Busselton Water

Report to the Department of Health

for the period

1 October to 31 December 2025

Busselton Water
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Submitted to:
The Advisory Committee for the Purity of Water
Busselton Water's Website
CEO, Busselton Water (David Hughes-Owen)

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1.0 Water Provider Information

Water Provider Contact Details	
Name of Company	Busselton Water
Company Address	1 Fairbairn Road, Busselton WA 6280
Company Phone	08 9781 0500
Company Email	admin@busseltonwater.wa.gov.au
Chief Executive Officer	David Hughes-Owen
DoH Liaison Officer	Dr Stacey Hamilton, General Manager Operations and Planning

1.1 System Information

Busselton Water operates one large, interconnected water supply system with five bore sites consisting of eight active production bores, supplying three water treatment plants. Busselton Water operates its distribution system as one locality ("Busselton") and has strategically placed sampling points throughout the distribution network.

Busselton Water's water supply is sourced from bores constructed in the Leederville and Yarragadee aquifers. The raw groundwater has turbidity and total iron concentrations above the drinking water guideline limits, but these are readily removed by oxidation, aeration and filtration, and then disinfected at Busselton Water's treatment plants before distribution into the reticulation network. Significant focus and planning for growth is being applied to the establishment of an inland borefield that avoids the impacts of saltwater intrusion.

Busselton Water supplies drinking water to >32,000 people within the Busselton townsite and close environs such as Port Geographe, Siesta Park, Vasse and Wonnerup. Water is also supplied to the Water Corporation under a Water Supply Agreement to augment their Dunsborough supply. As a sought-after tourist destination, this figure can rise to >60,000 people during weekends and holiday periods. The average daily system demand for the reporting period was 20.6 ML/day (extracted).

2.0 Performance Summary

2.1 Treated Water – Microbiological Water Quality

Microbiological water quality analyses for treated water samples are collected downstream of the chlorinators at the water treatment plants. Compliance limits are summarised in the following table.

Samples were analysed for thermotolerant coliforms, *E. coli* and Thermophilic *Naegleria* during the period. No microbial activity in relation to these parameters was detected during the period at any of the sample locations. Busselton Water remains fully compliant with the Australian Drinking Water Guidelines (ADWG) and the Memorandum of Understanding with the Department of Health in respect to *E. coli* and *N. fowleri* [1].

Period	*Escherichia coli* (*E. coli*)				Thermophilic *Naegleria*			*Naegleria Fowleri* [1]		
	No. of Samples	No. of Non-conforming Samples	Maximum Individual Value	Rolling 12 Months Compliance	No. of Samples	Detected	Rolling 12 Months Compliance	No. of Samples	Detected	Rolling 12 Months Compliance
Oct-25	21	0	<1	**100%**	21	0	**100%**	0	-	**100%**
Nov-25	21	0	<1	**100%**	21	0	**100%**	0	-	**100%**
Dec-25	30	0	<1	**100%**	30	0	**100%**	0	-	**100%**
Total for Fourth Quarter 2025	72	0	-	-	72	0	-	0	-	-
Fourth Quarter 2025 Performance	***100%***			-	***100%***		-	***100%***		-
Required Compliance:	*100%*				*95%*			*100%*		

Note 1: Tests for *Naegleria Fowleri* only required if Thermophilic *Naegleria* is detected.

2.2 Distributed Water - Microbiological Water Quality

Microbiological water quality analyses for nine locations within the distribution network are sampled weekly and are summarised in the following table.

Samples were analysed for thermotolerant coliforms, *E. coli* and Thermophilic *Naegleria* during the period. No microbial activity in relation to these parameters was detected during the three months at any of the sample locations. Busselton Water remains fully compliant with the Australian Drinking Water Guidelines (ADWG) and the Memorandum of Understanding with the Department of Health in respect to *E. coli* and *N. fowleri* [1].

Period	*Escherichia coli* (*E. coli*)				Thermophilic *Naegleria*			*Naegleria Fowleri* [1]		
	No. of Samples	No. of Non-conforming Samples	Maximum Individual Value	Rolling 12 Months Compliance	No. of Samples	Detected	Rolling 12 Months Compliance	No. of Samples	Detected	Rolling 12 Months Compliance
Oct-25	36	0	<1	100%	36	0	100%	0	-	100%
Nov-25	36	0	<1	100%	36	0	100%	0	-	100%
Dec-25	45	0	<1	100%	45	0	100%	0	-	100%
Total for Fourth Quarter 2025	117	0	-	-	117	0	-	0	-	-
Fourth Quarter 2025 Performance	***100%***			-	***100%***		-	***100%***		-
Required Compliance:	*100%*				*95%*			*100%*		

Note 1: Tests for *Naegleria Fowleri* only required if Thermophilic *Naegleria* is detected.

