



# DRINKING WATER SERVICE ANNUAL REPORT 2024

*Douglas Shire Council*

SPID: 558

Reporting period: 1 July 2023 – 30 June 2024

December 2024

**DOUGLAS** SHIRE  
COUNCIL

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

This report has been prepared in accordance with the *Guideline for the preparation, review and audit of drinking water management plans V3*.

## Document Information

Version	Created By	Approved by	Date
1	Fran Morris and Ada Pasanen Environmental Technical Officer	Ben Baillie Manager Water and Wastewater	10/12/2024

Document and Drinking Water Quality Management Plan related information controller:

**Fran Morris: Environmental Technical Officer**

E: [fran.morris@douglas.qld.gov.au](mailto:fran.morris@douglas.qld.gov.au)

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**Drinking Water Service Annual Report 2024**

### 1. Introduction

This report has been prepared to comply with section 142 of the *Water Supply (Safety and Reliability) Act 2008* (the Act). It documents the performance of Douglas Shire Council (DSC) as a Drinking Water Service Provider (SPID 558) during the financial year 2023-2024. Council operates under a Drinking Water Quality Management Plan (DWQMP) approved under section 95 of the Act to ensure consistent supply of safe drinking water to protect public health. **The DWQMP in force during the reporting period is V4.1, dated August 2022.**

This Drinking Water Service Annual Report includes:

- the activities undertaken over the financial year in operating our drinking water service,
- drinking water quality summary,
- summary of our performance in implementing our approved DWQMP.

This report provides a mechanism to publicly relay DSC’s performance in managing drinking water services and drinking water quality. The report is submitted to the Department of Local Government, Water and Volunteers (DLGWV) (the Regulator) to fulfil the Council’s regulatory requirement and, is also made available on Council website or for inspection upon request at the Council office.

### 2. Summary of schemes operated

Council operates two water supply schemes that source water from highly protected catchments (Whyanbeel and Mossman/Port Douglas). The Whyanbeel Water Treatment Plant utilises sodium carbonate for pH adjustment. The third scheme currently sources water from the Daintree bore which is treated using a calcite filter. All schemes treat water to Australian Drinking Water Guideline standards (ADWG) utilising a combination of ultrafiltration and chlorination, with the ability to use supplemental UV disinfection (Table 1).

**Table 1. Summary of the three drinking water schemes.**

Scheme	Water Source	Treatment Processes	Treatment Capacity (ML/day)	Towns Supplied
<b>Daintree</b>	Daintree Bore	Calcite filter (Daintree bore), Pre-filtration, ultrafiltration, chlorination	0.49	Daintree Township
<b>Mossman/Port Douglas</b>	Rex Creek	Pre-filtration, ultrafiltration, chlorination	30.0	Mossman, North Mossman, Port Douglas, Craiglie, Newell Beach, Cooya Beach, Cassowary, Mowbray
<b>Whyanbeel</b>	Little Falls Creek	Pre-filtration, ultrafiltration, chlorination, sodium carbonate pH adjustment	4.9	Whyanbeel, Miallo, Bamboo, Rocky Point, Port Douglas Views, Wonga Beach

### 3. Report requirement notice

This report has been prepared to comply with Drinking Water Quality Management Plan Guidelines (V3) section 9 and submitted to the Regulator as per the report requirement notice. Furthermore, the report includes information about compliance with the approved DWQMP.

### 4. 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 aspects of drinking water management. The Council Water and Wastewater team meet regularly to share updates and data, and to discuss matters relating to water quality and treatment operations. This provides the opportunity to refer to the approved DWQMP and emphasise the importance of using the plan. Regular 'Tool-box Talks' are held to discuss relevant operational requirements covered by implementation of the plan.

Through the risk assessment process, Council identified 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 RMIP can be viewed in [Appendix A: Implementation of the DWQMP Risk Management Improvement Program \(2022\)](#).

