



Drinking Water Quality Management Plan Report

Balonne Shire Council

SPID: 6

2018-19

This report has been prepared in accordance with the Drinking Water Quality Management Plan Report Guidance Note.

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1 Introduction

This report documents the performance of Balonne Shire Council's drinking water service with respect to water quality and performance in implementing the actions detailed in the Drinking Water Quality Management Plan (DWQMP) as required under the *Water Supply (Safety and Reliability) Act 2008* (the Act).

The report assists the Regulator to determine whether the approved DWQMP and any approval conditions have been complied with and provides a mechanism for providers to report publicly on their performance in managing drinking water quality.

2 Summary of scheme/s operated

Table 1 – Summary of schemes

<i>Scheme</i>	<i>Water Source</i>	<i>Treatment processes</i>	<i>Treatment capacity</i>	<i>Towns supplied</i>
St George	GAB Bore	N/A	N/A	St George
Dirranbandi	Balonne River / GAB Bore	Flocculation, Clarification, Filtration, Disinfection	1.0 ML/day	Dirranbandi
Bollon	GAB Bore	N/A	N/A	Bollon
Thallon	GAB Bore	N/A	N/A	Thallon
Hebel	GAB Bore	N/A	N/A	Hebel
Mungindi	Barwon River	Treated Water provided by Moree Plains Shire Council.	N/A	Mungindi

3 DWQMP implementation

The Balonne Shire Council's DWQMP describes how each of the 6 drinking water schemes are operated and details the operational steps that are taken to ensure that our customers receive safe drinking water.

The adopted aesthetic and health limits for all drinking water schemes are based on the physical, chemical and microbial limits set out in the ADWG 2011. Testing of physical and chemical parameters are undertaken quarterly. Testing for E. coli is undertaken weekly for the St George Water supply and monthly for all other schemes. A full list of the tested parameters can be found in table 3.

Refer to Table 2 for a summary of progress in implementing each of the Improvement Program actions.

The actions undertaken to implement the risk management improvement program are discussed in Table 2.

Table 2 – Risk management improvement program implementation status

Scheme name	Ref	Component	Improvement actions	Target date	Actions taken to date	Status and revised target date	Responsible Officer / Position
St George, Dirranbandi		Reservoirs	Establish periodic cleaning program,	Ongoing	Ongoing water quality monitoring. Cleaning done on reactive basis. Regular cleaning to be included in asset management plan	In progress.	Manager – Water, Sewerage and Towns
All		Distribution	Establish periodic mains flushing program with focus on areas with long detention times or dead ends	Ongoing	Ongoing water quality monitoring. Flushing done on reactive basis. Regular flushing to be included in asset maintenance plan	In progress.	Manager – Water, Sewerage and Towns
All		Distribution	Recommendation from audit. Backflow prevention	June 18	Non return valves installed on tanker filling points. Ongoing risk managed by procedures	Ongoing	Manager – Water, Sewerage and Towns
All		Distribution	Monitor network for opportunistic bacteria.	Ongoing	Testing for legionella included in monitoring program	Ongoing	Environmental Health Officer
All		Whole system	Develop operational and maintenance procedures with focus on hygiene.	June 17	Procedures established and reviewed annually	Ongoing	Manager – Water, Sewerage and Towns
Dirranbandi		Treatment	Monitor disinfection effectiveness	Ongoing	Target chlorination break point. Chlorination monitor connected to SCADA	Ongoing monitoring of effectiveness	Manager – Water, Sewerage and Towns
Mungindi		Distribution	Recommendation from audit, develop communication protocols with MPSC	June 18	Communication protocols established with MPSC	Completed	Manager – Water, Sewerage and Towns

4 Verification monitoring - water quality information and summary

This section discusses the compliance with the water quality criteria.

