	173.60	a	a
Aluminium	mg/L	48	<0.02	<0.02	<0.02	<0.02	0.2	✓
Calcium	mg/L	29	15	19	16.90	18.60	a	a
Chloride	mg/L	6	34	39	37.00	39.00	250	✓
Colour apparent	PCU	48	<1	2.1	<1	1.40	15	✓
Colour true	PCU	48	<1	1.1	<1	<1	15	✓
Conductivity	uS/cm	161	326	445	403	438	1000	✓
Copper	mg/L	36	<0.01	0.01	<0.01	<0.01	1	✓
Iron	mg/L	48	<0.01	0.01	<0.01	<0.01	0.3	✓
Magnesium	mg/L	29	9	11	9.97	11.00	a	a
Manganese	mg/L	48	<0.01	<0.01	<0.01	<0.01	0.1	✓
pH	pH Units	161	7.1	7.7	7.4	7.6	6.5-9.2	✓
Potassium	mg/L	8	<1	1	<1	<1	a	a
Silica as SiO <sub>2</sub>	mg/L	2	23	24	23.50	23.95	80	✓
Sodium	mg/L	6	46	58	54.5	57.8	180	✓
Sulphate	mg/L	2	6.7	7	6.9	7.0	250	✓
Temperature	°C	175	18	30.9	23.4	29.1	a	a
Total hardness	mg/L as CaCO <sub>3</sub>	29	74	91	83.69	91.00	200	✓
Turbidity	NTU	161	0.05	0.81	0.12	0.22	5	✓
Zinc	mg/L	36	<0.01	<0.01	<0.01	<0.01	3	✓

a - No guideline limit

## North

### CHEMICAL (HEALTH) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Arsenic	mg/L	16	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	72	<0.005	0.01	<0.005	0.009	0.02	✓
Chlorate	mg/L	462	<0.01	0.6	0.08	0.31	a	a
Chlorine free	mg/L	3,396	<0.1	2.6	0.98	1.70	5	✓
Chlorine total	mg/L	3,396	<0.1	3	1.12	1.80	5	✓
Copper	mg/L	458	<0.01	0.02	<0.01	<0.01	2	✓
Fluoride	mg/L	359	<0.1	0.96	0.81	0.90	1.5	✓
HAAs	ug/L	16	<60	75	<60	<60	a	a
Lead	mg/L	434	<0.01	0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	1,445	<0.01	0.1	<0.01	<0.01	0.5	✓
Nickel	mg/L	458	<0.01	<0.01	<0.01	<0.01	0.02	✓
THMs	µg/L	455	5	150	61	120	250	✓

a - No guideline limit

## North

### CHEMICAL (AESTHETIC) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Alkalinity total	mg/L as CaCO <sub>3</sub>	356	30.2	130	46.42	63.38	a	a
Aluminium	mg/L	1,445	<0.02	0.08	<0.02	0.02	0.2	✓
Calcium	mg/L	357	12	28	18.33	24.00	a	a
Chloride	mg/L	72	14	49	23.65	39.25	250	✓
Colour apparent	PCU	1,432	<1	54	1.46	3.40	15	✓
Colour true	PCU	1,432	<1	2.8	<1	1.30	15	✓
Conductivity	uS/cm	3,168	87	487	229	312	1000	✓
Copper	mg/L	458	<0.01	0.02	<0.01	<0.01	1	✓
Iron	mg/L	1,445	<0.01	0.53	0.01	0.04	0.3	✓
Magnesium	mg/L	357	2	18	5.14	9.00	a	a
Manganese	mg/L	1,445	<0.01	0.1	<0.01	<0.01	0.1	✓
pH	pH Units	3,168	7	9.2	7.5	8.1	6.5-9.2	✓
Potassium	mg/L	74	<1	2	1.52	2.00	a	a
Silica as SiO <sub>2</sub>	mg/L	16	2	13	6.88	10.00	80	✓
Sodium	mg/L	72	10	36	17.9	27.0	180	✓
Sulphate	mg/L	16	25	44	34.2	41.8	250	✓
Temperature	°C	3,373	15.7	31	22.7	27.9	a	a
Total hardness	mg/L as CaCO <sub>3</sub>	357	46	139	66.95	84.40	200	✓
Turbidity	NTU	3,116	0.05	7	0.16	0.29	5	✓
<b>Zinc</b>	mg/L	458	<0.01	0.02	<0.01	<0.01	3	✓

