



Unitywater

Serving you today, investing in tomorrow.

Recycled Water Performance Report

1 JULY 2019 – 30 JUNE 2020



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Message from the CEO

I am pleased to present Unitywater's Recycled Water Performance Report for 2019-20 and share the results of our recycled water.

Unitywater provides fit for purpose recycled water treated to meet our customers' end use.

This report demonstrates our ongoing commitment to quality and compliance, with our recycled water meeting the requirements of the *Water Supply (Safety and Reliability) Act 2008* and *Public Health Act 2005*.

The importance of planning for the future in an unpredictable climate is critical in the delivery of sustainable water outcomes. The constant threat of drought poses a risk to our water supply and reminds us how precious our water supplies are. As we can no longer rely on the rain, recycled water is becoming an increasingly valuable alternative to potable water, particularly for commercial, agricultural and industrial purposes.

Looking forward, we plan to further engage with key stakeholders and the broader community to increase the use of recycled water where possible, reducing the reliance on potable water.

I trust the information in this report provides confidence in the quality and reliability of your recycled water.



George Theo
Chief Executive Officer

Introduction

Recycled water is supplied for customer reuse throughout the Unitywater supply region and may be used for a number of approved purposes including residential, commercial, municipal and industrial applications.

Unitywater monitors the water quality of each recycled water scheme. This report provides a summary of recycled water quality performance to assist our customers in managing their on-site activities.

If you have any questions regarding recycled water, please visit unitywater.com/business/recycled-water

Key Facts



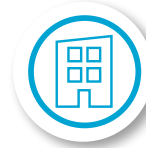
1,282ML
recycled water supplied



12
schemes supplying recycled water



5
classes supplied: A+, A, B, C, D



35
fixed site commercial, industrial and municipal customers



1203
residential customer connections



107
tanker carrier customers



134
km of recycled water mains



Approved uses of recycled water

Unitywater supplies five classes of recycled water: Class A+, Class A, Class B, Class C and Class D. Each class is of a different quality and is restricted to certain uses.

Below is a summary list of approved uses by classification.

For further information on approved uses, please visit unitywater.com/business/recycled-water

Use	Class A+	Class A	Class B	Class C	Class D
Irrigation of residential gardens and lawns - above ground	✓	-	-	-	-
Irrigation of residential gardens and lawns - below ground	✓	✓	-	-	-
Filling or topping up of residential "non-drinking water" rainwater tanks - NOT PERMITTED	-	-	-	-	-
Dust suppression, compaction	✓	✓	✓ ^a	-	-
Watering parks, playing fields, footpaths and roadside plants	✓	✓	✓ ^a	✓ ^a	-
Filling fenced ponds, lagoons and dams (not used for recreational purposes)	✓	✓	-	-	-
Filling non-fenced ponds, lagoons and dams (not used for recreational purposes)	✓	-	-	-	-
Road works	✓	✓	✓ ^a	-	-
Washing cars	✓	-	-	-	-
Washing animals (except pigs)	✓	-	-	-	-
Hydraulic testing of sewer infrastructure	✓	✓	✓	✓	-
Irrigation of landscaping on construction site	✓	✓	✓ ^a	-	-
Filling or topping up of swimming pools or spas NOT PERMITTED	-	-	-	-	-
Irrigating sugar cane destined for non-edible purposes (fixed site users only)	✓	✓	✓	✓ ^a	✓ ^a
Irrigating turf (fixed site users only)	✓	✓	✓	✓ ^a	✓ ^a
Irrigation of food crops	✓ ^a	✓ ^a	-	-	-

- ✓ listed use is approved for this class of recycled water
- listed use not approved for this class of recycled water
- ✓^a use is accepted only under strict site controls including site management plans

Recycled water scheme information

Scheme	Class available Fixed-site customers*	Class available Tanker fill station	Tanker fill station location**
Brendale	Class B	Class B	3/26 Cribb Road
Coolum	Class B	Class B	Lot 2 Marsh Road
Kawana	Class B	Class B	Lot 101 Main Drive
Landsborough	Not supplied	Class B	Lot 10 Forestry Road
Maleny	Class B	Not supplied	Not supplied
Maroochydore	Class B / Class D	Class B	38 Commercial Road
Murrumba Downs	Class B	Class B	Lot 2 Bickle Road
Nambour	Class B / Class D	Class B	Lot 1 Bli Bli Road
Noosa	Class A	Class A	Lot 14 Wallum Lane
Redcliffe	Class C	Not supplied	Not supplied
South Caboolture	Class A+	Class A+	600 Market Dr, Morayfield Mewett St, Caboolture Caboolture Regional Aquatic Centre, Burpengary
Woodford	Class A	Class A	Neurum Road, adjacent Woodford Showgrounds

