



Drinking Water Quality Management DWQMP – Annual Report

2017-2018

Whitsunday Regional Council

Service Provider No.: 501

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Glossary of terms

ADWG 2011	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
<i>E. coli</i>	<i>Escherichia coli</i> , a bacterium which is considered to indicate the presence of faecal contamination and therefore potential health risk
HACCP	Hazard Analysis and Critical Control Points certification for protecting drinking water quality
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
MPN/100mL	Most probable number per 100 millilitres
CFU/100mL	Colony forming units per 100 millilitres
<	Less than
>	Greater than

Introduction

This report documents the performance of Whitsunday Regional Council's drinking water service with respect to water quality and performance in implementing the actions detailed in the 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.

Whitsunday Regional Council is operating under an approved DWQMP to ensure consistent supply of safe quality drinking water in order to protect public health. This is done through proactive identification and minimisation of public health related risks associated with drinking water.

It has been prepared in accordance with the *Drinking Water Quality Management Plan Report Guidance Note* published by the Department of Natural Resources, Mines and Energy, Queensland, September 2018 accessible at www.dnrme.qld.gov.au.

1. Overview of Operations

Water and wastewater is managed within Whitsunday Regional Council by a separate business unit "Whitsunday Water" since July 2015.

Whitsunday Water maintains and operates 4 water treatment plants, supplying water to a seasonally fluctuating population of over 35 000 people, including residential, commercial, tourism and industrial customers.

Table 1 – Drinking Water Supplies

Scheme	Communities Served	Population served	Source	Treatment	Treatment Capacity, ML/day
Bowen	Bowen, Brisk Bay, Merinda	10700	Sub-surface intake in the Proserpine River	Conventional Flocculation with Dual media filtration. Disinfected with Sodium Hypochlorite.	16.5
Collinsville	Collinsville, Scottsville	1500	Bowen River Weir, from Eungella Dam (Sunwater)	Conventional Flocculation and filtration. Disinfected with Sodium Hypochlorite.	6
Proserpine	Proserpine, Mt Julian	4700	Aquifer bores, supplemented from Peter Faust Dam	Conventional Flocculation with Dual media filtration. Disinfected with Sodium Hypochlorite.	14
Coastal	Cannonvale, Airlie Beach, Mt Julian, Jubilee Pocket	13700	Aquifer bores	Conventional Flocculation with Dual media filtration. Disinfected with Sodium Hypochlorite.	9.6

2. DWQMP Implementation

Water quality has been ensured by the implementation of safeguards and barriers identified in the DWQMP. Water quality in all areas has been kept to high standards with the implementation of sampling regimes, maintenance schedules and hazard identifications highlighted in the DWQMP.

2.1. Implementing the Risk Management Improvement Program.

Refer to Appendix B for a summary of progress in implementing each of the Improvement Program actions.

All risk management improvement programs outlined in the DWQMP have been implemented or are part of an ongoing maintenance strategy.

2.2. The Monitoring Program

Operational monitoring and Verification monitoring programs have continued unchanged throughout the year.

2.3. Amendments made to the DWQMP

The finalised review of the DWQMP was submitted on 31 July 2017.

An amended DWQMP, version 2, was submitted 12 September 2017, with additional information requested on 15 November 2017 and 5 December 2017 (version 2.1 submitted). Approval for version 2.1, was given on 14 December 2017, with an additional condition. The additional condition information was submitted 31 May 2018. Final approval for DWQMP version 2.1 was received on 6 July 2018.

The Approved DWQMP as at 30 June 2018 is Version 2.1.

3. Compliance with Water Quality Criteria

The water quality criteria mean health guideline values in the most current Australian Drinking Water Guidelines, as well as the standards in the Public Health Regulation 2005.

3.1. Chemical

All samples taken during this financial year met the recommended values in the Australian Drinking Water Guidelines.

3.2. E. coli

There were no E.coli detected in any sample taken during this financial year.

3.3. Fluoride

Fluoride is not added to water within the Whitsunday Regional Council area, so levels detected are natural background levels.

