

## 74 Ulverstone STP

### 74.1 Activity and report details

Activity name	Ulverstone STP		
Activity address	Knights Rd, Ulverstone		
Permit number	Licence to Operate 3391	Date of issue	16/04/1991
EPN	9573/1	Date of issue	5/12/2017
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	7500 kL/day		
Key Influent Source	Residential/Industrial		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 74-1: Ulverstone Sewage Treatment Plant



## 74.2 Monitoring and compliance summary

### 74.2.1 Flow data

Table 74-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Plant Inlet	Bass Strait	No reuse scheme
Coordinates	E 428473 N 5443293	E 430028 N 5445977	NA
Method of Measurement	Level sensor	NA	NA
Date of last Calibration/Validation (if applicable).	1/11/2022	NA	NA

Table 74-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91186	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	10,438	28.4	323.59	--
August 2022	12,165	101.7	377.13	--
September 2022	10,332	65.0	309.95	--
October 2022	14,336	223.8	444.40	--
November 2022	15,915	68.6	477.44	--
December 2022	12,591	13.8	390.32	--
January 2023	17,548	35.6	543.99	--
February 2023	16,004	28.6	448.12	--
March 2023	12,813	89.7	397.19	--
April 2023	12,005	53.6	360.15	--
May 2023	9,024	27.3	279.75	--
June 2023	11,845	162.0	355.34	--
Annual 2022-23	12,897	898.1	4,707.38	--
% of Total Discharge	--	--	100.0%	--

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

### 74.2.2 Bypass events

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

### 74.3 Discharge compliance with permit limits

Table 74-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	22	35	--	30	10	8.5	10	2000	30
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	--	52	52	52	52	52	52
Number analysed	52	52	--	52	52	52	52	52	52
Statistical summary									
Max	26.000	520	--	89.6	76.5	7.3	24.400	241960	1282.0
90th percentile	8.630	112	--	22.8	15.5	7.1	5.510	24196	321.9
50th percentile	1.100	17	--	4.9	1.4	7.0	0.600	522	30.5
Min	0.100	5	--	1.5	1.0	6.7	0.100	10	4.0
EPN Limit Compliance									
% compliance with Maximum	98%	71%	--	94%	85%	--	96%	65%	50%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 74-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	165401.0
Phosphorous (kg)	--	Annual	30143.4
Method	Flow weighted/Composite method		

Table 74-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance		
Ammonia	1/02/2023	Non-compliant ammonia and nitrogen was due to intermittent issues with under aeration.	Update control philosophy to improve aeration control as a part of updates to the SCADA system completed in the major plant upgrade. Progress the plant major upgrade project to construction phase.		
Nitrogen	1/02/2023 5/04/2023 24/05/2023				
BOD	13/07/2022 20/07/2022 10/08/2022 24/08/2022 31/08/2022	7/09/2022 5/10/2022 26/10/2022 1/02/2023 22/03/2023	29/03/2023 5/04/2023 3/05/2023 24/05/2023 14/06/2023	Non-compliant TSS, BOD and E coli are generally due to solids carry over from the secondary clarifier as a result of its inadequate size. Capacity limitations of the existing biosolids dewatering unit also contribute to these issues.	Construction of an additional secondary clarifier and upgrade the sludge dewatering process (see Section 74.11).
TSS	13/07/2022 20/07/2022 3/08/2022 10/08/2022 24/08/2022 31/08/2022 7/09/2022 5/10/2022 26/10/2022	11/01/2023 18/01/2023 1/02/2023 8/02/2023 15/02/2023 8/03/2023 15/03/2023 22/03/2023 29/03/2023	5/04/2023 12/04/2023 19/04/2023 26/04/2023 3/05/2023 24/05/2023 14/06/2023 21/06/2023		

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
E. coli	13/07/2022	7/12/2022	12/04/2023		
	3/08/2022	1/02/2023	19/04/2023		
	10/08/2022	15/02/2023	3/05/2023		
	31/08/2022	22/02/2023	17/05/2023		
	5/10/2022	01/03/2023	24/05/2023		
	26/10/2022	5/04/2023	7/06/2023		
O&G	13/07/2022	8/03/2023	24/05/2023	The oil and grease non-compliance are due to solids carry over from the clarifier.	
	5/10/2022	29/03/2023	21/06/2023		
	1/02/2023	5/04/2023			
Phosphorus	29/03/2023 5/04/2023			Clarifier was offline in March for maintenance of the outfall. This combined with an increased in tankered waste loading across this period resulted in Phosphorus non-compliances.	No specific actions

No other parameters had exceedances in the reporting period.