Table 3 – Drinking water quality performance - verification monitoring

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
St George	PH	4	4	6.5-8.5 (Aesth)	Nil	ADWG Compliant
St George	Total Hardness	4	4	200.00 (Aesth)	Nil	ADWG Compliant
St George	Alkalinity	4	4		Nil	ADWG Compliant
St George	Total Dissolved Ions	4	4		Nil	ADWG Compliant
St George	Total Dissolved Solids	4	4	500.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
St George	Colour	4	4	15.00 (Aesth)	Nil	ADWG Compliant
St George	Turbidity	4	4	5.00 (Aesth)	Nil	ADWG Compliant
St George	Sodium	4	4	180.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
St George	Potassium	4	4		Nil	ADWG Compliant
St George	Calcium	4	4		Nil	ADWG Compliant
St George	Magnesium	4	4		Nil	ADWG Compliant
St George	Chloride	4	4	250.00 (Aesth)	Nil	ADWG Compliant
St George	Fluoride	4	4	1.5 (Health)	Nil	ADWG Compliant

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
St George	Nitrate	4	4	50 (Health)	Nil	ADWG Compliant
St George	Sulphate	4	4	500 (Health)	Nil	ADWG Compliant
St George	Iron	4	4	0.30 (Aesth)	Nil	ADWG Compliant
St George	Manganese	4	4	0.50 (Health)	Nil	ADWG Compliant
St George	Zinc	4	4	3.00 (Aesth)	Nil	ADWG Compliant
St George	Aluminium	4	4	0.20 (Aesth)	Nil	ADWG Compliant
St George	Copper	4	4	2.00 (Health)	Nil	ADWG Compliant
St George	E-coli	52	50	0.00 (Health)	Nil	ADWG Compliant
Dirranbandi	PH	4	4	6.5-8.5 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Total Hardness	4	4	200.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Alkalinity	4	4		Nil	ADWG Compliant
Dirranbandi	Total Dissolved Ions	4	4		Nil	ADWG Compliant
Dirranbandi	Total Dissolved Solids	4	4	500.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Colour	4	4	15.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Turbidity	4	4	5.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Sodium	4	4	180.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Potassium	4	4		Nil	ADWG Compliant

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Dirranbandi	Calcium	4	4		Nil	ADWG Compliant
Dirranbandi	Magnesium	4	4		Nil	ADWG Compliant
Dirranbandi	Chloride	4	4	250.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Fluoride	4	4	1.5 (Health)	Nil	ADWG Compliant
Dirranbandi	Nitrate	4	4	50 (Health)	Nil	ADWG Compliant
Dirranbandi	Sulphate	4	4	500 (Health)	Nil	ADWG Compliant
Dirranbandi	Iron	4	4	0.30 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Manganese	4	4	0.50 (Health)	Nil	ADWG Compliant
Dirranbandi	Zinc	4	4	3.00 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Aluminium	4	4	0.20 (Aesth)	Nil	ADWG Compliant
Dirranbandi	Copper	4	4	2.00 (Health)	Nil	ADWG Compliant
Dirranbandi	E. Coli	52	50	0.00 (Health)	Nil	ADWG Compliant
Bollon	PH	4	4	6.5-8.5 (Aesth)	2	Some Non-Compliances - ADWG Aesthetic Limit
Bollon	Total Hardness	4	4	200.00 (Aesth)	Nil	ADWG Compliant
Bollon	Alkalinity	4	4		Nil	ADWG Compliant
Bollon	Total Dissolved Ions	4	4		Nil	ADWG Compliant
Bollon	Total Dissolved Solids	4	4	500.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Bollon	Colour	4	4	15.00 (Aesth)	Nil	ADWG Compliant
Bollon	Turbidity	4	4	5.00 (Aesth)	Nil	ADWG Compliant
Bollon	Sodium	4	4	180.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
Bollon	Potassium	4	4		Nil	ADWG Compliant
Bollon	Calcium	4	4		Nil	ADWG Compliant
Bollon	Magnesium	4	4		Nil	ADWG Compliant
Bollon	Chloride	4	4	250.00 (Aesth)	Nil	ADWG Compliant
Bollon	Fluoride	4	4	1.5 (Health)	Nil	ADWG Compliant
Bollon	Nitrate	4	4	50 (Health)	Nil	ADWG Compliant
Bollon	Sulphate	4	4	500 (Health)	Nil	ADWG Compliant
Bollon	Iron	4	4	0.30 (Aesth)	Nil	ADWG Compliant
Bollon	Manganese	4	4	0.50 (Health)	Nil	ADWG Compliant
Bollon	Zinc	4	4	3.00 (Aesth)	Nil	ADWG Compliant
Bollon	Aluminium	4	4	0.20 (Aesth)	Nil	ADWG Compliant
Bollon	Copper	4	4	2.00 (Health)	Nil	ADWG Compliant
Bollon	E. Coli	12	12	0.00 (Health)	Nil	ADWG Compliant
Thallon	PH	4	4	6.5-8.5 (Aesth)	Nil	ADWG Compliant
Thallon	Total Hardness	4	4	200.00 (Aesth)	Nil	ADWG Compliant
Thallon	Alkalinity	4	4		Nil	ADWG Compliant