4. Notifications to the Regulator

The Regulator was notified under sections 102 or 102A of the Act after TC Iris on 5 April 2018 to provide an update on water quality status. There were no water supply or quality issues in any of the Whitsunday Water schemes during the event.

There were no notifications involving the detection of *E. coli* – an organism that may not directly represent a hazard to human health but indicates the presence of recent faecal contamination.

There were no non-compliances with water quality criteria.

5. Customer complaints related to water quality

Whitsunday Regional Council is required to report on the number of complaints, general details of complaints, and the responses undertaken.

Throughout the year the following complaints about water quality were received:

Table 2 - complaints about water quality

	Suspected Illness	Dirty water	Taste and odour	Total
Bowen	0	11	1	12
Coastal	0	12	4	16
Collinsville	0	2	0	2
Proserpine	0	1	1	2
Total	0	26	6	32

5.1. Suspected Illness

There were no suspected illness complaints received during this financial year.

5.2. Discoloured water

26 dirty water customer complaints were received from throughout the Whitsunday Regional Council area during the 2017-18 year. In each case the localised area was flushed to achieve clear water. No further action was required.

5.3. Taste and odour

Complaints received from the Bowen, Coastal and Proserpine areas were all odour related and were after repairs in the area. The only taste complaint was from the Coastal area (Cannonvale), most likely due to recent internal plumbing changes. No risk to human health was determined.

6. DWQMP Review

There was no official review of the DWQMP carried out in the 2017-2018 year. A review is due 30 June 2019.

Appendix A – Summary of Compliance with Water Quality Criteria

The results from the verification monitoring program have been compared against the levels of the water quality criteria specified in the *Australian Drinking Water Guidelines 2011*.

The reported statistics do not include results derived from repeat samples, or from emergency or investigative samples undertaken in response to an elevated result.

Verification monitoring was carried out as per the program stated in the DWQMP.

Table 3a - Verification monitoring results - Bowen Scheme

	Parameter	Unit of Measure	LOR	Total Samples Collected	No. Samples in which parameter was detected	No. of samples exceeding water quality criteria	Minimum Result	Maximum Result	Average of Results