Additionally, the DWQMP includes Critical Control Points (CCP) which ensure that operators become aware of potential issues faster and can respond and rectify any issues in a timely manner. CCP compliance is continually monitored via Supervisory Control and Data Acquisition (SCADA) control system and operational checks are performed by plant operators and reviewed by the Team Leader.

### 5. Verification monitoring

Drinking water verification monitoring is undertaken weekly to ensure Council provides safe drinking water across the drinking water network. Verification monitoring consists of both internal and external monitoring. External analyses are undertaken at a National Association of Testing Authorities (NATA) certified laboratory, and all data is reviewed in a timely manner and recorded in Council's data management system.

During the financial year 2023-2024, Council undertook verification monitoring in accordance with the requirements of the approved and relevant DWQMP. During the reporting period, all physical, chemical, and microbiological parameters 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 data 2023-24](#). The Tropical Cyclone Jasper disaster led to complete loss of water to both the Mossman/Port Douglas and Whyanbeel Water Schemes. As Douglas Shire Council recommissioned the water treatment plants, chlorine values were higher than average for a short period, but never exceeded the ADWG.

### 6. Notifications of drinking water quality incidents and events to the Regulator

Douglas Shire Council reported two drinking water non-compliance events, "failure to supply drinking water" at both the Whyanbeel and the Mossman/Port Douglas Schemes. These events were a result of Tropical Cyclone Jasper and the associated flooding. These notifications were made to the Regulator on the 11<sup>th</sup> of December 2023 (prior to the cyclone) and updated on the 3<sup>rd</sup> of January

2024. Due to this natural disaster, both the Mossman and, the Whyanbeel water treatment plants were unable to produce water due to blocked intakes and high turbidity. Further disruptions to water supply also occurred due to water reticulation mains breaks caused by flooding.

There was also a notification in March 2024, from the Regulator to Douglas Shire Council. DSC received a Warning Letter for Non-compliance with Section 93(a) of the Water Supply (Safety and Reliability) Act 2008, stating that DSC failed to inform the regulator in a timely manner and/or providing accurate information about loss of water on the 18<sup>th</sup> of Dec 2023. However, it was noted that on 18 January 2024, Council did provide notification to another unit within this department. Council was in regular contact with all relevant departments (Qld Health, Qld Water, LDMG) during the disaster.

There were no other reportable drinking water quality events or incidents reported during this period.

### 7. Customer complaints

Douglas Shire Council values customer feedback. During the reporting period there were 10 substantiated water quality complaints within the drinking water schemes (see Table 2). Council responded to these complaints promptly and customer perceived issues were resolved. A number of these complaints related to dirty water, following mains breaks.

Table 2. Drinking water quality complaints during the financial year 2023-2024.

Scheme/Date	Nature of Complaint	Complaint related to reported incident (CRM)	Comments
<b>Whyanbeel Scheme</b>			
May 2024	Dirty water	138487	Related to a main break. Council flushed the line and the issue was resolved.
April 2024	Dirty water	136558	Related to a main break. Council flushed the line and the issue was resolved.
Feb 2024	Dirty water	134935	Related to a main break. Council flushed the line and the issue was resolved.
Jan 2024	Dirty water	134347	Replaced old mains pipe.
Nov 2023	Dirty water	132146	Related to a main break. Council flushed the line and the issue was resolved.
Sept 2023	Dirty water	130690	Related to a main break. Council flushed the line and the issue was resolved.
<b>Mossman /Port Douglas Scheme</b>			
May 2024	Water was not fit to drink for someone who has health issues– high chlorine	1226308	Worked with customer to explain that water was to ADWG standards, and it was safe for him to consume and utilise.
May 2024	High Chlorine	1219129	Issue was only brief – resolved itself within 48 hours.

