

ANNUAL

Drinking Water Quality

PERFORMANCE REPORT

JULY 2017 - JUNE 2018



Unitywater

Serving you today,
investing in tomorrow.

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Unitywater

Serving you today,
investing in tomorrow.

Dear Customers

I am pleased to share with you our Drinking Water Quality Annual Performance Report for 2017-18.

At Unitywater, we take the responsibility of providing our customers and our communities with a safe and reliable water supply seriously. From meeting our compliance obligations and investing in infrastructure through to championing environmental initiatives, Unitywater continues to build a proud record in the delivery of our food grade water product.

This year we continued to work collaboratively with Seqwater, our service region's bulk water supplier, to upgrade the water supply for the community of Petrie and surrounding areas. This significant engineering project ensured a greater security of supply for residents through the decommissioning of the ageing Petrie Water Treatment Plant and connecting this community directly to the South East Queensland Water Grid. The success of this project was also measured by the minimal impact caused to the community which helped enhance customer confidence in our operational performance.

Unitywater is also building a reputation for our commitment to reducing the impact of single-use plastic bottles in our local waterways. We're encouraging our communities to go 'Back to Tap' through the promotion of reusable water bottles and selecting tap water over pre-packaged bottled water. As this report confirms, our drinking water meets Australia's best-practice guidelines developed by the National Health and Medical Research Council. Some people believe that bottled water is a better-quality product, however this is simply not the case. With bottled water up to 2000 times more expensive than tap water, it is an easy and practical choice to make to embrace 'Back to Tap'.

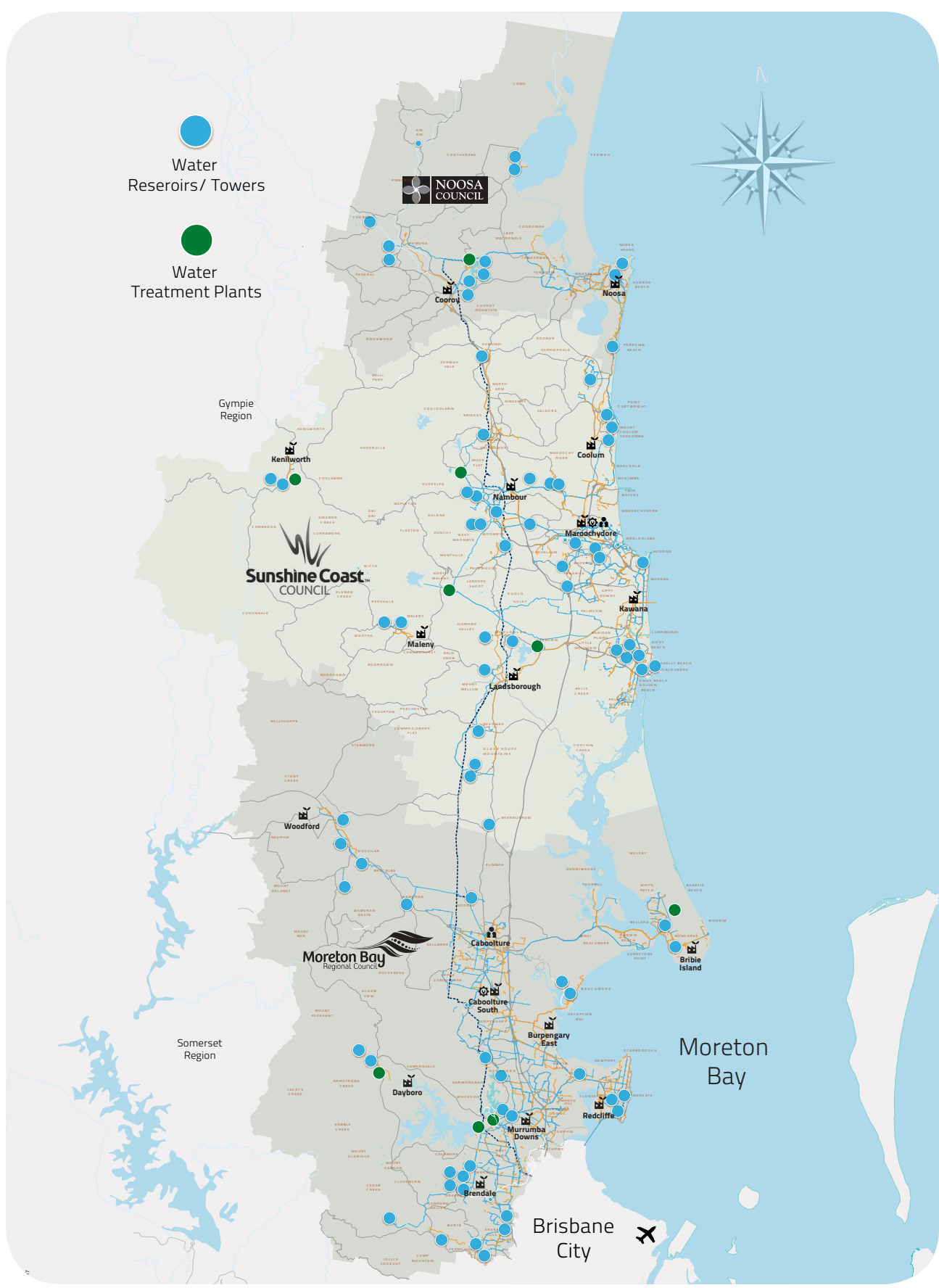
We value the role we play in keeping our communities healthy and are proudly working 24 hours a day, 365 days a year to provide a safe and reliable water supply.

