

July 2023 – June 2024

Raglan Water Supply Annual Report

CONTENTS

Introduction

Water Demand Management Plan

Supply & Usage Analysis

Water Saving Targets

APPENDICES

APPENDIX A	<i>Collected Raw Data July 2023 – June 2024</i>
APPENDIX B	<i>Wai Comply Audit Report for July 2023 – March 2024</i>
APPENDIX C	<i>Calibration Certificates</i>
APPENDIX D	<i>Manual Readings – Stream Level and Water Meter</i>

Introduction

Raglan Water Supply

The Raglan water supply serves the Raglan community and was granted Resource Consent #118341 in January 2008 (surface water take and use) to operate under the following conditions:

- Maximum take volume shall not exceed 3,100 m³ in any 24 hour period
- Maximum take rate not to exceed 42.22 l/s
- Weir level readings at 15 minute intervals
- At least weekly stream level measures between October and March annually
- An annual report with specific criteria is required. This report summarises progress on compliance with this condition.
- This consent is due to expire in January 2034.

The Raglan Water Supply was also granted Resource Consent #118342 in January 2008 (groundwater take and use):

- Maximum take volume not to exceed 500 m³ in any 24 hour period
- Maximum abstraction rate not to exceed 5.78 l/s
- Maximum annual take volume not to exceed 45,000 m³
- An annual report with specific criteria is required. This report summarises progress on compliance with this condition.
- This consent is due to expire in January 2034.

The groundwater bore has not been in use this reporting period. Therefore, reporting on RC 118342 is redundant for this reporting period. Watercare continue to investigate the future of this asset.

Water Demand Management Plan (WDMP)

Business as Usual Initiatives

- Completed revision of WDMP (2021) – Current 2024 WDMP with consultant,
- Written Drought Management Plan,
- Comparison of performance with participation in the Water NZ annual benchmarking,
- Asset management pipe renewals,
- Restricted flow plus on-property storage applied to all rural properties,
- Annual Water Balance reports,
- Restriction and metering of rural properties,
- Rainwater tanks are encouraged through the WDC Rainwater Tank Strategy 2015 and water-saving devices are encouraged in the District Plan,
- Water modelling includes leak detection surveys, measures to detect low flow losses, pressure management, and replacement of low reading meters.
- Councils' communication = summer campaign initiatives
- Monitoring of high users, developing a standard water supply agreement for high users
- Investigate peak demands and inconsistencies; implement management options to level out the peak demands.
- Routine review of Water Supply bylaw

Initiative Achieved

- Dedicated filling stations in Pokeno, Te Kauwhata, Ngaruawahia and Raglan, as well permeant filling station installed in Huntly in 2024 to mitigate illegal hydrant use.

Supply & Usage Analysis

At this time the current monitoring regime is considered adequate for Resource Consent purposes. WSL uses Wateroutlook software to automate this data collection, recording, and reporting process.

Appendix A contains the collected raw data from 1 July 2023 to 30 June 2024. The following table 1 summarizes the daily take values.

The maximum net take volume in any 24 hours is compliant with a maximum volume taken at 2,358 m³/day (please refer to Appendix A); the rate of take was compliant with a max of 41.78 Ls-l.

Table 1 Summary Take Volumes

Period	Annual Take Volume (m ³)	Av. Daily Take (m ³ /day)	Peak Daily Take (m ³ /day)
1 July 2022- 30 June 2023	584,035	1,596	2358

Usage

The table below summarises the types and number of users in the Raglan water supply area which has an estimated population of 5,052 based on the number of connections and estimated population served from the Waikato District Council Water Demand Management Plan 2021.

Table 3 numbers and types of connections

Number of Service Connections	Number of Metered Residential	Number of Metered Non-Residential	Number of Unmetered Residential	Number of Unmetered Non-Residential
2,240	2,117	123	0	0

Waikato District Average Daily water consumption is calculated as 154 l/cap/d.

Omahina Spring Take

Between 1 July 2023 and 30 June 2024 this take complies with the consent conditions.