a - No guideline limit

## Pine Rivers North

### CHEMICAL (HEALTH) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Arsenic	mg/L	1	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	6	<0.005	<0.005	<0.005	<0.005	0.02	✓
Chlorate	mg/L	42	0.02	0.38	0.09	0.14	a	a
Chlorine free	mg/L	510	<0.1	2.4	0.16	0.30	5	✓
Chlorine total	mg/L	510	<0.1	3.3	1.45	2.70	5	✓
Copper	mg/L	42	<0.01	<0.01	<0.01	<0.01	2	✓
Fluoride	mg/L	25	0.26	0.92	0.75	0.92	1.5	✓
HAAs	ug/L	1	<60	<60	<60	<60	a	a
Lead	mg/L	42	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	171	<0.01	0.1	<0.01	<0.01	0.5	✓
Monochloramine NH <sub>2</sub> Cl	mg/L	487	<0.02	2.17	0.65	1.54	3	✓
Nickel	mg/L	42	<0.01	<0.01	<0.01	<0.01	0.02	✓
Nitrite as NO <sub>2</sub>	mg/L	487	<0.02	1.02	0.27	0.72	3	✓
THMs	µg/L	45	45	95	64	86	250	✓

a - No guideline limit

## Pine Rivers North

### CHEMICAL (AESTHETIC) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Alkalinity total	mg/L as CaCO <sub>3</sub>	30	49.6	66.3	57.60	65.07	a	a
Aluminium	mg/L	171	0.02	0.05	0.03	0.04	0.2	✓
Calcium	mg/L	30	13	17	15.47	16.55	a	a
Chloride	mg/L	6	24	28	26.67	28.00	250	✓
Colour apparent	PCU	184	<1	8	2.39	4.20	15	✓
Colour true	PCU	184	<1	2.4	<1	1.79	15	✓
Conductivity	uS/cm	498	235	461	264	279	1000	✓
Copper	mg/L	42	<0.01	<0.01	<0.01	<0.01	1	✓
Iron	mg/L	171	<0.01	0.05	<0.01	0.02	0.3	✓
Magnesium	mg/L	30	6	7	6.23	7.00	a	a
Manganese	mg/L	171	<0.01	0.1	<0.01	<0.01	0.1	✓
pH	pH Units	498	7.5	8.6	7.9	8.3	6.5-9.2	✓
Potassium	mg/L	6	2	2.4	2.10	2.35	a	a
Silica as SiO <sub>2</sub>	mg/L	1	6	6	6.00	6.00	80	✓
Sodium	mg/L	6	22	24	22.7	23.8	180	✓
Sulphate	mg/L	1	24	24	24.0	24.0	250	✓
Temperature	°C	505	16	30.3	22.9	27.8	a	a
Total hardness	mg/L as CaCO <sub>3</sub>	30	58	69	64.57	68.55	200	✓
Turbidity	NTU	489	0.08	1.4	0.20	0.32	5	✓
Zinc	mg/L	42	<0.01	<0.01	<0.01	<0.01	3	✓

## South

### CHEMICAL (HEALTH) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Arsenic	mg/L	13	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	50	<0.005	0.008	<0.005	<0.005	0.02	✓
Chlorate	mg/L	336	<0.01	0.87	0.17	0.48	a	a
Chlorine free	mg/L	2,649	<0.1	5	0.31	1.30	5	✓
Chlorine total	mg/L	2,649	<0.1	5.7	1.20	2.90	5	✓
Copper	mg/L	332	<0.01	<0.01	<0.01	<0.01	2	✓
Fluoride	mg/L	266	0.18	1.18	0.73	0.90	1.5	✓
HAAs	µg/L	13	<60	<60	<60	<60	a	a
Lead	mg/L	332	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	1,005	<0.01	0.08	<0.01	<0.01	0.5	✓
Monochloramine NH <sub>2</sub> Cl	mg/L	2,245	<0.02	2.09	0.43	1.53	3	✓
Nickel	mg/L	332	<0.01	<0.01	<0.01	<0.01	0.02	✓
Nitrite as NO <sub>2</sub>	mg/L	2,245	<0.02	1.25	0.12	0.57	3	✓
<b>THMs</b>	µg/L	342	22	160	75	120	250	✓