If you have any questions or feedback on the content of this report, please do not hesitate to call our Customer Contact Centre on 1300 086 489.



George Theo
Chief Executive Officer

Our supply area

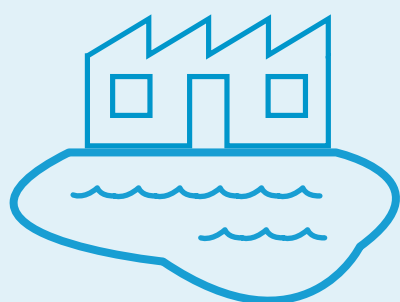


Where we sit in the grid

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).

More detail on the bulk water supply network can be found here:

<http://www.seqwater.com.au/water-supply/supply-network>



Seqwater

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



Unitywater

Unitywater distributes water to the Noosa, Sunshine Coast and Moreton Bay Regional Council areas.



Queensland Urban Utilities

Queensland Urban Utilities distributes water to the Brisbane, Ipswich, Lockyer Valley, Scenic Rim and Somerset Council areas.



City of Gold Coast



Redland City Council



Logan City Council

Unitywater purchases bulk treated water from Seqwater. Seqwater is responsible for management of 'raw' water (the lakes and dams), the water treatment plants (WTP) and the delivery of treated 'bulk' water to the bulk supply points. Please direct any queries on water sources or treatment to Seqwater (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. The NPI allows water to be transferred between the Noosa, Sunshine Coast, Moreton Bay Regional and Brisbane City Council areas, 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).

For water quality reporting Unitywater's supply network is divided into the five regions described below.

Dayboro

This includes the Dayboro Township and surrounds that receive reticulated water.

General operation:

Dayboro Water Treatment Plant

- 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 Water Treatment Plant

- 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.

North

This includes all areas within the Sunshine Coast and Noosa Regional 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 Water Treatment Plant (WTP) with supplementary supply via the Northern Pipeline Interconnector - 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 Northern Pipeline Interconnector - 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. This WTP was recommissioned in July 2017 to improve water supply security for the Sunshine Coast and reduce demand on Baroon Pocket Dam.

Pine Rivers North

This includes all areas within the Pine Rivers North region 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 over to the new grid-connected supply. In future, this region will be grouped together with the South region for reporting purposes.

General operation:

This area is normally supplied from the North Pine Water Treatment Plant. North Pine WTP treats water from North Pine Dam and supplies the Pine Rivers North region via the Northern Pipeline Interconnector.

South

This includes all areas within the Moreton Bay Regional Council that receive reticulated water, i.e. Bribie Island, Caboolture, Redcliffe, Pine Rivers South & 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 Northern Pipeline Interconnector. The Woodford, Caboolture and Bribie areas are supplied primarily by Landers Shute WTP via the Northern Pipeline Interconnector.

Suburb	Region
ALBANY CREEK	South
ALEXANDRA HEADLAND	North
ARANA HILLS	South
AROONA	North
BANKSIA BEACH	South
BATTERY HILL	North
BEACHMERE	South
BEERBURRUM	North
BEERWAH	North
BELLARA	South
BELLMERE	South
BELLS CREEK	North
BIRTINYA	North
BLI BLI	North
BOKARINA	North
BONGAREE	South
BRACALBA	South
BRAY PARK	South
BRENDALE	South
BRIDGES	North
BUDDINA	North
BUDERIM	North
BULCOCK BEACH	North
BUNYA	South
BURNSIDE	North
BURPENGARY	South
BURPENGARY EAST	South
CABOOLTURE	South
CABOOLTURE SOUTH	South
CALOUNDRA	North
CALOUNDRA SOUTH	North
CALOUNDRA WEST	North
CAMP MOUNTAIN	South
CASHMERE	South
CASTAWAYS BEACH	North
CHEVALLUM	North
CLEAR MOUNTAIN	South
CLONTARF	South
CLOSEBURN	South
COES CREEK	North
COOCHIN CREEK	North
COOLUM BEACH	North

Suburb	Region
COORAN	North
COOROIBAH	North
COOROY	North
CURRIMUNDI	North
D'AGUILAR	South
DAKABIN	Pine Rivers North
DAYBORO	Dayboro
DECEPTION BAY	South
DELANEYS CREEK	South
DICKY BEACH	North
DIDDILLIBAH	North
DONNYBROOK	South
DRAPER	South
EAST BURPENGARY	South
EATONS HILL	South
EERWAH VALE	North
ELIMBAH	South
EUMUNDI	North
EVERTON HILLS	South
EVERTON PARK	South
FERNY HILLS	South
FOREST GLEN	North
GLASS HOUSE MOUNTAINS	North
GLENVIEW	North
GODWIN BEACH	South
GOLDEN BEACH	North
GRIFFIN	Pine Rivers North
HIGHVALE	South
HIGHWORTH	North
IMAGE FLAT	North
JOYNER	South
KALLANGUR	Pine Rivers North
KENILWORTH	Kenilworth
KIELS MOUNTAIN	North
KINGS BEACH	North
KIPPA-RING	South
KULANGOOR	North
KULUIN	North
KUNDA PARK	North
KUREELPA	North
KURWONGBAH	Pine Rivers North
LAKE MACDONALD	North