In-House Test Results	pH	mg/L	0.1	362	362	0	6.95	7.37	7.13
	Turbidity	NTU	0.01	361	361	0	0.04	0.21	0.06
	Conductivity	µS/cm	1	100	100	0	242	604	409
	Colour	Pt/Co	1	362	362	0	1	1	1
	Free chlorine residual	mg/L	0.1	362	362	0	1.99	3.13	2.55
	Total chlorine residual	mg/L	0.1	33	33	0	2.24	3.31	2.88
	Alkalinity	mg/L	0.1	100	100	0	51.8	119.6	81.0
	Total hardness	mg/L	0.1	99	99	0	59.2	134.4	89.8
	Iron	mg/L	0.01	361	304	0	0	0.02	0.009
	Manganese	mg/L	0.001	361	304	0	0.001	0.019	0.002
Aluminium	mg/L	0.001	361	360	0	0	0.06	0.031	
NATA Lab Results	pH	mg/L	0.1	24	24	0	7.1	7.9	7.4
	Turbidity	NTU	1	24	3	0	1	1	1
	Colour	Pt/Co	1	24	7	0	1	1	1
	Conductivity	µS/cm	5	24	24	0	330	607	443
	Alkalinity	mg/L	5	24	24	0	69	116	86
	Total hardness	mg/L	5	24	24	0	65	136	90
	Total dissolved solids	mg/L	10	24	24	0	185	320	241
	Chloride	mg/L	2	24	24	0	51	120	75
	Sulphate	mg/L	2	24	24	0	9	15	13
	Fluoride	mg/L	0.05	24	24	0	0.05	0.15	0.10
	Nitrate	mg/L	0.05	24	1	0	0.6	0.6	0.6
	Silica	mg/L	5	24	24	0	15	18	16
	Sodium	mg/L	0.05	24	24	0	41	69	53
	Potassium	mg/L	0.05	24	24	0	2.2	3.1	2.5
	Calcium	mg/L	0.05	24	24	0	14	31	20.5
	Magnesium	mg/L	0.05	24	24	0	6.8	14	9.4
	Chlorate	mg/L	0.01	24	24	0	0.24	0.81	0.49
	Aluminium	mg/L	0.01	24	24	0	0.009	0.041	0.021
	Antimony	mg/L	0.0001	24	0	0	0	0	<0.0001
	Arsenic	mg/L	0.0001	24	24	0	0.0002	0.0003	0.0002
	Barium	mg/L	0.001	24	24	0	0.034	0.07	0.047
	Beryllium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Boron	mg/L	0.001	24	24	0	0.025	0.034	0.028
	Cadmium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Chromium	mg/L	0.0001	24	3	0	0.0002	0.0003	0.0002
	Cobalt	mg/L	0.0001	24	0	0	0	0	<0.0001
	Copper	mg/L	0.001	24	24	0	0.003	0.2	0.073
	Iron	mg/L	0.005	24	15	0	0.006	0.1	0.029
	Lead	mg/L	0.0001	24	14	0	0.0002	0.0017	0.0009
	Mercury	mg/L	0.0001	24	0	0	0	0	<0.0001
	Manganese	mg/L	0.001	24	24	0	0.0002	0.0082	0.0013
	Molybdenum	mg/L	0.0001	24	24	0	0.0002	0.0005	0.0003
	Nickel	mg/L	0.0001	24	24	0	0.0002	0.0008	0.0003
	Selenium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Silver	mg/L	0.001	24	0	0	0	0	<0.001
	Strontium	mg/L	0.01	24	24	0	0.15	0.32	0.22
	Thallium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Tin	mg/L	0.0001	24	2	0	0.001	0.001	0.001
	Titanium	mg/L	0.001	24	0	0	0	0	<0.001
	Uranium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Vanadium	mg/L	0.0001	24	16	0	0.0002	0.0009	0.0003
	Zinc	mg/L	0.001	24	24	0	0.001	0.036	0.010
	Chloroform	µg/L	1	24	24	0	6	53	22.9
Bromodichloro methane	µg/L	1	24	24	0	16	47	27.5	
Dibromochloro methane	µg/L	1	24	24	0	17	39	26.1	
Bromoform	µg/L	1	24	24	0	3	15	5.6	

