



# **Drinking Water Quality Management Plan Report**

## **Lockhart River Aboriginal Shire Council**

SPID: **143**

*2021 -2022*

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

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# 1 Introduction

This is the Drinking Water Quality Management Plan ('DWQMP') report for Lockhart River Aboriginal Shire Council ('LRASC') for the financial year 2021 – 2022.

LRASC is a registered service provider with the identification SPID: 143. LRASC is operating under its 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.

This DWQMP 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 the drinking water quality management plan.

This report is submitted to the regulator to fulfil the regulatory requirement and will also be made available to our customers through our website or for inspection upon request at Council office.

LRASC submitted an updated version of its DWQMP in early October 2022. This document is under review with the Department of Regional Development, Manufacturing and Water (DRDMW).

## 2 Summary of scheme/s operated

Table 1. Schemes operated.

	<i>Water Source</i>	<i>Treatment processes</i>	<i>Treatment capacity</i>	<i>Towns supplied</i>
Lockhart River Township	4x Bores	Sodium hypochlorite chlorination prior to storage, additional chlorination in storage.	Average 520 kL/day	Lockhart River
Lockhart River Aerodrome	2x Bores	Sodium hypochlorite chlorination prior to storage	Average 3kL/day	Aerodrome facilities & accommodation cabins

### 3 DWQMP implementation

The actions undertaken to implement the DWQMP are summarised below.

LRASC submitted its updated DWQMP in October 2022. This document, currently under review by the Department of Regional Development, Manufacturing and Water (DRDMW), reflects changes made to LRASC water infrastructure since the last approved DWQMP of 2014.

In anticipation for the DWQMP to be approved, the water operators (WO) at LRASC have been transitioning to the sampling and testing schedule contained within this document.

In June 2018 LRASC commissioned Viridis Consultants Pty Ltd to undertake a first audit of the DWQMP. This audit concluded that Council demonstrated low compliance with requirements over the three main areas of data accuracy, DWQMP implementation and its relevance. 15 recommendations and 11 opportunities for improvement were outlined in the audit. A further list of requirements by DNRME for inclusion to LRASC's amended DWQMP was also confirmed in late 2020.

To manage public health risks associated, Queensland Health (QH) staff along with engaged consultant Wastedwise have worked collaboratively with LRASC staff to complete and implement actions for each audit recommendation, opportunity for improvement and DNRME requirement. Councils DWQMP has also been updated with latest requirements from a Spot Audit undertaken by Viridis in May 2022 and Information Notice from DNRME.

#### Risk Management Improvement Program

The risk management improvement actions below have been identified from the hazard identification and risk assessment outcomes including all Audit findings and DNRME requirements. The priority level has been classified as low, medium or high. High priority has been assigned to a hazard that can have immediate impact on public health.

Lower priority has been assigned to infrastructure improvements that would not impact public health in the relatively short term, and budget and engagement of services will have to be sought. Medium priority has been given to operational improvements that will optimise the system performance.

#### Catchment and Source Infrastructure

Hazard	Hazardous Event	Risk Management Improvement Action	Priority	Completion	Responsibility
Metals (Iron)	Natural Geology	Establish a program for regular flushing and cleaning of bore and bore pump to reduce biofilm build up. Monitor and review sampling data	Medium	2023	Director Municipal Services (DMS).

#### Disinfection

Hazard	Hazardous Event	Risk Management Improvement Action	Priority	Completion	Responsibility
Bacteria (harmful)	Chlorine dose affected by turbidity	Install an in line turbidity analyser pre treatment	Medium	2022	DMS

## Storage Tanks

Hazard	Hazardous Event	Risk Management Improvement Action	Priority	Completion	Responsibility
Turbidity (resulting in less effective disinfection)	Sediment accumulation	Engage service provider to cleanse reservoirs	High	Dec 2022	DMS

## Reticulation

Hazard	Hazardous Event	Risk Management Improvement Action	Priority	Completion	Responsibility
Bacteria (harmful)	No Chlorine	Investigate/fund provision of system upgrade to enable disinfection of water supplied to off site houses on the Aerodrome supply Consult with tenants to assist with risk management Monitor usage and quality of water by inclusion of monthly bacteriological verification sampling	High	2023	DMS / AM
Turbidity (resulting in less effective disinfection)	Sediment entry from pipe breaks, mains breaks, (age, pressure). Dead ends / long detention time	Monthly scouring program in place at fire hydrants. Bi annual inspections at aerodrome	Medium	2023	DMS / AM