3.0 Microbial Performance

3.1 Microbiological - Exception Notifications

Microbiological Water Quality Exceptions							
Locality	**Population Served**	**Date**	**Microbiological Characteristic**	**MoU Alert Level**	**Remedial Action**	**DoH Notified**	**Close Out Date**
Busselton	>32,000	01/10/2025 to 31/12/2025	**Nil**				

3.2 Microbiological - Incident Specific Information

Microbiological Incidents				
Locality	**Date of Incident**	**Details of Incident**	**MoU Alert Level**	**Remedial Action**
Busselton	**Nil**			

4.0 Chemical – Health Related Performance

The results of water samples collected from the operating production bores (raw water) and at the assessable distribution sampling points (distribution water) during the period are summarised in Table 4.2 for health-related guidelines. They show that the water supply is fully compliant with the health-related Australian Drinking Water Guidelines, the operating licence issued by the ERA and the protocols of Busselton Water's Memorandum of Understanding with the Department of Health.

4.1 Chemical – Health Related – Exception Notifications

Health-Related Chemical Water Quality Exceptions							
Locality	**Population served**	**Date**	**Health Related Chemical Characteristic**	**MoU Alert Level**	**Remedial Action**	**DoH Notified**	**Close Out Date**
Busselton	>32,000	01/10/2025 to 31/12/2025	**NIL**				

4.2 Chemical – Health Related

Type	Unit	ADWG Guideline	Lab Limit of Reporting	Raw Water (Bores)			Distribution Water			
				Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Compliance (%)
Antimony	mg/L	0.003	*0.001*	NR			9	9	ND	100%
Arsenic	mg/L	0.01	*0.001*	NR			9	9	ND	100%
Barium	mg/L	2.0	*0.01*	NR			9	9	0.36	100%
Beryllium	mg/L	0.06	*0.001*	NR			9	9	ND	100%

Type	Unit	ADWG Guideline	Lab Limit of Reporting	Raw Water (Bores)			Distribution Water			
				Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Compliance (%)
Bismuth (Filtered)	mg/L	10	*0.005*	25	25	ND	27	27	ND	100%
Bismuth (Total)	mg/L	10	*0.005*	25	25	ND	27	27	ND	100%
Boron	mg/L	4.0	*0.05*	NR			9	9	0.26	100%
Bromodichloromethane	mg/L	0.25*	*0.005*	NR			3	3	ND	100%
Bromoform	mg/L	0.25*	*0.005*	NR			3	3	0.0029	100%
Cadmium	mg/L	0.002	*0.0005*	NR			9	9	ND	100%
Chlorine (Total)	mg/L	5		NR			117	117	0.71	100%
Chloroform	mg/L	0.25*	*0.0005*	NR			3	3	ND	100%
Chromium (VI)	mg/L	0.05	*0.002*	NR			9	9	ND	100%
Copper	mg/L	2	*0.001*	NR			9	9	0.016	100%
Dibromochloromethane	mg/L	0.25*	*0.001*	NR			3	3	ND	100%
Fluoride	mg/L	1.5	*0.1*	25	25	0.9	27	27	0.7	100%
Lead	mg/L	0.01	*0.001*	NR			9	9	ND	100%
Manganese (Soluble)	mg/L	0.5	*0.005*	25	25	0.07	27	27	ND	100%
Manganese (Total)	mg/L	0.5	*0.005*	25	25	0.08	27	27	ND	100%
Mercury	mg/L	0.001	*0.0001*	NR			9	9	ND	100%
Molybdenum	mg/L	0.05	*0.001*	NR			9	9	ND	100%
Nickel	mg/L	0.02	*0.001*	NR			9	9	ND	100%
Nitrate-N	mg/L	50	*0.01*	8	8	0.08	9	9	0.03	100%
Nitrite N	mg/L	3	*0.01*	8	8	ND	9	9	ND	100%
Selenium	mg/L	0.01	*0.001*	NR			9	9	ND	100%
Silver	mg/L	0.1	*0.001*	NR			9	9	ND	100%

Type	Unit	ADWG Guideline	Lab Limit of Reporting	Raw Water (Bores)			Distribution Water			
				Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Compliance (%)
Total Trihalomethanes	mg/L	0.25*	*0.001*	NR			3	3	0.0044	100%
Uranium	mg/L	0.02	*0.001*	NR			9	9	ND	100%

Note 1: Raw water is blended and treated prior to supply to consumers. Raw water is not provided to consumers and raw water data presented in this report is for operational purposes.

