



DRINKING WATER QUALITY MANAGEMENT PLAN REPORT 2019

Douglas Shire Council

Reporting period: 1 July 2018 – 30 June 2019

Drinking Water Service Provider 558

December 2019

DOUGLAS SHIRE
COUNCIL

Improving Environmental Performance
Ngaral Kulji Bubungu - Eastern Kuku Yalanji
Pulmpa dakit jarral-a-kaling - Yirrganydji

Rex Creek Intake Screens

Document Information

Version	Created By	Approved by: Signature & Date
1	Ada Pasanen	Peter Tonkes Manager Water and Wastewater 13/12/2019

Document and Drinking Water Quality Management Plan related information controller:

Environmental Technical Officer: Ada Pasanen

T: (07) 4099 9517

E: ada.pasanen@douglas.qld.gov.au

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Drinking Water Quality Management Plan Report

1. Introduction

This report documents the performance of Douglas Shire Council (Council) as a Drinking Water Service Provider (SPID 558) during the financial year 2018-2019. Council is operating under an approved Drinking Water Quality Management Plan (DWQMP) to ensure consistent supply of safe drinking water in order to protect public health and as required under the *Water Supply (Safety and Reliability) Act 2008*.

The report provides a mechanism to report publicly on the performance in managing drinking water services and drinking water quality.

2. Summary of schemes operated

Council operates three principle water supply schemes that source water from highly protected catchments and treat water to Australian Drinking Water Guideline (ADWG) standards utilising a combination of ultrafiltration and chlorination, with the ability to use supplemental UV disinfection. Additionally Whyanbeel Water Treatment Plant utilises sodium carbonate for pH adjustment (Table 1).

Table 1. Summary of the three drinking water schemes.

Scheme	Water Source	Treatment Processes	Treatment Capacity (ML/day)	Towns Supplies
Daintree	Martin Creek	Pre-filtration, ultrafiltration, chlorination	0.49	Daintree Township
Mossman/Port Douglas	Rex Creek	Pre-filtration, ultrafiltration, chlorination	30.0	Mossman, North Mossman, Port Douglas, Craiglie, Newell Beach, Cooya Beach, Cassowary, Mowbray
Whyanbeel	Little Falls Creek	Pre-filtration, ultrafiltration, chlorination, sodium carbonate	4.9	Whyanbeel, Miallo, Bamboo, Rocky Point, Port Douglas Views, Wonga Beach

3. DWQMP implementation

DWQMP is a public health based risk management plan that demonstrates how public health risks to drinking water services are managed. All relevant staff are made aware of the DWQMP and the plan is used as a tool when assessing different aspect of drinking water management. The Council Water and Wastewater staff meet fortnightly to relate messages, share updates and to discuss matters relating to water quality and treatment operations.

Council's DWQMP was last amended in June 2018. Within the amendment the Council has undertaken a system assessment and a public health risk assessment. Through the risk assessment process, Council identified a number of risks to the drinking water schemes that require improvements over time. These are detailed within the approved DWQMP Hazard Identification and Risk Assessment section. The actions undertaken and the progress of the Risk Management Improvement Plan (RMIP) can be seen in [Appendix A: Implementation of the DWQMP Risk Management Improvement Program](#). Additionally the DWQMP includes Critical Control Points (CCP) which ensure that operators become aware of potential issues faster and are able to respond and rectify any issues in fast manner.

CCP compliance is continually monitored via Supervisory Control and Data Acquisition (SCADA) control system and operational checks are performed by plant operators. Verification of drinking water quality monitoring is undertaken weekly within the reticulation network to demonstrate the Council provides safe drinking water. For quality assurance external analyses are undertaken at a National Association of Testing Authorities (NATA) certified laboratory. All data is recorded and reviewed in timely manner.

4. Verification monitoring

During the reporting period, Council undertook verification monitoring in accordance with the requirements of the approved DWQMP.

During the financial year 2018-2019 all physical, chemical and microbiological parameters measured were within the ADWG health guideline values and the standards of the Public Health Regulation 2005. Water quality data is presented in [Appendix B: Water quality information and summary](#).

5. Notification to the Regulator under sections 102 and 201A of the Act

There were no incidents reported to the Regulator in financial year 2018-2019. This declares a high level of compliance imposed by the *Water Supply (Safety and Reliability) Act 2008* during the reporting period.

6. Customer complaints

Douglas Shire Council values customer feedback. During the reporting period there were 2 water quality complaints within the three drinking water schemes (Table 2). These complaints were handled by the Council staff by investigating the issue, flushing of the service water mains and by undertaking water quality monitoring. At both instances the drinking water quality demonstrated compliance with ADWG health guideline values.

Table 2. Drinking water quality complaints during the financial year 2018-2019.

Scheme	Health concern	Discoloured Water	Taste and Odour	Other	Total
Daintree	0	0	0	0	0
Mossman / Port Douglas	0	2	0	0	2
Whyanbeel	0	0	0	0	0

7. DWQMP review outcomes

Council's DWQMP was amended in June 2018. The current review and amendment of the DWQMP was conducted following an external audit of DWQMP, although the audit noted no non-conformances. The amended DWQMP provides up to date information including capital improvements, critical control points, risk management improvement plan and updated verification monitoring program. There is a regulatory requirement to review the DWQMP biannually, however Council may review the plan more frequently if required.