Table 3b - Verification monitoring results - Coastal Scheme

	Parameter	Unit of Measure	LOR	Total Samples Collected	No. Samples in which parameter was detected	No. of samples exceeding water quality criteria	Minimum Result	Maximum Result	Average of Results
In-House Test Results	pH	mg/L	0.1	361	361	0	7.23	7.45	7.33
	Turbidity	NTU	0.01	363	363	0	0.051	1.21	0.10
	Conductivity	µS/cm	1	103	103	0	411	604	481
	Colour	Pt/Co	1	363	363	0	1	1	1
	Free chlorine residual	mg/L	0.1	363	363	0	1.14	2.05	1.58
	Total chlorine residual	mg/L	0.1	48	48	0	1.33	2	1.74
	Alkalinity	mg/L	0.1	103	103	0	64	117.2	92.6
	Total hardness	mg/L	0.1	102	102	0	71	125.6	104.2
	Iron	mg/L	0.01	363	323	0	0	0.1	0.010
	Manganese	mg/L	0.001	363	363	0	0.001	0.016	0.003
Aluminium	mg/L	0.001	363	363	0	0.013	0.098	0.045	
NATA Lab Results	pH	mg/L	0.1	24	24	0	7.0	7.8	7.5
	Turbidity	NTU	1	24	4	0	1	1	1
	Colour	Pt/Co	1	24	16	0	1	2	1.3
	Conductivity	µS/cm	5	24	24	0	352	530	456
	Alkalinity	mg/L	5	24	24	0	67	102	90
	Total hardness	mg/L	5	24	24	0	75	127	102
	Total dissolved solids	mg/L	10	24	24	0	201	323	272
	Chloride	mg/L	2	24	24	0	56	91	74
	Sulphate	mg/L	2	24	24	0	11	17	14
	Fluoride	mg/L	0.05	24	22	0	0.09	0.13	0.11
	Nitrate	mg/L	0.05	24	24	0	0.8	8.3	5.00
	Silica	mg/L	5	24	24	0	26	46	40
	Sodium	mg/L	0.05	24	24	0	40	61	51
	Potassium	mg/L	0.05	24	24	0	1	2.4	1.3
	Calcium	mg/L	0.05	24	24	0	16	27	22
	Magnesium	mg/L	0.05	24	24	0	8.6	15	12
	Chlorate	mg/L	0.01	24	24	0	0.21	0.54	0.39
	Aluminium	mg/L	0.01	24	24	0	0.036	0.15	0.05
	Antimony	mg/L	0.0001	24	0	0	0	0	<0.0001
	Arsenic	mg/L	0.0001	24	24	0	0.0002	0.0003	0.0002
	Barium	mg/L	0.001	24	24	0	0.025	0.036	0.029
	Beryllium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Boron	mg/L	0.001	24	24	0	0.024	0.033	0.027
	Cadmium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Chromium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Cobalt	mg/L	0.0001	24	0	0	0	0	<0.0001
	Copper	mg/L	0.001	24	23	0	0.001	0.039	0.010
	Iron	mg/L	0.005	24	20	0	0.005	0.023	0.009
	Lead	mg/L	0.0001	24	16	0	0.0002	0.0007	0.0004
	Mercury	mg/L	0.0001	24	0	0	0	0	<0.0001
	Manganese	mg/L	0.001	24	24	0	0.0004	0.0091	0.0024
	Molybdenum	mg/L	0.0001	24	24	0	0.0002	0.0004	0.0003
	Nickel	mg/L	0.0001	24	20	0	0.0002	0.0003	0.0003
	Selenium	mg/L	0.0001	24	21	0	0.0002	0.0003	0.0002
	Silver	mg/L	0.001	24	0	0	0	0	<0.001
	Strontium	mg/L	0.01	24	24	0	0.21	0.32	0.27
	Thallium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Tin	mg/L	0.0001	24	0	0	0	0	<0.0001
	Titanium	mg/L	0.001	24	0	0	0	0	<0.001
	Uranium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Vanadium	mg/L	0.0001	24	24	0	0.0008	0.0021	0.0017
	Zinc	mg/L	0.001	24	24	0	0.001	0.019	0.006
	Chloroform	µg/L	1	24	24	0	5	16	9.3
Bromodichloro methane	µg/L	1	24	24	0	12	24	17.8	
Dibromochloro methane	µg/L	1	24	24	0	18	32	24.8	
Bromoform	µg/L	1	24	24	0	7	13	9.7	