April 2024	Low pH	136164	Water was tested - while pH was lower, it was still within Guideline parameters.
April 2024	Dirty water/ low pressure	135736	Issue seemed to revolve as customer did not return Council's calls.
Total number of complaints = 10			

Scheme	Health concern	Discoloured Water	Taste and Odour	Other	Total
Daintree	0	0	0	0	0
Mossman / Port Douglas	2	1	1	0	4
Whyanbeel	0	6	0	0	6

**8. DWQMP review**

While DWQMP V4.1 (dated August 2022) is the relevant DWQMP referred to in this report, DSC has a more recent DWQMP (V.4.2) which was approved (with conditions) in September 2024 by the Regulator. The conditions stated that the Council must review the Risk Management Improvement Plan (RMIP) by April 2025.

**9. DWQMP audit**

No audit was required or conducted during the relevant financial year 01/07/2023 to 30/06/2024. The next audit of the DWQMP is due to be conducted before 30/06/2025.

## Appendix A: Implementation of the DWQMP (Aug 2022) Risk Management Improvement Program

Critical items that have been identified that required attention in the DWQMP (Aug 2022) include:

- Connecting Cooya Beach Reservoirs to the network (including re-chlorination and pipework): (IN PROGRESS- funding received 30/06/24).
- Mossman alternative intake (IN PROGRESS: WISER funding approved; still awaiting licence. Project due for completion 2027).
- Implementation of smart water metering: Smart water meter rollout complete within the Council water reticulation area. The smart water metering devices have allowed property water leaks to be detected in their earliest stages, allowing property owners the autonomy to act on reducing water leak volumes and thus their water bills. (COMPLETE).
- Investigating chlorination options for workplace health and safety reasons: (COMPLETE)
- Upgrading security and disaster response at water treatment infrastructure: (ONGOING)
- Design and install designated water filling stations within Shire. (AWAITING FUNDING).

### Other relevant actions brought forward

- Rocky Point Reservoir connection to the grid. (COMPLETE, JUNE 2024).
- Upgraded interconnections between schemes. (COMPLETE, JUNE 2024).
- Replace UF cartridges at Mossman WTP, Whyanbeel WTP & Daintree WTP: Mossman and Whyanbeel WTP UF replacement is complete. Still to complete Daintree UF upgrade.



Scheme	Hazardous Event	Improvement actions			Comments	Actions taken to date	Status
		2021/22	2022/23	2024/25 or beyond			
All schemes	Membrane availability	Replace Mossman WTP pre-filters to prolong life of current UF membranes	Begin UF replacement program at Mossman WTP	Begin UF replacement program at Whyanbeel and Daintree WTP	Replacement of UF cartridges brought forward due to turbidity issues at both Rex Creek and Whyanbeel	Mossman and Whyanbeel WTP's UF replacement is complete. <b>Still to complete Daintree UF upgrade.</b>	<b>In progress.</b>
Mossman/ Port Douglas	Storage capacity			Cooya Beach reservoirs to be brought online	Design completed to bring Cooya Beach reservoirs online. Includes chlorine re-dosing. Funding sourced.		<b>In progress</b>
All	Backflow - e.g. from customer meters or standpipes			Design and install designated water filling stations within Shire.	Backflow creates a contamination risk.	Backflow register maintained for all commercial properties. Backflow devices available to use with all standpipes.	<b>Awaiting Funding</b>
All schemes	Demand exceeds supply			Mossman River alternate intake construction	Alternative water supply has been investigated for Mossman/Port Douglas scheme. Port Douglas, Whyanbeel interconnection. Rocky Point Reservoir connected to grid.	Asset planning undertaken. Water restrictions and water education implemented.	<b>In progress</b>
Mossman/ Port Douglas	Drought			Mossman River alternate intake construction	Finalise design of Mossman River intake, Mossman WTP UV Upgrade to apply for grant funding.	Initial design completed. WISER funding approved for Mossman River Intake project. Approvals and applications in progress.	<b>In progress</b>