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Thallon	Total Dissolved Ions	4	4		Nil	ADWG Compliant
Thallon	Total Dissolved Solids	4	4	500.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
Thallon	Colour	4	4	15.00 (Aesth)	Nil	ADWG Compliant
Thallon	Turbidity	4	4	5.00 (Aesth)	Nil	ADWG Compliant
Thallon	Sodium	4	4	180.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
Thallon	Potassium	4	4		Nil	ADWG Compliant
Thallon	Calcium	4	4		Nil	ADWG Compliant
Thallon	Magnesium	4	4		Nil	ADWG Compliant
Thallon	Chloride	4	4	250.00 (Aesth)	Nil	ADWG Compliant
Thallon	Fluoride	4	4	1.5 (Health)	Nil	ADWG Compliant
Thallon	Nitrate	4	4	50 (Health)	Nil	ADWG Compliant
Thallon	Sulphate	4	4	500 (Health)	Nil	ADWG Compliant
Thallon	Iron	4	4	0.30 (Aesth)	Nil	ADWG Compliant
Thallon	Manganese	4	4	0.50 (Health)	Nil	ADWG Compliant
Thallon	Zinc	4	4	3.00 (Aesth)	Nil	ADWG Compliant
Thallon	Aluminium	4	4	0.20 (Aesth)	Nil	ADWG Compliant
Thallon	Copper	4	4	2.00 (Health)	Nil	ADWG Compliant
Thallon	E. Coli	12	12	0.00 (Health)	Nil	ADWG Compliant

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Hebel	PH	4	4	6.5-8.5 (Aesth)	3	Some Non-Compliances - ADWG Aesthetic Limit
Hebel	Total Hardness	4	4	200.00 (Aesth)	Nil	ADWG Compliant
Hebel	Alkalinity	4	4		Nil	ADWG Compliant
Hebel	Total Dissolved Ions	4	4		Nil	ADWG Compliant
Hebel	Total Dissolved Solids	4	4	500.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
Hebel	Colour	4	4	15.00 (Aesth)	Nil	ADWG Compliant
Hebel	Turbidity	4	4	5.00 (Aesth)	Nil	ADWG Compliant
Hebel	Sodium	4	4	180.00 (Aesth)	4	Some Non-Compliances - ADWG Aesthetic Limit
Hebel	Potassium	4	4		Nil	ADWG Compliant
Hebel	Calcium	4	4		Nil	ADWG Compliant
Hebel	Magnesium	4	4		Nil	ADWG Compliant
Hebel	Chloride	4	4	250.00 (Aesth)	Nil	ADWG Compliant
Hebel	Fluoride	4	4	1.5 (Health)	Nil	ADWG Compliant
Hebel	Nitrate	4	4	50 (Health)	Nil	ADWG Compliant
Hebel	Sulphate	4	4	500 (Health)	Nil	ADWG Compliant
Hebel	Iron	4	4	0.30 (Aesth)	Nil	ADWG Compliant
Hebel	Manganese	4	4	0.50 (Health)	Nil	ADWG Compliant