Your suburb and its water supply region



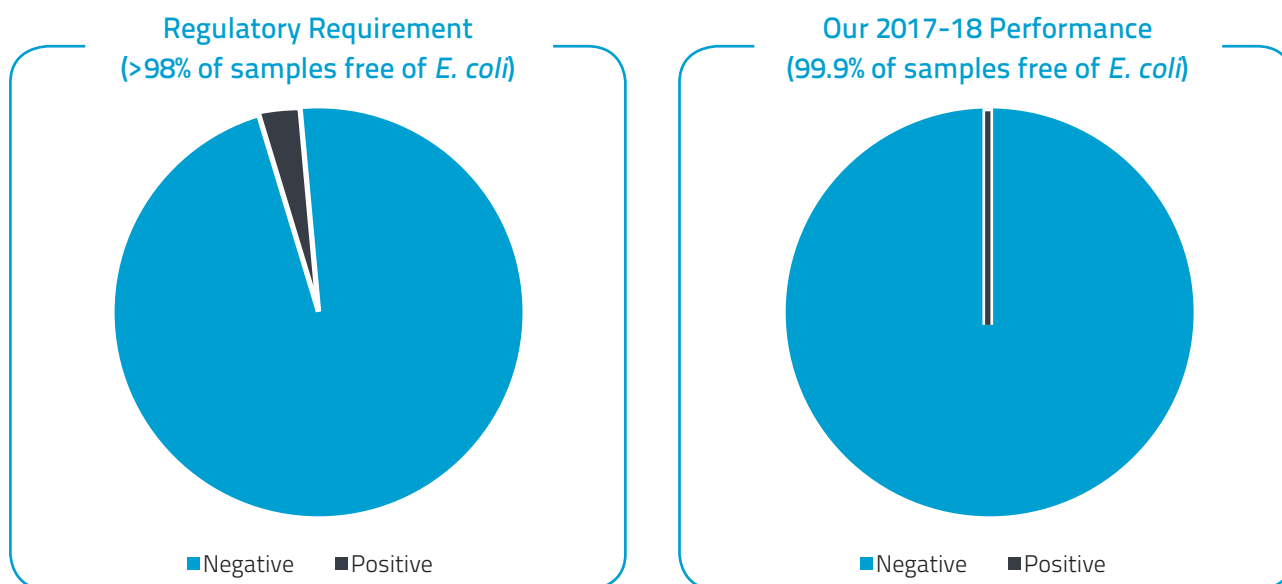
Suburb	Region
LANDSBOROUGH	North
LAWNTON	Pine Rivers North
LITTLE MOUNTAIN	North
MALENY	North
MANGO HILL	Pine Rivers North
MARCOOLA	North
MARCUS BEACH	North
MARGATE	South
MAROOCHY RIVER	North
MAROOCHYDORE	North
MELDALE	South
MERIDAN PLAINS	North
MINYAMA	North
MOFFAT BEACH	North
MONS	North
MOODLU	South
MOOLOOLABA	North
MOOLOOLAH VALLEY	North
MORAYFIELD	South
MOUNT COOLUM	North
MOUNT MELLUM	North
MOUNTAIN CREEK	North
MUDJIMBA	North
MURRUMBA DOWNS	Pine Rivers North
NAMBOUR	North
NARANGBA	South
NEWPORT	South
NINDERRY	North
NINGI	South
NOOSA HEADS	North
NOOSA NORTH SHORE	North
NOOSAVILLE	North
NORTH ARM	North
NORTH LAKES	Pine Rivers North
PACIFIC PARADISE	North
PALMVIEW	North
PALMWOODS	North
PARKLANDS	North
PARREARRA	North
PELICAN WATERS	North
PEREGIAN BEACH	North
PEREGIAN SPRINGS	North

Suburb	Region
PETRIE	Pine Rivers North
POINT ARKWRIGHT	North
POMONA	North
REDCLIFFE	South
ROSEMOUNT	North
ROTHWELL	South
SAMFORD VALLEY	South
SAMFORD VILLAGE	South
SAMSONVALE	South
SANDSTONE POINT	South
SCARBOROUGH	South
SHELLY BEACH	North
SIPPY DOWNS	North
SOUTH CABOOLTURE	South
STRATHPINE	South
SUNRISE BEACH	North
SUNSHINE BEACH	North
TANAWHA	North
TEWANTIN	North
TINBEERWAH	North
TOORBUL	South
TOWEN MOUNTAIN	North
TWIN WATERS	North
UPPER CABOOLTURE	South
WAMURAN	South
WARANA	North
WARNER	South
WEST WOOMBYE	North
WHITE PATCH	South
WHITESIDE	Pine Rivers North
WIGHTS MOUNTAIN	South
WOODFORD	South
WOODY POINT	South
WOOMBYE	North
WOORIM	South
WURTULLA	North
YANDINA	North
YAROOMBA	North
YUGAR	South

In 2017-18, Unitywater collected approximately 7,500 water samples and performed over 70,000 water quality tests. Out of these 70,000 tests, only seven results exceeded a health-based guideline value. Our detailed performance summaries are provided later in this report. You can also visit the Unitywater website and enter your postcode to see water quality results in your area - <https://www.unitywater.com/about-us/our-business/water-quality>.