## Whole of Service

Hazard	Hazardous Event	Risk Management Improvement Action	Priority	Completion	Responsibility
Cross Council Activities	Operational impacts	Review of cross Council activities to outline framework risk management matrix	Medium	2023	DMS/CEO
No samples taken	No water quality monitoring	Maintain water sampling program as per specifications Report missed sampling occurrences	High	2022	DMS

Bacteria (harmful)	SCADA / telemetry failure malfunction	Revisit SOP's and on the job training for SCADA and practice response to incident scenarios with WTP operators	Medium	2022	DMS
Untrained Staff  Staff unavailable	Harmful bacteria or poor aesthetic water quality due to operator lack of knowledge No operational means to respond	Further develop suite of operations and maintenance SOP's QH tech and consultant support Undertake certificate level training for WTP operators  Communication procedure between CEO & DMS	High	2023	DMS
No Water	Ergon power supply disruption	Review contingency plan to ensure emergency generators are refuelled after use and emergency fuel supply is on standby for power disruptions longer than 12 hours	Medium	2022	DMS
Infrastrucure & bore details	Inadequate system knowledge	DMS/AM to obtain, review & update all necessary data	High	2022	DMS/AM
Monitoring data review	Hazard identification	DSM to review & assess monitoring data within 24 hours of receipt	High	2022	DMS





## 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
LRASC Township	free chlorine	920 (daily on work days across 5 sites)	330	0.2 – 5.0 mg/L	0 <sup>1</sup>
LRASC Township	Total Chlorine	920	330		0 <sup>1</sup>
LRASC Township	E.coli	20 external laboratory, 20 in house	11 external, ? in house	<1 cfu/100mL	0
LRASC Township	Heterotrophic Plate count	20	11	n/a	0
LRASC Township	Total Coliforms	20	11	n/a	0
LRASC Township	Turbidity	920	330	<5NTU	38
LRASC Township	pH	920	320	6.5-8.5	0
Aerodrome	Free Chlorine	1460 (every day across 4 sites)	1460	0.2 – 5.0 mg/L	0
Aerodrome	E.coli	16 external laboratory, 16 in house	3 external, ? inhouse	<1 cfu/100mL	0
Aerodrome	Heterotrophic Plate Count	16	3	n/a	0
Aerodrome	Total Coliforms	16	3	n/a	0

<sup>1</sup>Best efforts were made to interpret all hand written results – all appear to be within ADWG values.

LRASC has been transitioning to the revised DWQMP during this financial year. The revised DWQMP has increased testing than the previous plan. This accounts for some of the discrepancy. A large number of tests were missed due to staff shortages.

**Table 4. E. coli compliance with annual value**

**Drinking water scheme:** Lockhart River Community

Year	2021 – 2022												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	0	0	0	4	0	0	0	0	3	4	0	0	0
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	4	0	4	0	4	0	0	0	4	1	3	0	4
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					100	100			
Compliance with 98% annual value				yes					yes	yes			

Drinking water scheme:  Aerodrome / Iron Range Cabins

Year	2021 – 2022												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	0	0	0	1	0	0	0	0	1	1	0	0	0
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	1	0	1	0	1	0	0	0	1	0	1	0	1
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					100	100			
Compliance with 98% annual value				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 this section.

**Table 5 – Incidents reported to the regulator**

<b>Incident date</b>	<b>Scheme / location</b>	<b>Parameter / issue</b>	<b>Preventive actions</b>
01/11/2021	Lockhart River Community	Power outage.	Council is provided notifications of planned power outages from Ergon to assist with planning for these events and maintaining systems.

## **6 Customer complaints**

There were no customer complaints during this financial year.

## **7 DWQMP review outcomes**

LRASC has undertaken an extensive review process of the previous DWQMP with the assistance of a private consultant (Wastedwise) and guidance of Tropical Public Health Service. There are numerous additions to the reworked DWQMP which were absent in the last DWQMP. As mentioned earlier the revised DWQMP has been submitted to the DRDMW and is currently being reviewed.

## 8 DWQMP audit findings

To manage public health risks associated, QH staff along with engaged consultant Wastedwise have since 2021 worked collaboratively with LRASC staff to complete and implement actions for each audit recommendation, opportunity for improvement and DNRME requirement. Councils DWQMP has also been updated with latest requirements from a Spot Audit undertaken by Viridis in May 2022 and Information Notice from DNMRE. The improvement actions for the recommendations from Viridas are listed in the tables below.

### Catchment and Source Infrastructure

Hazard	Hazardous Event	Risk Management Improvement Action	Priority	Completion	Responsibility
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DWQMP and annual report	Annual review	DMS to review and update	High	2022	DMS