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Hebel	Zinc	4	4	3.00 (Aesth)	Nil	ADWG Compliant
Hebel	Aluminium	4	4	0.20 (Aesth)	Nil	ADWG Compliant
Hebel	Copper	4	4	2.00 (Health)	Nil	ADWG Compliant
Hebel	E. Coli	12	12	0.00 (Health)	Nil	ADWG Compliant
Mungindi	PH	4	4	6.5-8.5 (Aesth)	Nil	ADWG Compliant
Mungindi	Total Hardness	4	4	200.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Alkalinity	4	4		Nil	ADWG Compliant
Mungindi	Total Dissolved Ions	4	4		Nil	ADWG Compliant
Mungindi	Total Dissolved Solids	4	4	500.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Colour	4	4	15.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Turbidity	4	4	5.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Sodium	4	4	180.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Potassium	4	4		Nil	ADWG Compliant
Mungindi	Calcium	4	4		Nil	ADWG Compliant
Mungindi	Magnesium	4	4		Nil	ADWG Compliant
Mungindi	Chloride	4	4	250.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Fluoride	4	4	1.5 (Health)	Nil	ADWG Compliant

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Mungindi	Nitrate	4	4	50 (Health)	Nil	ADWG Compliant
Mungindi	Sulphate	4	4	500 (Health)	Nil	ADWG Compliant
Mungindi	Iron	4	4	0.30 (Aesth)	Nil	ADWG Compliant
Mungindi	Manganese	4	4	0.50 (Health)	Nil	ADWG Compliant
Mungindi	Zinc	4	4	3.00 (Aesth)	Nil	ADWG Compliant
Mungindi	Aluminium	4	4	0.20 (Aesth)	Nil	ADWG Compliant
Mungindi	Copper	4	4	2.00 (Health)	Nil	ADWG Compliant
Mungindi	E. Coli	12	12	0.00 (Health)	Nil	ADWG Compliant

Table 4. E. coli compliance with annual value

Drinking water scheme: St George

Year	2018 – 2019												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	5	4	4	5	4	3	5	4	4	4	4	4	4
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	52	53	52	51	51	51	50	50	51	51	51	51	51
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Drinking water scheme: Dirranbandi

Year	2018 – 2019												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	5	4	4	5	4	3	5	4	4	4	4	4	4
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	50	51	52	52	52	52	50	50	50	50	50	50	51
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Drinking water scheme: Bollon

Year	2018 – 2019												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	12	12	12	12	12	12	12	12	12	12	12	12	12
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Drinking water scheme: Thallon

Year	2018 – 2019												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	12	12	12	12	12	12	12	12	12	12	12	12	12
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Drinking water scheme: Hebel

Year	2018 – 2019												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	12	12	12	12	12	12	12	12	12	12	12	12	12
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Drinking water scheme: Mungindi

Year	2018 – 2019											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	1	1	1	1	1	1	1	1	1	1	1	1
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	12	12	12	12	12	12	12	12	12	12	12	12
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

5 Incidents reported to the regulator

The incidents reported to the regulator and management actions undertaken over the financial year are provided in table 5

Table 5 – Incidents reported to the regulator

Incident date	Scheme / location	Parameter / issue	Preventive actions
Nil			

6 Customer complaints

This section discusses details of any complaints received about the drinking water service

Table 6 – Customer complaints about water quality

Scheme	Health concern	Dirty water	Taste and odour	Other
St George	0	1	0	4
Dirranbandi	0	0	0	1
Bollon	0	0	0	0
Thallon	0	0	0	0
Hebel	0	0	0	0
Mungindi	0	0	0	0
Total	0	1	0	5

There were 11 reticulation system leaks/breaks in the reporting period, but only 1 water quality complaints recorded.

7 DWQMP review outcomes

A DWQMP review was not undertaken during the 2018-19 financial year. A DWQMP review is required in the 2019-20 reporting period.

8 DWQMP audit findings

A DWQMP audit was not undertaken during the 2018-19 financial year. The next DWQMP audit is due by 1 October 2021