E. coli

As a Queensland water service provider, we are obligated to meet the requirements of the *Public Health Regulation 2005*. One of these requirements is to take water samples and undertake *E. coli* testing, with a minimum of 98% of these samples returning a negative result. Our 2017-18 performance was 99.9%.



There were six sample results out of more than 4,500 that were positive for *E. coli*. Five of these six results occurred on 12 and 13 March, in unrelated water supply areas. We undertook a detailed review of our water systems, operations and maintenance activities, and water quality performance across all of these areas, and there was no evidence that contamination of the water supply had occurred. In all cases the Regulator was promptly informed with immediate follow-up testing confirming no contamination had occurred.

Trihalomethanes

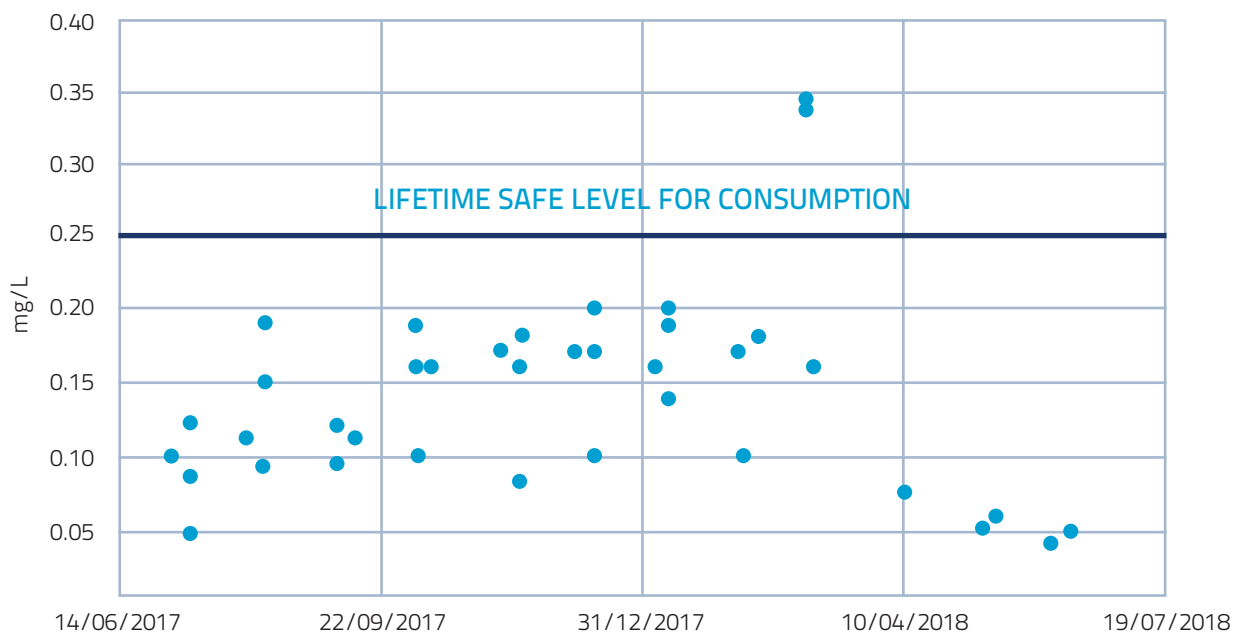
When a disinfectant such as chlorine is added to water, it can react with naturally occurring organic material to produce chemicals known as trihalomethanes.

The Australian Drinking Water Guidelines (ADWG) specifies health-based limits; which are the levels of safety for various chemical parameters over a lifetime of water consumption. The health-based guideline for total trihalomethanes (THMs) is 0.25 milligrams per litre (mg/L). This means that research has demonstrated it is safe to consume water containing 0.25mg/L total THMs every day for a lifetime.

The typical concentration of THMs in all of Unitywater's drinking water schemes is well below 0.25mg/L. However in an isolated event, two sample results in the Pine Rivers North scheme exceeded the health guideline in March 2018. At the time, the area's water was supplied by Seqwater's Petrie Water Treatment Plant which was near the end of its working life. This plant was decommissioned in April 2018 and the Pine Rivers North scheme is now connected to the South East Queensland water grid meaning a repeat occurrence is very unlikely.