*Fixed site customer has a connection to a recycled water main

** Tanker fill stations require a standpipe supplied from Unitywater to access

Units of measurement definitions

Units/Parameter	Definition
MPN/100mL	Most Probable Number per 100 millilitre
CFU/100mL	Colony Forming Units per 100 millilitre
mg/L	Milligrams per litre
µS/cm	Microsiemens per centimetre
pH units	pH units
NTU	Nephelometric Turbidity Units
Nitrogen (ammonia)	Ammoniacal nitrogen (NH ₃ -N) is a measure for the amount of ammonia found in effluent
Nitrogen (oxidised)	The sum of nitrate-nitrogen (NO ₃ -N) and nitrite-nitrogen (NO ₂ -N) only
Nitrogen (total)	The sum of nitrate-nitrogen (NO ₃ -N), nitrite-nitrogen (NO ₂ -N), ammonia-nitrogen (NH ₃ -N) and organically bound nitrogen (N _{org} -N)
Phosphorous (total)	The sum of three forms of phosphorous species: reactive, condensed and organic
Median	The middle value of the dataset. <i>E. coli</i> results are reported as a median in this performance report

Recycled water class definition

Class	Classification/Requirement For an annual rolling limit, 95% of the samples reviewed must contain less than the following amounts of <i>Escherichia coli</i> .
A+	1 cfu/100mL or MPN/100mL
A	10 cfu/100mL or MPN/100mL
B	100 cfu/100mL or MPN/100mL
C	1000 cfu/100mL or MPN/100mL
D	10000 cfu/100mL or MPN/100mL

Brendale Sewage Treatment Plant

Fixed site and tanker customers Class B			
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	54 ^b	<1*
Conductivity	µS/cm	50	770
Nitrogen (ammonia)	mg/L	54	<1*
Nitrogen (oxidised)	mg/L	51	0.3
Nitrogen (total)	mg/L	51	2.7
pH	pH Units	51	4.5
Phosphorous (total)	mg/L	96	7.4
Suspended solids	mg/L	51	0.5

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Coolum Sewage Treatment Plant

Fixed site and tanker customers Class B			
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	49 ^b	3*
Conductivity	µS/cm	50	770
Nitrogen (ammonia)	mg/L	50	1.6
Nitrogen (oxidised)	mg/L	50	0.5
Nitrogen (total)	mg/L	50	3.1
pH	pH Units	50	7.5
Phosphorous (total)	mg/L	50	0.5
Suspended solids	mg/L	49	4

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Kawana Sewage Treatment Plant

Parameter	Units	Fixed site customers Class B		Tanker customers Class B	
		Number of tests	Average	Number of tests	Average
<i>E. coli</i>	MPN/100mL	38 ^b	16*	35 ^b	1*
Conductivity	µS/cm	40	1039	46	1010
Nitrogen (ammonia)	mg/L	39	9.4	46	8.1
Nitrogen (oxidised)	mg/L	39	10.2	46	11.2
Nitrogen (total)	mg/L	39	22.5	46	21.2
pH	pH Units	40	7.1	46	7
Phosphorous (total)	mg/L	39	4.1	46	4.1
Suspended solids	mg/L	36	8	43	8

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance). The Kawana recycled water scheme was isolated for a number of weeks in 2019-20 due to upgrade works occurring at the treatment plant.

