



Unitywater

Serving you today, investing in tomorrow.

Annual Recycled Water Performance Report

1 JULY 2020 – 30 JUNE 2021

Recycled water at a glance



722ML

recycled water
supplied
in 2020-21

12

schemes supplying
recycled water

5

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

29

fixed site commercial,
industrial and
municipal customers

1,203

customer
connections
in 2020-21

100

tanker carrier
customers

118KM

recycled water mains

17

sportsgrounds,
schools and golf clubs
supplied with recycled
water

13

approved uses of
recycled water

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Message from the CEO

Dear customer

I am pleased to share with you our Recycled Water Performance Report for 2020-21.

This report has been prepared to demonstrate our ongoing commitment to the quality and compliance of our recycled water in meeting the requirements of the *Water Supply (Safety and Reliability) Act 2008* and *Public Health Regulation 2018*.

Unitywater supplies five classes of recycled water for a variety of residential, commercial and industrial customer end uses. Our recycled water is treated, regularly tested, fit for approved purposes and cost-effective for those customers who use it.

As we look for ways to conserve our precious water resources, recycled water has increased in importance as part of our urban water cycle.

Recycled water is becoming an increasingly valuable alternative supply source for a range of residential, commercial and industrial purposes, delivering multiple sustainability benefits for the environment.

Every megalitre (one million litres) of recycled water that we produce prevents approximately five kilograms of nitrogen and one kilogram of phosphorus from entering our waterways.

I trust that the information in this report provides confidence in the quality, compliance and reliability of our recycled water supplies.



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

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

✓ 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 B	Class B	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 <u>less</u> 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	52	<1*
Conductivity	µS/cm	50	719.7
Nitrogen (Ammonia)	mg/L	49	0.4
Nitrogen (Oxidised)	mg/L	49	1.8
Nitrogen (Total)	mg/L	49	3.6
pH	pH Units	51	7.1
Phosphorous (Total)	mg/L	49	0.6
Suspended solids	mg/L	49	4

*Median value

Not Tested = parameter is not tested at this sample site

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	5*
Conductivity	µS/cm	47	708
Nitrogen (Ammonia)	mg/L	47	1.8
Nitrogen (Oxidised)	mg/L	47	<0.5
Nitrogen (Total)	mg/L	47	3.1
pH	pH Units	48	7.2
Phosphorous (Total)	mg/L	47	0.7
Suspended solids	mg/L	47	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

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	51 ^b	4*	50 ^b	1*
Conductivity	µS/cm	48	1005	47	1005
Nitrogen (Ammonia)	mg/L	49	6.9	47	9.2
Nitrogen (Oxidised)	mg/L	49	14.7	47	12.8
Nitrogen (Total)	mg/L	49	24.2	47	25.1
pH	pH Units	50	7	47	7.1
Phosphorous (Total)	mg/L	49	4.5	47	4.8
Suspended solids	mg/L	47	6	47	9

^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

Landsborough Sewage Treatment Plant

		Tanker customers Class B	
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	47 ^b	1*
Conductivity	µS/cm	45	654
Nitrogen (Ammonia)	mg/L	44	0.5
Nitrogen (Oxidised)	mg/L	44	1
Nitrogen (Total)	mg/L	44	2.6
pH	pH Units	47	7.6
Phosphorous (Total)	mg/L	44	2
Suspended solids	mg/L	44	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

Maleny Sewage Treatment Plant

Fixed site customers Class B			
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	51 ^b	<1*
Conductivity	µS/cm	50	589
Nitrogen (Ammonia)	mg/L	49	<0.05
Nitrogen (Oxidised)	mg/L	49	2.9
Nitrogen (Total)	mg/L	49	3.5
pH	pH Units	50	7.2
Phosphorous (Total)	mg/L	49	0.3
Suspended solids	mg/L	48	<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

Maroochydore Sewage Treatment Plant

Parameter	Units	Cane Irrigator Class D		Fixed site and tanker customers Class B	
		Number of tests	Average	Number of tests	Average
<i>E. coli</i>	MPN/100mL	45 ^b	240*	46 ^b	5*
Conductivity	µS/cm	43	2250	43	2250
Nitrogen (Ammonia)	mg/L	43	0.1	43	0.1
Nitrogen (Oxidised)	mg/L	43	<0.5	43	<0.5
Nitrogen (Total)	mg/L	43	1.3	43	1.3
pH	pH Units	43	7.2	43	7.2
Phosphorous (Total)	mg/L	43	0.1	43	0.1
Suspended solids	mg/L	43	5	43	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

Murrumba Downs Sewage Treatment Plant

Fixed site and tanker customers
Class B

Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	49 ^b	<1*
Conductivity	µS/cm	47	781
Nitrogen (Ammonia)	mg/L	46	0.4
Nitrogen (Oxidised)	mg/L	46	0.5
Nitrogen (Total)	mg/L	46	2
pH	pH Units	50	7.3
Phosphorous (Total)	mg/L	46	0.5
Suspended solids	mg/L	46	<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

Nambour Sewage Treatment Plant

Parameter	Units	Fixed site and tanker customers Class B		Turf irrigator customer Class D	
		Number of tests	Average	Number of tests	Average
<i>E. coli</i>	MPN/100mL	53 ^b	<1*	48 ^b	11*
Conductivity	µS/cm	46	815	46	815
Nitrogen (Ammonia)	mg/L	46	0.1	46	0.1
Nitrogen (Oxidised)	mg/L	46	0.8	46	0.8
Nitrogen (Total)	mg/L	46	1.9	46	1.9
pH	pH Units	48	7.3	48	7.3
Phosphorous (Total)	mg/L	46	0.3	46	0.3
Suspended solids	mg/L	46	<2	46	<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

Noosa 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	51	1820
Nitrogen (Ammonia)	mg/L	49	0.2
Nitrogen (Oxidised)	mg/L	49	3.2
Nitrogen (Total)	mg/L	50	4.6
pH	pH Units	51	7.2
Phosphorous (Total)	mg/L	50	0.15
Suspended solids	mg/L	49	2.3

^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

Redcliffe Sewage Treatment Plant

Fixed site customers Class B			
Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	49 ^b	<1*
Conductivity	µS/cm	47	1237
Nitrogen (Ammonia)	mg/L	46	1
Nitrogen (Oxidised)	mg/L	46	2.2
Nitrogen (Total)	mg/L	46	4.2
pH	pH Units	49	7.2
Phosphorous (Total)	mg/L	46	0.2
Suspended solids	mg/L	46	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

Woodford Sewage Treatment Plant

Fixed site and tanker customers
Class A

Parameter	Units	Number of tests	Average
<i>E. coli</i>	MPN/100mL	49 ^b	<1*
Conductivity	µS/cm	47	654
Nitrogen (Ammonia)	mg/L	46	0.3
Nitrogen (Oxidised)	mg/L	46	2.7
Nitrogen (Total)	mg/L	46	3.8
pH	pH Units	49	7.5
Phosphorous (Total)	mg/L	46	0.4
Suspended solids	mg/L	46	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

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	51 ^b	<1*
Free chlorine	mg/L	251	0.1
Total chlorine	mg/L	251	0.8
Conductivity	uS/cm	251	289
Turbidity	NTU	251	0.1

^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 ISO 45001: 2018 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