Note 2: Chlorine Total is a Busselton Water in-house test. All others are NATA accredited test results. The operating target for residual chlorine in the reticulation system is 0.4 – 0.6 mg/L. Total chlorine levels will be higher than residual levels.

Note 3: The average Chlorine Total level in the distribution network for the reporting period was 0.53 mg/L.

Note 4: The maximum Chlorine Total level of 0.71 mg/L in the distribution network for the reporting period was recorded at Thomas Street on 2 October 2025. No adverse customer or operational impacts resulted. The aesthetic guideline value of 0.6 mg/L is exceeded on some occasions to ensure the microbiological safety of our water supply.

Note 5: Busselton Water does not add fluoride to the water. The naturally occurring fluoride levels vary from bore to bore. Fluoride levels in the drinking water vary with location and time and historically have fallen anywhere between 0.1 mg/L and 1.0 mg/L. The 12 month (Jan-25 to Dec-25) average Fluoride level in the distribution network was 0.44 mg/L.

Note 6: * The concentration of trihalomethanes, either individually or in total, in drinking water should not exceed 0.25 mg/L.

ADWG	Australian Drinking Water Guidelines
Bq/L	Becquerels per litre
CFU	colony forming units
HU	Hazen Units
mg/L	milligrams per litre
NA	Not Applicable
ND	Not Detected
NR	Not Required
NTU	Nephelometric Turbidity Units
pH	Acidity/basicity
uS/cm	Micro siemens per centimetre

5.0 Physical and Chemical – Aesthetic Performance

The results of water samples collected from the operating production bores (i.e., raw water) and at the assessable distribution sampling points (i.e., distribution water) during the period are summarised in Table 5.1 for aesthetic related guidelines. The treatment process reduces colour and iron content to below those levels specified in the Australian Drinking Water Guidelines (ADWG).

5.1 Physical and Chemical - Aesthetic

Type	Unit	ADWG Guideline	Lab Limit of Reporting	Raw Water (Bores)			Distribution Water			
				Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Compliance (%)
Alkalinity (Bicarbonate)	mg $CaCO_3$/L	No Guideline	*5*	8	No Guideline	180	9	No Guideline	160	No Guideline
Alkalinity (Carbonate)	mg $CaCO_3$/L	No Guideline	*5*	8	No Guideline	ND	9	No Guideline	ND	No Guideline
Alkalinity (Hydroxide)	mg $CaCO_3$/L	No Guideline	*5*	8	No Guideline	ND	9	No Guideline	ND	No Guideline
Alkalinity (Total)	mg $CaCO_3$/L	No Guideline	*5*	8	No Guideline	180	9	No Guideline	160	No Guideline
Aluminium (Soluble)	mg/L	0.2	*0.05*	8	8	ND	9	9	ND	100%
Aluminium (Total)	mg/L	0.2	*0.05*	8	8	ND	9	9	ND	100%
Ammonia-N	mg/L	0.5	*0.02*	NR			9	9	ND	100%
Calcium	mg/L	200	*0.5*	8	8	27	9	9	24	100%
Calcium (Filtered)	mg/L	200	*0.5*	NR			9	9	24	100%
Chloride	mg/L	250	*5*	8	8	150	9	9	92	100%
Colour True	PCU	15	*5*	25	24	23	27	27	ND	100%
Electrical Conductivity	µS/cm	No Guideline	*10*	25	No Guideline	850	27	No Guideline	640	No Guideline
Filterable Reactive Phosphorus	mg/L	No Guideline	*0.01*	8	No Guideline	0.03	9	No Guideline	0.04	No Guideline
Hardness	mg $CaCO_3$/L	200	*5*	8	8	130	9	9	120	100%
Iron (Soluble)	mg/L	0.3	*0.01*	25	8	8.4	27	27	0.09	100%