Table 3c - Verification monitoring results - Collinsville Scheme

	Parameter	Unit of Measure	LOR	Total Samples Collected	No. Samples in which parameter was detected	No. of samples exceeding water quality criteria	Minimum Result	Maximum Result	Average of Results
In-House Test Results	pH	mg/L	0.1	364	364	0	6.95	7.85	7.27
	Turbidity	NTU	0.01	365	365	0	0.09	0.345	0.17
	Conductivity	µS/cm	1	107	107	0	130.1	383	226
	Colour	Pt/Co	1	363	173	0	0	8	1
	Free chlorine residual	mg/L	0.1	365	365	0	0.8	2.7	1.8
	Total chlorine residual	mg/L	0.1	54	54	0	1.2	2.8	2.1
	Alkalinity	mg/L	0.1	104	104	0	37.2	192	79.0
	Total hardness	mg/L	0.1	0					
	Iron	mg/L	0.01	365	350	0	0	0.06	0.011
	Manganese	mg/L	0.001	365	354	0	0	0.033	0.008
Aluminium	mg/L	0.001	365	365	0	0.006	0.0911	0.035	
NATA Lab Results	pH	mg/L	0.1	24	24	0	6.72	7.82	7.27
	Turbidity	NTU	1	24	3	0	1	1	1
	Colour	Pt/Co	1	24	2	0	1	1	1
	Conductivity	µS/cm	5	24	24	0	151	474	256
	Alkalinity	mg/L	5	24	24	0	29	184	72
	Total hardness	mg/L	5	24	24	0	37	178	78
	Total dissolved solids	mg/L	10	24	24	0	95	284	152
	Chloride	mg/L	2	24	24	0	16	35	22
	Sulphate	mg/L	2	24	24	0	12	30	22
	Fluoride	mg/L	0.05	24	21	0	0.05	0.12	0.07
	Nitrate	mg/L	0.05	24	1	0	3.4	3.4	3.4
	Silica	mg/L	5	24	24	0	14	19	16
	Sodium	mg/L	0.05	24	24	0	13	36	21
	Potassium	mg/L	0.05	24	24	0	1	2.4	1.6
	Calcium	mg/L	0.05	24	24	0	9.1	44	19.0
	Magnesium	mg/L	0.05	24	24	0	3.4	17	7.4
	Chlorate	mg/L	0.01	24	24	0	0.1	0.48	0.28
	Aluminium	mg/L	0.01	24	24	0	0.006	0.074	0.033
	Antimony	mg/L	0.0001	24	0	0	0	0	<0.0001
	Arsenic	mg/L	0.0001	24	12	0	0.0002	0.0005	0.0003
	Barium	mg/L	0.001	24	24	0	0.015	0.22	0.032
	Beryllium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Boron	mg/L	0.001	24	24	0	0.013	0.18	0.025
	Cadmium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Chromium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Cobalt	mg/L	0.0001	24	0	0	0	0	<0.0001
	Copper	mg/L	0.001	24	23	0	0.001	0.021	0.006
	Iron	mg/L	0.005	24	11	0	0.005	0.01	0.007
	Lead	mg/L	0.0001	24	2	0	0.0002	0.0003	0.0003
	Mercury	mg/L	0.0001	24	0	0	0	0	<0.0001
	Manganese	mg/L	0.001	24	24	0	0.0002	0.0094	0.0026
	Molybdenum	mg/L	0.0001	24	24	0	0.0002	0.0005	0.0003
	Nickel	mg/L	0.0001	24	23	0	0.0002	0.0005	0.0003
	Selenium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Silver	mg/L	0.001	24	0	0	0	0	<0.001
	Strontium	mg/L	0.01	24	24	0	0.066	0.3	0.138
	Thallium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Tin	mg/L	0.0001	24	0	0	0	0	<0.0001
	Titanium	mg/L	0.001	24	0	0	0	0	<0.001
	Uranium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Vanadium	mg/L	0.0001	24	24	0	0.001	0.0036	0.0020
	Zinc	mg/L	0.001	24	24	0	0.001	0.011	0.005
Chloroform	µg/L	1	24	24	0	4	55	20.4	
Bromodichloro methane	µg/L	1	24	24	0	5	33	11.8	
Dibromochloro methane	µg/L	1	24	24	0	1	17	5.0	
Bromoform	µg/L	1	24	1	0	<1	1	1.0	

