71 Tullah STP

71.1 Activity and report details

Activity name	Tullah STP		
Activity address	Ardyn St, Tullah		
Permit number	Licence to Operate - 3638	**Date of issue**	1/03/1989
EPN	8089/1	**Date of issue**	13/05/2011
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	243 kL/day		
Key Influent Source	Residential		
Contact person	Kate Westgate		
Report author	Jayden Taylor		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 71-1: Tullah Sewage Treatment Plant

71.2 Monitoring and compliance summary

71.2.1 Flow data

Table 71-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Plant Influent	Lake Rosebery	No reuse scheme
Coordinates	E 384880 N 5378891	E 384751 N 5378941	NA
Method of Measurement	In line meter	In line meter	NA
Date of last Calibration/Validation (if applicable).	06/03/2023	December 2021	NA

Table 71-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 97093	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	114	135.4	3.80	--
August 2022	114	232.4	9.51	--
September 2022	118	124.8	4.22	--
October 2022	109	151.6	3.67	--
November 2022	139	210.0	5.08	--
December 2022	122	101.8	2.09	--
January 2023	72	24.8	0.48	--
February 2023	68	60.6	0.70	--
March 2023	83	157.4	3.08	--
April 2023	98	164.0	3.01	--
May 2023	195	258.8	9.29	--
June 2023	448	289.8	10.21	--
Annual 2022-23	140	1911.4	55.15	--
% of Total Discharge	--	--	100.0%	--

2022-23 monthly flow data was submitted directly to the EPA.

71.2.2 Bypass events

There were no bypass events associated with the STP during the reporting period.

71.3 Discharge compliance with permit limits

Table 71-C: Compliance Summary

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100ml	mg/L
Maximum	--	40	--	30	10	8.5	10	2000	50
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	12	12
Statistical summary									
Max	9.5	42	--	18.3	2.5	10.0	4.5	906	159.0
90th percentile	8.1	41	--	16.5	1.0	9.6	4.4	752	72.5
50th percentile	1.4	22	--	9.7	1.0	7.4	3.1	86	36.0
Min	0.1	13	--	5.1	1.0	6.3	2.1	20	11.2
EPN Limit Compliance									
% compliance with Maximum	--	83%	--	100%	100%	--	100%	100%	67%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	58%	--	--	--

Note: Percentages reflective of complete data set for the year.

Table 71-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	682.4
Phosphorous (kg)	--	Annual	173.3
Method	Time weighted/Grab sample method		

Table 71-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter		Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	11/07/2022 23/01/2023 20/02/2023	27/03/2023 3/04/2023	Algae is believed to be the primary reason for elevated pH, BOD and suspended solids. Algae is a source of oxygen and is fundamental to lagoon treatment. Most of the non-compliant results were in warmer months when algal blooms occur.	No specific actions
TSS	11/07/2022 23/01/2023	27/03/2023 3/04/2023		
BOD	5/09/2022	3/04/2023		

No other parameters had exceedances in the reporting period.

71.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

71.5 Ambient monitoring program

Table 71-F: Program details

Program	Tullah Post New Outfall Commissioning – Ambient Monitoring Plan (PNOC-AMP).
Status	Ambient water quality and biological monitoring completed in accordance with PNOC-AMP during reporting period.
Update	Ambient water quality and biological monitoring was completed in accordance with PNOC-AMP within the Lake Rosebery receiving environment around the new outfall during the reporting.
Comments	An Ambient Monitoring Report covering the ambient water quality and biological monitoring undertaken within the Lake Rosebery receiving environment during the reporting period is currently in preparation and will be provided later in 2023.

71.6 Groundwater monitoring

Site status: Amber – Potential STP impact.

Tullah groundwater monitoring network consists of five monitoring bores, ID numbers TUGW1-5. Biannual sampling was completed in October 2022 and May 2023. No sample was collected at bore ID TUGW5 in May 2023 due to being dry. Following October 2022 sampling of bore ID TUGW3 being dry it was dropped from the May 2023 sampling schedule as unable to be sampled for several consecutive years. Sampling of Tullah STP lagoon 1 was completed in May 2023.

Bore ID TUGW4 indicates potential signs of STP impact due to ammonia concentrations above adopted guideline criterion and seasonal increase of concentrations. Bore ID's TUGW1 and TUGW2 show no clear signs of STP impact with minor exceedances of adopted guideline values for total phosphorous and pH respectively.

Biannual sampling at the extended analytical suite is scheduled to continue at all bores during the 2023-24 groundwater monitoring program. Annual sampling at the extended analytical suite is also scheduled for the STP lagoons for further water classification assessment.

71.7 Inflow and infiltration (I&I)

The latest revision to the TasWater Inflow and Infiltration Management Plan includes details of the actions undertaken statewide to address I&I issues. Update to the actions completed will be provided in the next revision due September 2024.

A Multi Criteria Assessment was undertaken by TasWater in 2022 to prioritise I&I investigation and works state-wide. This catchment was ranked 62 out of 79 in priority.

71.8 Sludge and Biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period, the most recent sludge profiling results, and upcoming annual desludging program.

This STP was fully compliant with the 2022-23 SSMP.

No stockpiling occurs at this site.

Table 71-G: Desludging status and comments

Desludging Status	Comments
Low Priority	Desludging is outside of the current prioritisation planning schedule.

71.9 Non-compliance with other permit requirements

Table 71-H: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
EF2 Effluent quality limits for discharge to water	Discharge compliance with permit limits.	See section 71.3 Discharge compliance with permit limits and Performance Analysis.
EM3 Discharge Management Plan	Discharge Management Plan is overdue.	Submission timeframe to be TBC. DMP submission date to be finalised upon agreement with EPA on path forward.
EM2 Effluent Reuse Feasibility Study	Effluent Reuse Feasibility Study is overdue.	Information to be provided in DMP.
OP1 Operational Procedures and Maintenance Manual	No contemporary Operational Procedures Manual.	New SharePoint based solution for OPMMs currently being developed. First version to be implemented by FY24.
EM1 Effluent Management	No DMP submitted to EPA.	Information to be provided in DMP.
M2 Groundwater Monitoring	Groundwater monitoring not as per specific requirements	Improve monitoring program for FY23/24 to meet compliance

71.10 Complaints and incident reporting

No complaints or incidents reported during the FY2022-23 reporting period.

71.11 Any other relevant information

For further information on Tullah STP please contact TasWater on 13 6992

www.taswater.com.au