8. DWQMP audit findings

No audit was conducted during the reporting period July 2018 – June 2019. Previous audit was performed in April 2017 and noted no non-conformances.

Appendix A: Implementation of the DWQMP Risk Management Improvement Program

Table 3. Status update for RMIP

Scheme	Component	Improvement actions	Status	Hazardous Event
All Schemes	Intake	Rex Creek stage 2 intake upgrade	Finalised	Blocked Johnston screen, failure of supply
Mossman/Port Douglas	Reservoir	Craiglie Reservoir roof replacement	Under construction (Expected finalisation January 2020)	Ingress into reservoirs, limited supply
Mossman/Port Douglas	Reservoir	Cooya Reservoir connection	Under review	Ingress into reservoirs, limited supply
Mossman/Port Douglas & Whyanbeel	Reservoir	Wonga, Mowbray, Cassowary reservoir refurbishment	Paused	Ingress into reservoirs, limited supply
All Schemes	Water reticulation	Replacement of ageing water reticulation infrastructure including water meters	Ongoing	Mains break, failure of supply, backflow, water quality issues
Mossman/Port Douglas & Whyanbeel	Water reticulation	Mossman/Port Douglas and Whyanbeel interconnection	Finalised	Limited supply
Mossman/Port Douglas	Reservoir	Port Douglas Crees Rd Reservoir construction	Finalised	Demand exceeds supply
Daintree	Water supply	Daintree bore as a contingency water supply	Finalised	Limited supply
All Schemes	Staff professional development	Staff training	Ongoing	Operator error
All Schemes	Water Treatment	More secure locking of treatment bypass to prevent accidental use	Finalised	Accidental use of bypass, water quality issues

Appendix B: Water quality information and summary

Daintree water supply scheme – Verification monitoring results

Table 4. Daintree water supply scheme verification monitoring results for financial year 2018-2019.

Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	ADWG health guideline value	No. of non compliant samples	Summary of results		
					Min	Max	Avg
Chlorine residual (mg/L)	24	29	5	0	<0.1	1.0	0.5
Colour (PCU)	12	13	N/A	N/A	<5	<5	<5
Copper (mg/L)	12	13	2	0	0.002	0.012	0.005
E.coli (MPN/100mL)	24	27	<1	0	<1	<1	<1
Iron (mg/L)	12	13	N/A	N/A	<0.005	0.009	0.006
Manganese (mg/L)	12	13	0.5	0	<0.005	<0.005	<0.005
pH (pH units)	24	40	N/A	N/A	6.7	8.9	7.9

Table 5. Daintree water supply scheme E.coli compliance with annual value.

Year	2018-2019											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
No. of samples collected	2	3	2	2	2	2	3	3	2	2	2	2
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	119	112	102	92	84	76	68	59	51	43	33	27
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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Mossman/Port Douglas water supply scheme – Verification monitoring results

Table 6. Mossman/Port Douglas water supply scheme verification monitoring results for financial year 2018-2019.

Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	ADWG health guideline value	No. of non compliant samples	Summary of results		
					Min	Max	Avg
Alkalinity (mg/L as CaCO₃)	30	35	N/A	N/A	<5	20	5
Chlorine residual (mg/L)	174	192	5	0	<0.1	1.6	0.9
Colour (PCU)	84	92	N/A	N/A	<5	<5	<5
Copper (mg/L)	84	92	2	0	0.001	0.11	0.009
E.coli (MPN/100mL)	174	196	<1	0	<1	<1	<1
Iron (mg/L)	84	92	N/A	N/A	<0.005	0.43	0.026
Manganese (mg/L)	84	82	0.5	0	<0.005	<0.005	<0.005
pH (pH units)	174	317	N/A	N/A	5.4	9.1	6.9

Table 7. Mossman/ Port Douglas water supply scheme E.coli compliance with annual value.

Year Month	2018-2019											
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
No. of samples collected	14	17	14	25	14	15	18	17	15	15	17	15
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	945	882	800	740	663	598	522	455	390	325	246	196
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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Whyanbeel water supply scheme – Verification monitoring results

Table 8. Whyanbeel water supply scheme verification monitoring results for financial year 2018-2019.

Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	ADWG health guideline value	No. of non compliant samples	Summary of results		
					Min	Max	Avg
Alkalinity (mg/L as CaCO ₃)	12	13	N/A	N/A	<5	17	10
Chlorine residual (mg/L)	60	64	5	0	0.1	1.8	0.9
Colour (PCU)	24	26	N/A	N/A	<5	<5	<5
Copper (mg/L)	24	26	2	0	<0.001	0.011	0.005
E.coli (MPN/100mL)	60	67	<1	0	<1	<1	<1
Iron (mg/L)	24	26	N/A	N/A	0.006	0.04	0.018
Manganese (mg/L)	24	26	0.5	0	<0.005	<0.005	<0.005
pH (pH units)	60	102	N/A	N/A	5.7	8.6	7.5

Table 9. Whyanbeel water supply scheme E.coli compliance with annual value.

Year	2018-2019											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
No. of samples collected	5	6	5	8	5	5	6	6	5	5	6	5
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	297	278	253	231	211	191	170	146	126	106	82	67
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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y