The weir level data recorded complies with the consent condition with no exceedances recorded during the 2023-24 period. The manual stream level measurements recorded in Wateroutlook from July to June (Appendix D) confirm sufficient flow to the stream.

Active leak detection and water balance/loss reporting also enable for efficient use and reporting of water.

Based on the data presented and the revised WDMP, no potential adverse environmental effects have been identified due to the practice of the consent during the 2023-24 reporting period.

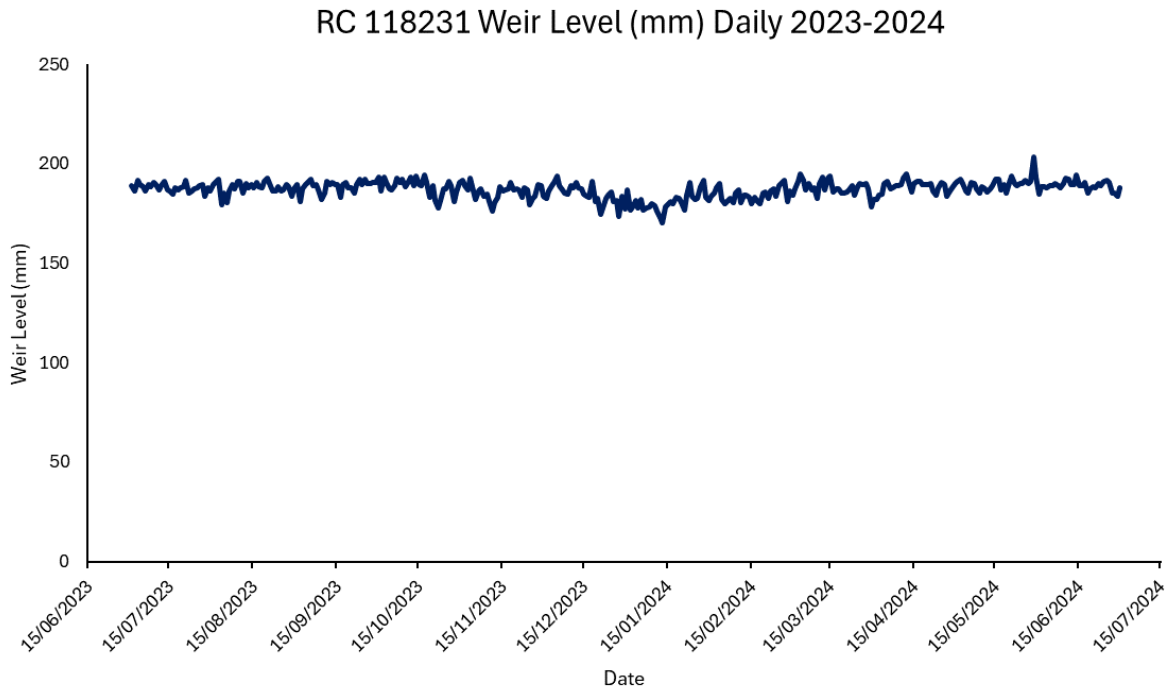


Figure 1 weir level

Bore Take

The bore has not been used operationally during this period

Peak Periods

The graph is as expected with all periods showing fairly similar trends. Due to increased demand in summer (Dec – Feb) these months will naturally dominate peak demand records.