## Appendix B: Water quality data 2023-24

### Daintree water supply scheme – Verification monitoring results 2023-2024

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
Chlorate (mg/L)	4	5	N/A	0	0.089	0.372	0.184
Chlorine (mg/L)	26	26	5	0	0.13	3.8	1.4
Colour (PCU)	12	15	N/A	N/A	<1	<1	<1
Copper (mg/L)	12	14	2	0	0.006	0.02	0.0132
<i>E. coli</i> (MPN/100mL)	26	39	<1	0	<1	<1	<1
Iron (mg/L)*	12	14	N/A	N/A	<0.015	0.042	0.01275
Lead (mg/L)	12	14	0.01	0	0.0008	0.0031	0.00191
Manganese (mg/L)	12	14	0.5	0	0.0005	0.0040	0.0041
pH (pH units)	26	36	N/A	N/A	5.67	7.62	6.46
Turbidity (NTU)*	12	15	N/A	N/A	<0.10	0.5	0.13

\*Note: The Iron and Turbidity averages have been calculated using 1/3 of LOR.

### Daintree water supply scheme *E. coli* compliance with annual value.

Year	2023-2024												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
No. of samples collected		2	4	3	3	3	3	5	4	3	3	3	3
No. of samples collected in which <i>E. coli</i> 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		41	43	41	42	43	43	43	44	44	42	42	42
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 2023-24

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 <sub>3</sub> )	36	48	N/A	N/A	1.20	15.00	5.12
Chlorine (mg/L)	154	273	5	0	0.01	4.3	1.25
Colour (PCU)	84	117	N/A	N/A	<1	1.6	0.11
Copper (mg/L)	84	120	2	0	0.001	0.023	0.0007
<i>E. coli</i> (MPN/100mL)	190	313	<1	0	<1	<1	<1
Iron (mg/L)	84	109	N/A	N/A	<0.015	0.035	0.0192
Lead (mg/L)	84	109	0.01	0	<0.0005	0.004	0.00132
Manganese (mg/L)	84	109	0.5	0	<0.0002	0.0061	0.000314
pH (pH units)	190	429	N/A	N/A	5.28	8.80	6.77
Turbidity (NTU)*	84	148	N/A	N/A	0.01	1.6	0.196

\*Note: Iron, Lead, Manganese, Colour and Turbidity averages have been calculated using ½ of LOR.

### Mossman/ Port Douglas water supply scheme *E. coli* compliance with annual value.

Year	2023-2024												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
No. of samples collected		15	21	18	17	19	26	55	27	31	22	38	24
No. of samples collected in which <i>E. coli</i> 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		228	228	235	229	233	232	268	277	286	292	305	313
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 2023-2024

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)	12	16	N/A	N/A	7.8	13	10.33
Chlorine (mg/L)	52	83	5	0	0.05	1.8	1.2
Colour (PCU)	24	33	N/A	N/A	<1	1.3	<1
Copper (mg/L)	24	30	2	0	0.001	0.052	0.0047
<i>E. coli</i> (MPN/100mL)	64	104	<1	0	<1	<1	<1
Iron (mg/L)	24	30	N/A	N/A	<0.015	0.07	0.02
Lead (mg/L)	24	30	0.01	0	<0.0005	0.0006	0.00028
Manganese (mg/L)	24	30	0.5	0	<0.0002	0.001	0.0003
pH (pH units)	64	132	N/A	N/A	5.32	8.93	7.71
Turbidity (NTU)*	24	52	N/A	N/A	<0.1	2.42	0.35

\*Note: Iron, Lead, Manganese and Turbidity averages have been calculated using 1/3 of LOR.

### Whyanbeel water supply scheme *E. coli* compliance with annual value.

Year	2023-2024												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
No. of samples collected		5	7	6	6	7	8	12	12	10	7	16	8
No. of samples collected in which <i>E. coli</i> 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		46	43	40	35	33	30	77	84	89	93	103	104
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