Table 3d - Verification monitoring results - Proserpine Scheme

	Parameter	Unit of Measure	LOR	Total Samples Collected	No. Samples in which parameter was detected	No. of samples exceeding water quality criteria	Minimum Result	Maximum Result	Average of Results
In-House Test Results	pH	mg/L	0.1	362	362	0	2.78	7.43	7.25
	Turbidity	NTU	0.01	362	362	0	0.04	0.77	0.09
	Conductivity	µS/cm	1	98	98	0	32.5	651	382
	Colour	Pt/Co	1	362	362	0	1	1	1
	Free chlorine residual	mg/L	0.1	362	362	0	1.15	2.05	1.6
	Total chlorine residual	mg/L	0.1	39	39	0	1.23	1.99	1.7
	Alkalinity	mg/L	0.1	100	100	0	1.89	104.4	83.4
	Total hardness	mg/L	0.1	99	99	0	56.4	100	76.3
	Iron	mg/L	0.01	362	323	0	0	0.03	0.009
	Manganese	mg/L	0.001	362	360	0	0	0.011	0.001
	Aluminium	mg/L	0.001	362	362	0	0.009	0.109	0.041
NATA Lab Results	pH	mg/L	0.1	24	24	0	6.93	7.89	7.41
	Turbidity	NTU	1	24	5	0	1	1	1
	Colour	Pt/Co	1	24	6	0	1	4	1.5
	Conductivity	µS/cm	5	24	24	0	305	484	409
	Alkalinity	mg/L	5	24	24	0	59	80	70
	Total hardness	mg/L	5	24	24	0	64	100	83
	Total dissolved solids	mg/L	10	24	24	0	181	288	240
	Chloride	mg/L	2	24	24	0	48	88	70
	Sulphate	mg/L	2	24	24	0	12	20	16
	Fluoride	mg/L	0.05	24	22	0	0.09	0.15	0.11
	Nitrate	mg/L	0.05	24	24	0	0.9	3.3	1.94
	Silica	mg/L	5	24	24	0	21	44	33
	Sodium	mg/L	0.05	24	24	0	36	59	48
	Potassium	mg/L	0.05	24	24	0	1.1	2.7	1.5
	Calcium	mg/L	0.05	24	24	0	13	19	16.3
	Magnesium	mg/L	0.05	24	24	0	7.5	13	10.3
	Chlorate	mg/L	0.01	24	24	0	0.3	0.68	0.48
	Aluminium	mg/L	0.01	24	24	0	0.023	0.049	0.036
	Antimony	mg/L	0.0001	24	0	0	0	0	<0.0001
	Arsenic	mg/L	0.0001	24	24	0	0.0002	0.0003	0.0002
	Barium	mg/L	0.001	24	24	0	0.025	0.038	0.031
	Beryllium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Boron	mg/L	0.001	24	24	0	0.025	0.035	0.028
	Cadmium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Chromium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Cobalt	mg/L	0.0001	24	0	0	0	0	<0.0001
	Copper	mg/L	0.001	24	23	0	0.002	0.056	0.014
	Iron	mg/L	0.005	24	10	0	0.005	0.29	0.053
	Lead	mg/L	0.0001	24	12	0	0.0002	0.0008	0.0005
	Mercury	mg/L	0.0001	24	0	0	0	0	<0.0001
	Manganese	mg/L	0.001	24	24	0	0.0002	0.0095	0.0017
	Molybdenum	mg/L	0.0001	24	24	0	0.0002	0.0004	0.0003
	Nickel	mg/L	0.0001	24	22	0	0.0002	0.0089	0.0007
	Selenium	mg/L	0.0001	24	20	0	0.0002	0.0003	0.0002
	Silver	mg/L	0.001	24	0	0	0	0	<0.001
	Strontium	mg/L	0.01	24	24	0	0.14	0.25	0.20
	Thallium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Tin	mg/L	0.0001	24	0	0	0	0	<0.0001
	Titanium	mg/L	0.001	24	0	0	0	0	<0.001
	Uranium	mg/L	0.0001	24	0	0	0	0	<0.0001
	Vanadium	mg/L	0.0001	24	24	0	0.0009	0.0021	0.0015
	Zinc	mg/L	0.001	24	22	0	0.001	0.026	0.005
	Chloroform	µg/L	1	24	24	0	2	17	6.3
Bromodichloro methane	µg/L	1	24	24	0	6	24	13.5	
Dibromochloro methane	µg/L	1	24	24	0	13	37	22.8	
Bromoform	µg/L	1	24	24	0	5	16	10.0	