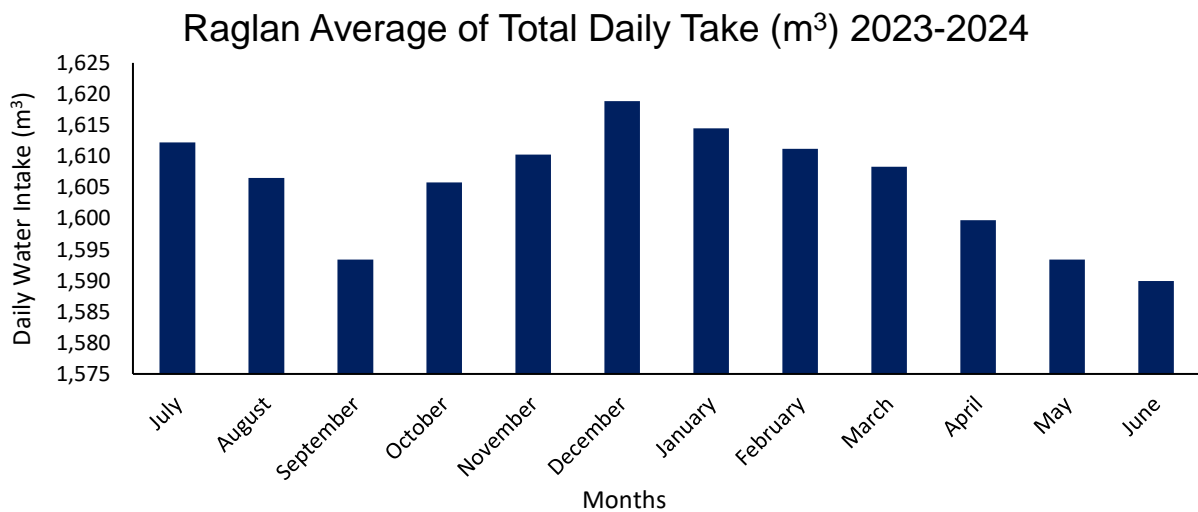


Figure 2 peak periods

High Volume Users

Raglan's high-volume users (use greater than 15m³ per day) are listed below in Table 1. With the district-wide metering and high usage letters sent out this ensures high usage or loss is reviewed regularly and aware by owners.

Raglan Water Supply - Top Consumers Jul 23 - 30 Jun 24				
Tariff	Total Consumption (m³)	Av. Daily (m³)	Customer Category	Note
ComRag	8,812	17.58	Commercial (Bus Stand)	
UrbRag	10,227	17	Reserve	

Table 4 Top Consumers – Water Billing Module Report

Water-Saving Targets

Key Objectives

- Improve reporting of water losses,
- Ensure satisfactory monitoring of minimum night flows into each network,
- Increased efficiency and effectiveness of active leak detection work,
- Increased accuracy and volume of metered consumption,
- Teams work together to reduce water loss, and
- Support asset management programs to reduce water loss.

The main steps (KPI's) required to achieve the objectives and targets has mostly progressed as planned with the following KPI's met so far:

- Regular reporting of water losses through an annual Water Balance Report.
- Pipe renewals are part of AMP/BAU activity.
- WSL completed leak detection for Huntly, Raglan, and TK during 2022-23; all identified leaks were repaired.

District wide Water Balance/Loss 2023-2024

Summary of Water Balance Results

Area	System Input (Production) m ³	Billed Metered Consumption m ³	Water Filling Stations m ³	Unbilled metered/faulty Consumption m ³ *4	Authorised unbilled Consumption m ³ *2	Apparent Losses m ³ *3	Real Losses	Current Annual Real Losses l/conn/d	Current Annual Real Losses m ³ /km/d	Non revenue Water (%)	Total Leakage (%)	Res Cons. using top10 for comm (l/cap/d)
Tuakau	502,123	409,478		2,742	2,511	25,495	64,640	85	2.9	18%	17%	178
Pokeno	504,859	419,404	13,836	5,791	16,361	26,019	43,076	51	1.8	17%	10%	166
Raglan	574,053	382,330	4,837	4,840	7,707	24,857	159,159	195	7.0	33%	30%	154
Huntly *1	1,206,551	727,390	5,212	4,868	11,245	48,435	419,481	360	10.3	40%	38%	194
Mid Waikato	679,095	538,661	2,499	9,272	5,895	33,724	100,815	109	1.9	21%	18%	120
Central District *1	1,085,598	702,782	7,404	8,113	12,832	45,995	323,988	246	6.6	35%	33%	179
Southern & Western District *7	836,733	639,498		18,817	4,184	40,342	152,709	128	1.4	24%	21%	162
Te Akau *5	1,954	959		Not Calculated due to Very small Systems	10	67	918	93	2.8	51%	50%	Not Calculated due to Very small Systems
Onewhero **	2,256	1,470			11	0	775	212	3.5	35%	34%	
Port Waikato	12,724	6,002			64	427	6,231	1,138	2.8	53%	52%	
Combined Systems	5,405,946	3,827,974	33,789	54,444	60,819	245,362	1,271,791			29%	26%	166

*1 The transfer volume to Ngaruawahia has been deducted from Huntly and added to Central Districts.