The event is shown in the graph below, along with the remainder of the THM results for the Pine Rivers North scheme. The 95th percentile (a statistical calculation) of the THM results was 0.2mg/L, well below the long term health guideline. The ADWG states that THM concentrations fluctuating occasionally (for a day or two annually) up to 1mg/L is unlikely to pose a significant health risk.

Pine Rivers North Trihalomethanes Results



Drinking water quality performance snapshot

The table below briefly summarises drinking water performance across three categories, by each supply region.

Microbiological performance is said to have met the performance requirement if more than 98% of samples from the supply region 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 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 is below the Australian Drinking Water Guidelines aesthetic value for that chemical.

Supply Region	Microbiological Performance	Chemical (Health) Performance	Chemical (Aesthetic) Performance
Dayboro	✓	✓	✓
Kenilworth	✓	✓	✓
North	✓	✓	✓
Pine Rivers North	✓	✓	✓
South	✓	✓	✓

Microbiological performance in detail

The table below summarises our microbiological performance against the requirements of the *Public Health Regulation 2005*:

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	124	0	98%	100%	✓
Kenilworth	176	0	98%	100%	✓
North	2075	3	98%	99.9%	✓
Pine Rivers North	378	0	98%	100%	✓
South	1798	3	98%	99.8	✓
Overall	4551	6	98%	99.9%	✓

PHR = *Public Health Regulation 2005*

Chemical Performance

JULY 2017 - JUNE 2018

Dayboro

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	4	<0.005	<0.005	<0.005	<0.005	0.02	✓
Chlorate	mg/L	24	<0.01	0.47	0.16	0.40	a	a
Chlorine Free	mg/L	178	0.2	1.6	0.93	1.4	5	✓
Chlorine Total	mg/L	178	0.2	1.7	0.99	1.5	5	✓
Copper	mg/L	24	<0.01	<0.01	<0.01	<0.01	2	✓
Fluoride	mg/L	24	0.74	0.94	0.85	0.92	1.5	✓
HAAs	ug/L	2	<60	<60	<60	<60	a	a
Lead	mg/L	24	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	84	<0.01	<0.01	<0.01	<0.01	0.5	✓
Nickel	mg/L	24	<0.01	<0.01	<0.01	<0.01	0.02	✓
THMs	mg/L	22	0.017	0.11	0.055	0.11	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 ₃	12	42	126	87.7	123	a	a
Aluminium	mg/L	84	<0.02	0.02	<0.02	0.02	0.2	✓
Calcium	mg/L	12	10	14	11.3	13.5	a	a
Chloride	mg/L	4	26	34	29.3	33.4	250	✓
Colour Apparent	PCU	60	<1	2.7	1.0	1.9	15	✓
Colour True	PCU	60	<1	2.2	<1	1.1	15	✓
Conductivity	uS/cm	174	237	445	290	363	1000	✓
Copper	mg/L	24	<0.01	<0.01	<0.01	<0.01	1	✓
Iron	mg/L	84	<0.01	0.03	0.01	0.03	0.3	✓
Magnesium	mg/L	12	7	9	8.3	9	a	a
Manganese	mg/L	84	<0.01	<0.01	<0.01	<0.01	0.1	✓
pH	pH Units	174	7	8.1	7.5	7.9	6.5-9.2	✓
Potassium	mg/L	4	1.4	1.9	1.63	1.86	a	a
Silica as SiO ₂	mg/L	2	12	12	12	12	80	✓
Sodium	mg/L	4	25	32	28.8	31.7	180	✓
Sulphate	mg/L	1	6.9	6.9	6.9	6.9	250	✓
Temperature	°C	174	15.5	30.1	22.9	28.2	a	a
Total Hardness	mg/L as CaCO ₃	12	53	72	62	68.7	200	✓
Turbidity	NTU	174	0.08	0.3	0.16	0.23	5	✓
Zinc	mg/L	24	<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	1	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	4	<0.005	0.006	<0.005	0.005	0.02	✓
Chlorate	mg/L	36	0.02	0.2	0.10	0.19	a	a
Chlorine Free	mg/L	181	<0.1	2	0.99	1.5	5	✓
Chlorine Total	mg/L	181	0.1	2.1	1.1	1.6	5	✓
Copper	mg/L	36	<0.01	<0.01	<0.01	<0.01	2	✓
Fluoride	mg/L	36	<0.1	0.69	0.22	0.42	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	✓
THMs	mg/L	36	0.005	0.098	0.026	0.069	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 ₃	12	25.8	169	136	169	a	a
Aluminium	mg/L	48	<0.02	0.02	<0.02	<0.02	0.2	✓
Calcium	mg/L	12	16	22	18.5	21.5	a	a
Chloride	mg/L	4	35	68	45.5	64.1	250	✓
Colour Apparent	PCU	48	<1	2	<1	1.30	15	✓
Colour True	PCU	48	<1	1.1	<1	<1	15	✓
Conductivity	uS/cm	173	309	468	413	457	1000	✓
Copper	mg/L	36	<0.01	<0.01	<0.01	<0.01	1	✓
Iron	mg/L	48	<0.01	0.03	<0.01	0.01	0.3	✓
Magnesium	mg/L	12	7	12	10	11	a	a
Manganese	mg/L	48	<0.01	<0.01	<0.01	<0.01	0.1	✓
pH	pH Units	173	7.1	7.7	7.4	7.6	6.5-9.2	✓
Potassium	mg/L	4	<1	1.2	<1	1.2	a	a
Silica as SiO₂	mg/L	2	24	24	24	24	80	✓
Sodium	mg/L	4	51	62	56	61.4	180	✓
Sulphate	mg/L	1	11	11	11	11	250	✓
Temperature	°C	180	18.5	32.3	23.9	29.8	a	a
Total Hardness	mg/L as CaCO ₃	12	80	95	88	94	200	✓
Turbidity	NTU	176	<0.05	3.2	0.14	0.24	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	9	<0.001	0.002	<0.001	0.001	0.01	✓
Bromate	mg/L	36	<0.005	0.01	<0.005	0.009	0.02	✓
Chlorate	mg/L	262	<0.01	0.41	0.07	0.31	a	a
Chlorine Free	mg/L	3,733	<0.1	2.8	0.84	1.60	5	✓
Chlorine Total	mg/L	3,733	<0.1	3	0.95	1.70	5	✓
Copper	mg/L	262	<0.01	0.02	<0.01	<0.01	2	✓
Fluoride	mg/L	262	0.17	1.11	0.73	0.90	1.5	✓
HAAs	ug/L	22	<60	<60	<60	<60	a	a
Lead	mg/L	262	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	1,402	<0.01	0.19	<0.01	<0.01	0.5	✓
Nickel	mg/L	262	<0.01	<0.01	<0.01	<0.01	0.02	✓
THMs	mg/L	264	0.005	0.22	0.072	0.15	0.25	✓