*Median value

Landsborough Sewage Treatment Plant

		Tanker customers Class B	
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	50 ^b	1*
Conductivity	µS/cm	50	595
Nitrogen (ammonia)	mg/L	50	0.6
Nitrogen (oxidised)	mg/L	50	0.6
Nitrogen (total)	mg/L	50	2.4
pH	pH Units	50	7.6
Phosphorous (total)	mg/L	50	1.5
Suspended solids	mg/L	47	6

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Maleny Sewage Treatment Plant

		Fixed site customers Class B	
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	55 ^b	<1*
Conductivity	µS/cm	53	556
Nitrogen (ammonia)	mg/L	53	<0.05
Nitrogen (oxidised)	mg/L	53	2.5
Nitrogen (total)	mg/L	53	3.1
pH	pH Units	53	7.2
Phosphorous (total)	mg/L	53	0.3
Suspended solids	mg/L	50	4

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Maroochydore Sewage Treatment Plant

Parameter	Units	Fixed site and tanker customers Class B		Private land irrigators Class D	
		Number of tests	Average	Number of tests	Average
<i>E. coli</i>	MPN/100mL	42 ^b	250*	52 ^b	6*
Conductivity	µS/cm	44	2251	44	2251
Nitrogen (ammonia)	mg/L	44	0.3	44	0.3
Nitrogen (oxidised)	mg/L	44	0.7	44	0.7
Nitrogen (total)	mg/L	44	1.9	44	1.9
pH	pH Units	44	7.2	44	7.2
Phosphorous (total)	mg/L	44	0.2	44	0.2
Suspended solids	mg/L	43	8	43	8

^b as per *Public Health Regulation 2018*, *E. coli*s sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Murrumba Downs Sewage Treatment Plant

Fixed site and tanker customers Class B			
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	51 ^b	<1*
Conductivity	µS/cm	49	783
Nitrogen (ammonia)	mg/L	47	0.1
Nitrogen (oxidised)	mg/L	47	<0.5
Nitrogen (total)	mg/L	47	1.2
pH	pH Units	50	7.7
Phosphorous (total)	mg/L	47	0.7
Suspended solids	mg/L	45	3

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Nambour Sewage Treatment Plant

Parameter	Units	Fixed site and tanker customers Class B		Private land irrigators Class D	
		Number of tests	Average	Number of tests	Average
<i>E. coli</i>	MPN/100mL	53 ^b	<1*	52 ^b	29*
Conductivity	µS/cm	53	792	53	792
Nitrogen (ammonia)	mg/L	53	0.1	53	0.1
Nitrogen (oxidised)	mg/L	53	0.7	53	0.7
Nitrogen (total)	mg/L	53	1.7	53	1.7
pH	pH Units	53	7.5	53	7.5
Phosphorous (total)	mg/L	53	0.3	53	0.3
Suspended solids	mg/L	52	3	52	3

^b as per Public Health Regulation 2018, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Noosa Sewage Treatment Plant

Fixed site and tanker customers Class A			
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	50 ^b	<1*
Conductivity	µS/cm	51	1817
Nitrogen (ammonia)	mg/L	50	0.1
Nitrogen (oxidised)	mg/L	50	3.9
Nitrogen (total)	mg/L	50	4.9
pH	pH Units	51	7.5
Phosphorous (total)	mg/L	50	0.19
Suspended solids	mg/L	48	6.2

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Redcliffe Sewage Treatment Plant

		Fixed site customers Class B	
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	45 ^b	<1*
Conductivity	µS/cm	47	1547
Nitrogen (ammonia)	mg/L	43	1.1
Nitrogen (oxidised)	mg/L	43	2.4
Nitrogen (total)	mg/L	43	4.6
pH	pH Units	47	7.2
Phosphorous (total)	mg/L	43	0.2
Suspended solids	mg/L	40	7

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

Woodford Sewage Treatment Plant

		Fixed site and tanker customers Class A	
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	41 ^b	<1*
Conductivity	µS/cm	46	898
Nitrogen (ammonia)	mg/L	45	0.1
Nitrogen (oxidised)	mg/L	45	1.6
Nitrogen (total)	mg/L	45	2.5
pH	pH Units	46	7.8
Phosphorous (total)	mg/L	45	0.5
Suspended solids	mg/L	43	4

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value

South Caboolture Recycled Water Network

Commercial, industrial, municipal
and residential customers
Class A+

Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	48 ^b	<1*
Free chlorine	µS/cm	252	0.4
Total chlorine	mg/L	252	0.8
Conductivity	uS/cm	252	240
Turbidity	NTU	257	0.2

^b as per *Public Health Regulation 2018*, *E. coli* is sampled weekly, unless the recycled water scheme is isolated (e.g. due to planned maintenance)

*Median value



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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