*2 The recommended default value of 0.5% of Water Supplied has been included in the volume of Unbilled Authorised Consumption in the ten water balances to allow for maintenance use (such as network flushing) and for Fire Service use.

*3 Apparent Losses: Customer meter under-registration = 5.0% of Billed Metered Consumption by Registered Customers and Unauthorised Consumption = 1% of Water Supplied - Increased due % due to increased break/leaks from drilling works

*4 Consumption based on number of meters connected (faulty) multiplied by 219 litres per year

*5 Te Akau Water is Tankered from Raglan (Total volume deducted from Raglan production).

*6 Note that for Mid Waikato and Southern & Western Districts, the CARL are expressed in m³/km/day due to density of connections being less than 20 connections/km main.

*7 System input volume for southern & Western District was taken from the WDC billed consumption volume as data issues with Water Outlook consumption volumes. Negative results for Real Losses defaulted to zero.

** The SI volume for Onewhero has been adjusted to achieve a (positive) nominal result for real water losses

Table 5 Water balance/loss 2023-2024

APPENDIX A

Collected Data

I 18341 Consent Limit – Daily Max = 3,100m³

WSL Ops team organized contractors to link the Raglan Pump hours in SCADA and Wateroutlook. The data is available in Wateroutlook since June 2021.

APPENDIX B

Wai Comply Audit Report for July 2023 - March 2024

Drinking Water Quality Assurance Rules 2022, Water Services Act 2021 & Drinking Water Standards for New Zealand 2005 (Revised 2018)

Compliance

Taumata Arowai became the drinking water regulator on 15 November 2021. The regulations came into force on 14 November 2022, set the Drinking Water Standards for New Zealand. The standards set limits for the concentration of determinands in drinking water. The limits are referred to as maximum acceptable values (**MAVs**). The MAVs for any determinand must not be exceeded at any time. Under the Water Services Act 2021, all drinking water suppliers must ensure that the drinking water they supply complies with the standards, regardless of the nature of the source water used or the number of people served by the supply. The standards are based in part on the World Health Organization *Guidelines for drinking-water quality: fourth edition incorporating the first and second addenda*. The standards revoke and replace the *Drinking-water Standards for New Zealand 2005 (revised 2018)*.

Water Quality

The Watercare Laboratory Services team is responsible for organizing the collection and analysis of all scheduled sample requirements since October 2020. The Lab analyses the collected samples and sends the results through to the Operations Manager and the Water Quality Scientist. Watercare staff then review the results and act as per approved SOP, response plans, and water safety plans as required.

Attached as Appendix B is a Wai Comply Audit for Quarters through July 2023 March 2024. *The April-June 2024 quarter reports have been submitted to Wai Comply for Audit.*

APPENDIX C

Calibration Certificates

RC I18341 condition 5 requires the consent holder to conduct the verification on the water measuring system. The water meter was last calibrated on 27/03/2024 and the certificates were submitted to WRC. Flowmeter calibrations are a routine function undertaken by the Watercare Waikato District Maintenance controller.

APPENDIX D

Manual Readings - Stream Level and Water meter

RC 118341 condition 10 requires the consent holder to record weekly manual stream level measurements approximately 15m downstream of the weir for the period of October to May inclusive. It is also required under condition 12 that a minimum of two manual water meter readings are recorded during each calendar year at least three months apart. Appendix D is attached as evidence of these requirements (Meter ID FIT20101). In addition the Watercare team complete a weekly check of the ultrasonic measuring device and a manual measurement of the weir.