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 ₃	106	10	88.6	39.5	59.3	a	a
Aluminium	mg/L	1,402	<0.02	0.1	<0.02	0.02	0.2	✓
Calcium	mg/L	106	10	36	19.2	27.8	a	a
Chloride	mg/L	36	15	76	29.3	57.5	250	✓
Colour Apparent	PCU	1,406	<1	90	1.5	3.7	15	✓
Colour True	PCU	1,406	<1	5	<1	1.40	15	✓
Conductivity	uS/cm	3,547	151	438	230	343	1000	✓
Copper	mg/L	262	<0.01	0.02	<0.01	<0.01	1	✓
Iron	mg/L	1,402	<0.01	1.23	0.01	0.04	0.3	✓
Magnesium	mg/L	106	1	15	4.8	10.8	a	a
Manganese	mg/L	1,402	<0.01	0.19	<0.01	<0.01	0.1	✓
pH	pH Units	3,547	6.9	9.1	7.5	8.2	6.5-9.2	✓
Potassium	mg/L	36	1.2	2.3	1.61	2.13	a	a
Silica as SiO₂	mg/L	18	2	10	5.67	9.15	80	✓
Sodium	mg/L	36	9	40	18	35	180	✓
Sulphate	mg/L	9	23	64	33.7	57.6	250	✓
Temperature	°C	3,623	14.9	30.6	22.9	27.7	a	a
Total Hardness	mg/L as CaCO ₃	106	39	119	68	96	200	✓
Turbidity	NTU	3,600	<0.05	8.6	0.15	0.30	5	✓
Zinc	mg/L	262	<0.01	0.03	<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	2	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	8	<0.005	0.006	<0.005	0.006	0.02	✓
Chlorate	mg/L	47	0.02	0.66	0.20	0.51	a	a
Chlorine Free	mg/L	427	<0.1	2.3	0.97	2.00	5	✓
Chlorine Total	mg/L	427	<0.1	2.8	1.38	2.50	5	✓
Copper	mg/L	47	<0.01	0.05	<0.01	0.04	2	✓
Fluoride	mg/L	47	<0.1	0.88	0.33	0.86	1.5	✓
HAAs	ug/L	4	<60	124	77	118	a	a
Lead	mg/L	47	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	194	<0.01	0.01	<0.01	<0.01	0.5	✓
Monochloramine NH₂Cl	mg/L	100	<0.02	1.82	0.39	1.51	3	✓
Nickel	mg/L	47	<0.01	<0.01	<0.01	<0.01	0.02	✓
Nitrite as NO₂	mg/L	101	<0.02	1.06	0.53	1.02	3	✓
THMs	mg/L	44	0.039	0.34	0.13	0.2	0.25	✓