#### 74.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

#### 74.5 Ambient monitoring program

Table 74-F: Program details

<b>Program</b>	Ulverstone Ambient Monitoring Program
<b>Status</b>	Ongoing biennial, biannual (seasonal) water quality and biological monitoring
<b>Update</b>	Ambient water quality monitoring was undertaken in July 2022 and January 2023. Biological habitat monitoring was undertaken in September 2022 and February 2023 during the reporting period.
<b>Comments</b>	<p>An Ambient Monitoring Report (AMR) has been prepared during the reporting period and submitted separately to the EPA. Key findings of the AMR were:</p> <ul style="list-style-type: none"> <li>• Results of the ambient water quality monitoring suggest that the STP effluent and trade waste mixed effluent discharge from the Ulverstone STP is having a localised intermittent impact on nutrients and pathogens.</li> <li>• Enterococci levels were elevated above NHMRC low risk guideline value with elevations extended to the recreational monitoring sites at Picnic Point Beach and Black Jack Rock. It is likely that elevated pathogens due to the Ulverstone STP effluent discharge is impacting Protected Environmental Values (PEVs) in the receiving environment. The level of impact is dependent on the quality of effluent being discharged from the Ulverstone STP.</li> <li>• The underwater habitat survey suggests that the benthic fauna surrounding the outfall has undergone no notable changes since surveys conducted in 2017-18 and 2020.</li> <li>• The effluent discharge is likely increasing the coverage of brown algae, in particular common kelp (<i>Ecklonia radiata</i>) and giant kelp (<i>Macrocystis pyrifera</i>), in the area due to nutrient input, the environment is likely in a stable state.</li> <li>• The STP and trade waste mixed effluent discharge continues to have intermittent impacts on the concentrations of nutrients and pathogens, consistent with the findings of previous monitoring programs.</li> </ul>

#### 74.6 Groundwater monitoring

No groundwater monitoring program associated with the STP.

#### 74.7 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 22 out of 79 in priority.

## 74.8 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 is fully compliant with the 2022-23 SSMP.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 74-G : Biosolids sludge classification

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	12.1	6.1	2.2	11.4	A
Cadmium	12	1.8	0.8	0.4	1.5	B
Chromium	12	139.0	39.8	16.6	105.7	B
Copper	12	331.0	192.3	104.0	296.2	B
Lead	12	54.0	26.1	11.9	46.0	A
Mercury	12	1.0	0.3	0.03	0.9	A
Nickel	12	63.6	31.4	18.7	58.0	A
Zinc	12	1420.0	665.0	306.0	1184.0	B

Table 74-H: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
233.67	15.8%	None	U/C	B	U/C	Dulverton Compost

Notes: DST = Dry solid tonne. U/C = Unclassified

## 74.9 Non-compliance with other permit requirements

Table 74-I: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
EF3 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 74.3 Discharge compliance with permit limits and Performance Analysis
EM2 Effluent reuse feasibility study	Effluent reuse feasibility submitted in 2013, EPA required further information prior to approval.	A desktop review into the feasibility of effluent reuse was completed in July 2021. Options to be reviewed by Asset Strategy during FY2022-23.
EM3 Discharge Management Plan	Discharge Management Plan overdue.	Submission timeframe TBC. Plan in development for DMP submission dates following on from agreed format between TasWater and EPA.
OP2 Operational Procedures and Maintenance Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMs currently being developed. First version to be implemented in FY24.

## 74.10 Complaints and incident reporting

Table 74-J: Complaints Reporting

Date	Category	Details	Mitigation Actions
25/01/2023 27/01/2023 15/05/2023 27/03/2023	Odour	Strong odour from STP potentially attributed to clarifier turnover given that the STP is operating at capacity.	Inlet bar screens replaced last FY which can capture more rag and help prevent turnover events and reduce odour risk.  Ongoing CDO project at Ulverstone to improve capacity at the STP (See Section 74.12).

## 74.11 Any other relevant information

Table 74-K: Projects or significant operational events that occurred in FY 2022-23:

Project or significant operational event	Progress
Ulverstone STP Upgrade	Construction of Concrete clarifier works significantly progressed with anticipated completion of structural works end of October 2023. On site electrical works to begin in the coming weeks. Major mechanical components arriving on site ready for mechanical works starting mid-October 2023.

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

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