Table 4 - Reticulation *E.coli* verification monitoring

Drinking water scheme:	Year	Month	No. of samples collected	No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)	No. of samples collected in previous 12 month period	No. of failures for previous 12 month period	% of samples that comply	Compliance with 98% annual value
Bowen Scheme	2017	July	25	0	303	0	100	YES
		Aug	28	0	303	0	100	YES
		Sept	26	0	310	0	100	YES
		Oct	23	0	320	0	100	YES
		Nov	19	0	317	0	100	YES
	Dec	33	0	332	0	100	YES	
	2018	Jan	24	0	329	0	100	YES
		Feb	16	0	319	0	100	YES
		Mar	20	0	308	0	100	YES
		Apr	15	0	285	0	100	YES
		May	27	0	284	0	100	YES
		June	15	0	271	0	100	YES
Proserpine Scheme	2017	July	16	0	189	0	100	YES
		Aug	18	0	189	0	100	YES
		Sept	16	0	193	0	100	YES
		Oct	17	0	202	0	100	YES
		Nov	14	0	198	0	100	YES
	Dec	18	0	204	0	100	YES	
	2018	Jan	22	0	208	0	100	YES
		Feb	14	0	210	0	100	YES
		Mar	13	0	206	0	100	YES
		Apr	11	0	196	0	100	YES
		May	25	0	204	0	100	YES
		June	13	0	197	0	100	YES
Coastal Scheme	2017	July	26	0	280	0	100	YES
		Aug	26	0	280	0	100	YES
		Sept	24	0	286	0	100	YES
		Oct	24	0	298	0	100	YES
		Nov	20	0	292	0	100	YES
	Dec	26	0	318	0	100	YES	
	2018	Jan	24	0	298	0	100	YES
		Feb	15	0	295	0	100	YES
		Mar	16	0	293	0	100	YES
		Apr	15	0	267	0	100	YES
		May	28	0	270	0	100	YES
		June	15	0	259	0	100	YES
Collinsville Scheme	2017	July	17	0	201	0	100	YES
		Aug	19	0	203	0	100	YES
		Sept	17	0	208	0	100	YES
		Oct	21	0	221	0	100	YES
		Nov	17	0	224	0	100	YES
	Dec	17	0	228	0	100	YES	
	2018	Jan	20	0	230	0	100	YES
		Feb	13	0	226	0	100	YES
		Mar	18	0	233	0	100	YES
		Apr	13	0	210	0	100	YES
		May	23	0	214	0	100	YES
		June	14	0	209	0	100	YES

Appendix B – Implementation of the DWQMP Risk Management Improvement Program

Table 5 - Progress against the Risk Management Improvement Plan in the approved DWQMP v2.1

Scheme Component / Sub-component		Required Actions	Target Date	Actions Taken to Date	Additional Comments
Catchment - Proserpine River	1	Pump maintenance (including removal of sediment from over rock mattress in 2018); future open water intake	- Aug 2019 - May 2020	Diesel pump purchased to improve backwash efficiency and improve performance of spears. Intake pumps still require further work.	Increased Recycled water scheme in Bowen has decreased potable demand so long term plan for open water intake can be delayed.
WTP	2	Power Supply - Generators; Emergency Management Plan	Dec 2017 July 2018	Generators installed at Bowen WTP, Coastal WTP, Dodd St Bores & Foxdale Bores. Solar farm at Bowen WTP.	Second round of additional generators are being sourced.
	3	Coastal WTP telemetry upgrades	Short Term July 2018 Long Term July 2019	Completed. PLC upgraded, control telemetry at bores.	Fibre connection to Proserpine WTP to be completed.
Collinsville WTP	5	Collinsville WTP telemetry upgrades	Short Term July 2018 Long Term July 2019	Preliminary telemetry work completed, turbidity analysers being sourced.	
Reticulation	6	Online Chlorine analysers with telemetry		Hydramet chlorine analyser skids have been installed at required locations. Connection to SCADA to be completed in 2019.	
	8	Procedures / training following repair of mains	Dec-17	Procedures are developed. Training ongoing.	
	9	RPZD listed and maintenance	Nov-18	Incomplete lists have been developed for Northern and Southern areas. Consolidate this role into a regional one.	Responsibility for the complete region undecided.
	10	Flushing/pigging program	Ongoing	Ongoing in 2019	
Bowen - Proserpine main	15	Full asset check and maintenance schedule	Dec-17	Asset check completed. Replacement schedule initiated. Maintenance schedule ongoing.	
	16	Sediment scouring - Turbidity meter, pigging	Ongoing	Ongoing	
Storage Reservoirs	19	Assessment of system storage - at grade reservoirs, reconfiguration	Jul-18	Assessment complete. Reconfiguration of Brisk Bay reservoir continuing.	Increased Recycled water scheme in Bowen has decreased potable demand so additional reservoirs not required.
Security	24	Emergency Management	Ongoing	Business continuity plan for Whitsunday Water	
Operation and Maintenance Procedures	26	Procedures to be reviewed and updated.	Ongoing	Ongoing	
Staff Training and Awareness	27	Operator certification; toolbox talks	Ongoing	Ongoing	All WRC operators have completed or nearly completed certification.