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 ₃	24	21.8	51.3	36.0	50.6	a	a
Aluminium	mg/L	194	<0.02	0.05	<0.02	0.03	0.2	✓
Calcium	mg/L	24	12	19	15	18	a	a
Chloride	mg/L	8	22	36	27.4	33.9	250	✓
Colour Apparent	PCU	161	<1	4.6	1.5	2.6	15	✓
Colour True	PCU	161	<1	2.5	<1	1.8	15	✓
Conductivity	uS/cm	426	200	451	250	299	1000	✓
Copper	mg/L	47	<0.01	0.05	<0.01	0.04	1	✓
Iron	mg/L	194	<0.01	0.02	<0.01	0.01	0.3	✓
Magnesium	mg/L	24	3	7	4.6	6	a	a
Manganese	mg/L	194	<0.01	0.01	<0.01	<0.01	0.1	✓
pH	pH Units	426	7	8.4	7.5	8.0	6.5-9.2	✓
Potassium	mg/L	8	2	2.6	2.34	2.60	a	a
Silica as SiO₂	mg/L	4	3	4	3.50	4.00	80	✓
Sodium	mg/L	8	17	29	22.0	26.9	180	✓
Sulphate	mg/L	2	42	45	43.5	44.9	250	✓
Temperature	°C	425	17.2	30.8	23.9	29.2	a	a
Total Hardness	mg/L as CaCO ₃	24	44	77	57	64	200	✓
Turbidity	NTU	425	0.06	2.3	0.14	0.24	5	✓
Zinc	mg/L	47	<0.01	0.01	<0.01	<0.01	3	✓

a - No guideline limit

South

Chemical (health) performance

Parameter	Units	Number of Samples	Min Result	Max Result	Average Result	95th Percentile	ADWG Guideline	Met ADWG
Arsenic	mg/L	8	<0.001	<0.001	<0.001	<0.001	0.01	✓
Bromate	mg/L	32	<0.005	0.01	<0.005	0.009	0.02	✓
Chlorate	mg/L	282	0.02	1.48	0.22	0.65	a	a
Chlorine Free	mg/L	2,942	<0.1	4	0.35	1.4	5	✓
Chlorine Total	mg/L	2,942	<0.1	4.8	1.1	2.9	5	✓
Copper	mg/L	275	<0.01	<0.01	<0.01	<0.01	2	✓
Fluoride	mg/L	275	0.17	0.96	0.79	0.91	1.5	✓
HAAs	ug/L	23	<60	<60	<60	<60	a	a
Lead	mg/L	275	<0.01	<0.01	<0.01	<0.01	0.01	✓
Manganese	mg/L	1,081	<0.01	0.17	<0.01	<0.01	0.5	✓
Monochloramine NH₂Cl	mg/L	1,982	<0.02	2.21	0.44	1.61	3	✓
Nickel	mg/L	275	<0.01	<0.01	<0.01	<0.01	0.02	✓
Nitrite as NO₂⁻	mg/L	1,982	<0.02	1.39	0.18	0.73	3	✓
THMs	mg/L	256	0.005	0.21	0.074	0.14	0.25	✓

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 ₃	96	32.8	78.2	45.4	52.5	a	a
Aluminium	mg/L	1,081	<0.02	0.42	0.02	0.04	0.2	✓
Calcium	mg/L	96	10	23	14.2	19	a	a
Chloride	mg/L	32	17	34	24.5	30.4	250	✓
Colour Apparent	PCU	1,019	<1	47	1.7	3.2	15	✓
Colour True	PCU	1,019	<1	4	<1	1.8	15	✓
Conductivity	uS/cm	2,768	182	576	249	343	1000	✓
Copper	mg/L	275	<0.01	<0.01	<0.01	<0.01	1	✓
Iron	mg/L	1,081	<0.01	0.78	0.01	0.04	0.3	✓
Magnesium	mg/L	96	3	14	5.5	6	a	a
Manganese	mg/L	1,081	<0.01	0.17	<0.01	<0.01	0.1	✓
pH	pH Units	2,769	6.9	8.7	7.7	8.1	6.5-9.2	✓
Potassium	mg/L	32	1.3	2.3	2.0	2.3	a	a
Silica as SiO₂	mg/L	23	4	5	4.1	5.0	80	✓
Sodium	mg/L	32	13	25	19.9	24	180	✓
Sulphate	mg/L	8	20	25	22.1	24.3	250	✓
Temperature	°C	2,817	15.1	33	23.2	28.1	a	a
Total Hardness	mg/L as CaCO ₃	96	47	116	58.5	66.3	200	✓
Turbidity	NTU	2,796	<0.05	11	0.16	0.26	5	✓
Zinc	mg/L	275	<0.01	0.02	<0.01	<0.01	3	✓

a - No guideline limit

What we're doing

We're continually challenging ourselves to improve and innovate in the way we manage your drinking water.

Below is an example of some of our current projects, plans and activities.

ISO22000 drinking water safety management system

In 2016, we sought and gained accreditation against the International Standard ISO22000:2005 Food Safety Management Systems. This demonstrates Unitywater's recognition of drinking water as a food product, as well as our commitment to our customers' health and wellbeing. We recently underwent a "surveillance audit", from which only one minor non-conformance was raised (and immediately rectified). This accreditation sets us apart from most other water service providers in Australia, and we will continue to set the bar high when it comes to drinking water safety.

Petrie water supply upgrade

Seqwater's Petrie Water Treatment Plant had lived a long and productive life. Having been built in the late 1950s, this plant supplied water to residents in Dakabin, North Lakes, Mango Hill, Kallangur, Murrumba Downs, Griffin, Petrie, Lawnton and Strathpine. With the South East Queensland Water Grid running through these areas, the decision was made to decommission the treatment plant and connect into the water grid instead. Unitywater and Seqwater worked in partnership to make sure that the plant was decommissioned safely, and that the new water infrastructure met the necessary requirements. In March and April 2018, the water supply transition was successfully undertaken without interruption to our customers, or impact to water quality. Ultimately, this new configuration provides a more reliable source of water, and increases the efficiency of operating the water grid.