Type	Unit	ADWG Guideline	Lab Limit of Reporting	Raw Water (Bores)			Distribution Water			
				Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Number Assessed	Number Complying with ADWG Guideline	Maximum Individual Value	Compliance (%)
Iron (Total)	mg/L	0.3	*0.01*	25	7	8.2	27	27	0.1	100%
Magnesium (Filtered)	mg/L	No Guideline	*0.5*	NR			9	No Guideline	16	No Guideline
Magnesium (Total)	mg/L	No Guideline	*0.5*	8	No Guideline	18	9	No Guideline	17	No Guideline
pH	pH	6.5-8.5		22	22	7.9	117	116	8.52	99.1%
Reactive Silica	mg/L	80	*0.1*	8	8	18	9	9	17	100%
Sodium	mg/L	180	*0.5*	8	8	130	9	9	71	100%
Sulfate	mg/L	250	*1*	8	8	21	9	9	15	100%
Total Dissolved Solids	mg/L	600	*5*	25	21	740	27	27	530	100%
Turbidity	NTU	5		22	22	0.5	117	117	0.34	100%
Zinc	mg/L	3	*0.005*	NR			9	9	0.014	100%

Note 1: Raw water is blended and treated prior to supply to consumers. Raw water is not provided to consumers and raw water data presented in this report is for operational purposes.

Note 2: pH and Turbidity are Busselton Water in-house tests. All others are NATA accredited test results.

Note 3: Total Dissolved Solids results vary from bore to bore and are being carefully monitored for the impacts of borefield saline intrusion.

Note 4: One pH result outside the Australian Drinking Water aesthetic guideline of 6.5-8.5 was recorded in the distribution network during the reporting period. The sample (8.52) was taken at Glenleigh Road on 30 October 2025. No adverse customer or operational impacts resulted.

ADWG	Australian Drinking Water Guidelines
Bq/L	Becquerels per litre
CFU	Colony Forming Units
HU	Platinum-Cobalt Units
mg/L	milligrams per litre
NTU	Nephelometric Turbidity Units
pH	Acidity/basicity
uS/cm	Micro siemens per centimetre
mg CaCO3/L	milligrams per litre as calcium carbonate
ND	Not Detected
NR	Not Required
No Guideline	No ADWG guideline. Compliance is not required or shown for these analytes/

6.0 Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Performance

Perfluoroalkyl and Polyfluoroalkyl substances (PFAS) are a family of manufactured chemicals which do not occur naturally in the environment. PFAS has been identified in the environment at several known and suspected contaminated sites in Western Australia including one in Busselton. No PFAS was detected in Busselton Water's source water when the site was identified and liaison continues with the City of Busselton, the Department of Health and the Department of Water and Environmental Regulation regarding ongoing monitoring and testing.

Busselton Water commenced a PFAS/PFOS sampling regime of its raw water (bores) and throughout the distribution network in FY 2023-24. This sampling was initially undertaken on a quarterly basis in September and November 2023 and February, May and August 2024. PFAS was not detected in any of these samples, and it was therefore determined that commencing in 2025, sampling would be carried out on a six-monthly basis. The next PFAS sampling round is due to be undertaken in February 2026.

7.0 Radiological Performance

7.1 Radiological – Exception Notifications

Radiological Water Quality Exceptions							
Locality	**Population served**	**Date**	**Radiological Characteristic**	**MoU Alert Level**	**Remedial Action**	**DoH Notified**	**Close Out Date**
Busselton	>32,000	01/10/2025 to 31/12/2025	**NIL**				

7.2 Radiological Performance

Radiological performance is sampled every two years, in April. It was undertaken in April 2024, and results were detailed in Busselton Water's Water Quality Report for the April to June 2024 reporting period and also in its Annual Water Quality Report for 2023-24. Radiological sampling will next be conducted in April 2026.

8.0 Planned Sample Summary (Quarter Ending 31 December 2025)

Locality	Microbiological			Physical and Chemical			Radiological			Fluoride		
	Planned	Taken	% Taken	Planned	Taken	% Taken	Planned	Taken	% Taken	Planned	Taken	% Taken
Busselton	189	189	100%	1321	1321	100%	N/A	N/A	N/A	52	52	100%

Note 1: Chemical testing totals shown in Table 8.0 relate to scheduled NATA and in-house sampling undertaken in accordance with Busselton Water's Water Quality Monitoring Program, which has been endorsed by the Department of Health.

8.1 Planned Sample Exceptions

Planned Sample Exceptions			
Locality	Characteristic (Microbiological/ Physical and Chemical/ Radiological)	Number of Samples	Reason for missed sample
Busselton	Physical and Chemical – Aesthetic	Nil	

9.0 General Notes / Other News

Nil