a - No guideline limit

## South

### CHEMICAL (AESTHETIC) PERFORMANCE

Parameter	Units	Number of samples	Min. result	Max. result	Average result	95th percentile	ADWG guideline	Met ADWG
Alkalinity total	mg/L as CaCO <sub>3</sub>	270	29.2	84.8	55.79	63.91	a	a
Aluminium	mg/L	1,005	<0.02	0.14	0.02	0.04	0.2	✓
Calcium	mg/L	271	12	24	15.91	18.00	a	a
Chloride	mg/L	50	23	38	27.50	33.55	250	✓
Colour apparent	PCU	1,051	<1	15	2.38	4.50	15	✓
Colour true	PCU	1,051	<1	3.1	<1	1.80	15	✓
Conductivity	uS/cm	2,595	131	477	267	306	1000	✓
Copper	mg/L	332	<0.01	<0.01	<0.01	<0.01	1	✓
Iron	mg/L	1,005	<0.01	0.26	0.01	0.04	0.3	✓
Magnesium	mg/L	271	4	13	6.30	7.00	a	a
Manganese	mg/L	1,005	<0.01	0.08	<0.01	<0.01	0.1	✓
pH	pH Units	2,595	7.1	8.9	7.7	8.1	6.5-9.2	✓
Potassium	mg/L	50	1.8	2.4	2.06	2.30	a	a
Silica as SiO <sub>2</sub>	mg/L	13	6	6	6.00	6.00	80	✓
Sodium	mg/L	50	20	30	22.9	26.0	180	✓
Sulphate	mg/L	13	23	26	24.3	25.4	250	✓
Temperature	°C	2,647	14.6	32.2	22.9	28.3	a	a
Total hardness	mg/L as CaCO <sub>3</sub>	271	54	113	65.56	72.00	200	✓
Turbidity	NTU	2,587	0.06	3	0.18	0.29	5	✓
Zinc	mg/L	330	<0.01	0.01	<0.01	<0.01	3	✓

a - No guideline limit

# Improving our drinking water quality

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Unitywater is always looking to innovate the way we manage your drinking water and challenging ourselves to make improvements. Following are some of the initiatives, projects, plans and activities we have progressed in pursuit of keeping our communities healthy through improved delivery of safe drinking water.

## DRINKING WATER MANAGEMENT SYSTEM REVIEW (DWMS)

Our DWMS is a structured framework of policies, processes and procedures that guides management and provision of safe drinking water. A detailed internal review of the DWMS was conducted against the Australian Drinking Water Guidelines to assess alignment and effectiveness. Several opportunities for improvement were identified, with delivery of an action plan already underway.

## SCIENTIFIC SERVICES LABORATORY – IMPROVED IN-HOUSE CAPABILITY

Our Scientific Services Laboratory team has been working on method development for our new Gas Chromatography with an Electron Capture Detector instrument (GC-ECD). This will give us the ability to quickly analyse samples for any suspected emerging water quality issues such as disinfection by-products like trihalomethanes (THMs). Having this in-house capability gives us the edge on those rare occasions when emerging issues are identified.

## INCIDENT MANAGEMENT

Various planned and the occasional unplanned drinking water supply incidents have provided us with opportunities to test and hone our incident response processes along with corrective and preventative control measures. Whether its detecting issues in our network, standing up our incident management team, deploying maintenance and construction crews, securing alternative supplies to our customers, keeping our customers informed, ensuring water quality is always maintained, and returning reliable supply as soon as possible, we're always learning from our experiences and improving our approach to providing safe and reliable drinking water.

## MAINS CLEANING

This year, we continued our mains cleaning program in Caboolture, Bellmere and Beachmere. In any drinking water network, the mains can be susceptible to tiny amounts of microscopic sediment build-up. Under normal operating conditions, this does not impact the drinking water to our customers, but if there is an unexpected reversal of flow or sudden pressure decrease, the water can become discoloured. To reduce the chances of discoloured water, we have developed a program to periodically clean the mains. To reduce customer impact during the cleaning process, we have engaged a third-party contractor to use technology that cleans, disinfects and reinjects the flushed water back into the mains so that no water is wasted. Suburbs are prioritised for mains cleaning using a risk-based approach. During 2018-19 we cleaned over 270 km of mains, with another 300 km scheduled for 2019-20 financial year.





**Unitywater**

Serving you today,  
investing in tomorrow.

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-  [unitywater.com](http://unitywater.com)
  -  **1300 086 489**  
Emergencies and Faults 24 hours  
Customer Service: 7am - 6pm,  
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  -  Unitywater, PO Box 953, Caboolture QLD 4510
  -  **Customer Service Counters 8.30am - 4.30pm,**  
Mon - Fri (except public holidays)  
8-10 Maud Street, Maroochydore QLD 4558  
33 King Street, Caboolture QLD 4510

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Unitywater has certification to  
OH&S AS/NZS 4801:2001 Reg No 500000079  
Environmental ISO 14001:2015 Reg No 500000079  
Quality ISO 9001:2015 Reg No 500000079  
Food Safety ISO 22000:2018 Reg No 500000079