Back to Tap

Did you know that the drinking water coming out of your tap costs you less than 1 cent per litre? On average, bottled water is around 2000 times more expensive! Research has shown that many people believe that bottled water is safer and of higher quality than tap water, however several studies have proven that this is not the case. If you don't like the taste of chlorine in your water, consider options such as filling a jug and storing it in the fridge, adding a slice of lemon to your glass or jug, or even purchasing a simple carbon filter for your kitchen tap. This will save you money in the long run and reduce plastic waste going to landfill.

You can read about Unitywater's Back to Tap project on our website!

unitywater.com/community/back-to-tap-project

Integrated works plan

We are currently introducing an improved works management system to provide greater efficiencies in the way we carry out our maintenance activities. Called the Integrated Works Plan, the focus is on using GPS information from our fleet of maintenance vehicles, and our other smart data platforms, so that jobs can be dispatched to the nearest available crew. This cuts down on travel time, meaning that impacts to our customers will be minimised, and more work can be carried out in any given day!

Per and poly-fluoroalkyl substances (PFAS)

In response to emerging concerns within the community regarding PFAS in drinking water, and recent detections elsewhere in Queensland, Unitywater conducted PFAS testing within our drinking water supply systems. Although there weren't any obvious PFAS sources that could impact our water supplies, this testing provides additional assurance to our customers and regulators that Unitywater takes community concerns seriously. As expected, no traces of PFAS were found in our water supply.

Supervisory control and data acquisition

If you're an engineer, chances are you've heard of Supervisory Control and Data Acquisition (SCADA) systems. You would also know that it's a standard technology for the automatic management and monitoring of infrastructure networks (such as those used in water, power, or manufacturing). However for those of you that aren't techno-crats, we thought we would give you some interesting information on what SCADA is and how we use it!

Since our formation in 2010, Unitywater has consolidated many historical SCADA systems into the one – our ClearSCADA platform. Managed by our diligent Network Operations staff, the SCADA network allows us to see information from water assets all over our supply area. This information includes water quality data (such as chlorine and pH), water pressure, reservoir levels, and flow rates. This means when something goes wrong, we can often see it happening in real time and arrange for the problem to be fixed.

"ATP" testing

At Unitywater, we are always looking for new ways to get water quality information in as short a time as possible. Standard microbiological test methods often take upwards of 24 hours before a result can be obtained. This is because the test actually requires laboratory staff to "grow" the microorganisms and either count them directly; or measure the enzymes they produce as they grow.

More recently, a new test method has emerged that allows the detection of microbiological activity very rapidly. This method works by directly measuring the amount of adenosine tri-phosphate (ATP) in the sample. ATP is a molecule found in all living cells, from the tiniest microorganism all the way up to humans!

We have conducted ATP testing trials in previous years, and we are now looking at ways to utilise this test method to help us in our analysis of water quality.

Mains cleaning

Tiny amounts of microscopic sediment settle out of drinking water over time, meaning that some parts of water networks will end up with a sediment layer on the bottom of pipes. Under normal circumstances, this does not impact on water quality to customers. However, if there is a sudden change in the water flow rate or flow direction, the sediment can be stirred up and cause the water to become cloudy or discoloured in appearance.

The only practical way to reduce the chance of this occurring, is to periodically clean water mains. This normally involves turning off the supply at customer's water meters for a short period of time, and then flushing the water through the pipes in the street at a high velocity until it runs clear.

Along with the flushing program, Unitywater also manages a mains cleaning program and has previously worked with a third party in using a technology that cleans, disinfects, and reinjects the flushed water back into the pipes so that no water is wasted. We plan to clean another 137 kilometres of water mains in this way in 2018-19!

Water quality analysis tool

Occasionally pipes break and have to be repaired, assets are proactively replaced, or new infrastructure is connected to existing pipe networks in order to service our growing population. Whenever this occurs, there is a risk of disturbing microscopic sediment leading to discoloured water (see 'Mains Cleaning' above).

Unitywater has developed the Water Quality Analysis Tool which uses spatial information, maintenance records from the Maximo system, and water quality data to assist our team in helping customers through water quality events.

Automatic alerts notify the business of clusters of water quality enquiries, and the Water Quality Analysis Tool is used to increase our efficiency in responding to the event.



Unitywater

Serving you today,
investing in tomorrow.

-
-  unitywater.com
 -  **1300 086 489**
Emergencies and Faults 24 hours
Customer Service: 7am - 6pm,
Mon - Fri (except public holidays)
 -  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
-

Unitywater has certification to
OH&S ISO 4801
Environmental ISO 14001
Quality Systems ISO 9001
Food Safety Management ISO 22000



HEALTH
& SAFETY



ENVIRONMENTAL



QUALITY
SYSTEMS



FOOD
SAFETY



WORLD RECOGNISED
ACCREDITATION

