

A woman with dark hair tied back, wearing a light blue headband and a white jacket, is shown in profile drinking from a clear plastic water bottle. The background is a soft-focus outdoor setting, possibly a balcony or walkway, with a railing visible. The overall tone is clean and fresh.

taswater

Annual Drinking Water Quality Report 2022-23



TasWater proudly acknowledges the Tasmanian Aboriginal people as the Traditional Owners and Custodians of lutruwita / Tasmania – Aboriginal land, sea and waterways. We pay our deep respects to the Elders past and present and acknowledge today's Tasmanian Aboriginal community.

CEO message

Drinking water is an important product for all Tasmanians, and as a trusted and respected provider of essential services across the state we are committed to supplying safe drinking water.

This year has been transformational for drinking water quality in Tasmania as we finalised work on the Bryn Estyn Water Treatment Plant upgrade, the largest capital project ever undertaken by TasWater.

This upgrade will have the single biggest impact for drinking water quality in decades simply due to the number of Tasmanians the plant supplies across Greater Hobart and beyond.

When officially opened in September 2023, the upgrade will lower the risk of water restrictions for Greater Hobart, providing high-quality drinking water and creating capacity for growth over the next fifty years.

This year we also turned the taps on in Pioneer in the northeast of Tasmania, with residents now able to enjoy high-quality water out of our Ringarooma plant. We also

completed the Henderson Dam upgrade on Flinders Island, more than doubling capacity and providing residents with drinking water security for generations to come.

During the year we achieved full microbiological compliance with the Tasmanian Drinking Water Quality Guidelines for the fifth year in a row. We have also installed ultraviolet systems at nine of our sites, improving our treatment processes, and a focus on fluoride monitoring and awareness has resulted in all fluoride dosing stations being 100 per cent compliant within health targets.

To ensure consistent management of drinking water from catchment to customer taps, our Drinking Water Quality Risk Management Plan (DWQRMP) was developed in accordance with the 12-element risk management framework detailed in the Australian Drinking Water Guidelines (ADWG).

The DWQRMP identifies risks to drinking water systems and the management practices adopted to mitigate these risks.



I am pleased to present the Annual Drinking Water Quality Report for 2022-23. This report should be read in the broader context of our Corporate Plan 2024-28 and 2022-2023 Annual Report and is part of our compliance obligations for the Department of Health. We remain as committed as ever to providing high quality, safe drinking water for all Tasmanians now and into the future.






Sincerely,

George Theo
Chief Executive Officer

Compliance outcomes

TasWater collects more than 20,000 samples across our drinking water systems each year to ensure the water our customers receive is safe. This equates to 273,000 tests across our catchments, treatment plants and distribution network.

Drinking water at a glance

 20,000 samples	 273,000 tests
 100 per cent of customers received microbiologically compliant water	<p>58 out of 60 systems were chemically compliant</p> <ul style="list-style-type: none"> - There were no detections of metals above ADWG health limits - Two systems, Lady Barron and Coles Bay, had one and two samples respectively with one disinfection-byproduct (DBP) above ADWG health limits - There were no detections of fluoride in laboratory samples above the ADWG limit of 1.5 mg/L
 100 per cent of fluoride dosing systems were compliant with average dose and 98.9% of our serviced population receives fluoridated water	
 The required number of samples were collected for all systems in-line with Australian Drinking Water Guidelines.	



Operations overview

TasWater provides water and sewerage services across Tasmania, safeguarding and enhancing the health and wellbeing of everyone in the State.

We source, treat and deliver water to our customers to ensure they can live their lives, trusting that when they turn the tap on, they're getting high-quality water.

We also collect, transport and treat sewage, and safely return effluent to the environment, doing our part to ensure Tasmania is protected for future generations.

Our vision 'to be trusted, respected and making a positive difference in Tasmania', recognises the important role we play in the Tasmanian community.

It demonstrates our continued commitment to supporting the social and economic prosperity of all Tasmanians.

Through the responsible delivery of safe and reliable drinking water and sewerage services across Tasmania, we are working hard to make a positive difference in our island state.

Drinking Water quality is regulated by the Department of Health.

The National Health and Medical Research Council (NHMRC) publish the ADWG taking advice from a range of specialists and other water quality regulators. The Tasmanian Drinking Water Guidelines legally enforce the requirements of the ADWG.

Sampling is performed by our TasWater sampling team and all testing is performed at National Association of Testing Authorities (NATA) accredited laboratories.

Legislative and regulatory instruments

Our operations are subject to a range of regulatory requirements.

- Public Health Act 1997 (Tas)
- Fluoridation Act 1968
- Tasmanian Drinking Water Quality Guidelines 2015
- Australian Drinking Water Guidelines 2022
- Tasmanian Code of Practice for the fluoridation of drinking water supplies in Tasmania 2022
- Fluoride Regulations 2019



Hobart's water in safe hands

The Bryn Estyn Water Treatment Plant (WTP) is Greater Hobart's primary source of drinking water, providing an average 60 per cent of the water supply needs annually. It was originally constructed in 1962, with capacity augmentations completed in 1972 and 1992.

Over the last two years, we completed upgrades and expansion of the plant to ensure it can continue to provide high-quality drinking water and meet projected demand in Greater Hobart for years to come.

The upgrade and expansion will:

- provide high-quality drinking water for Greater Hobart
- enable the reliable supply of 160 million litres of water per day
- provide multi-barrier treatment processes to ensure drinking water risks are mitigated now and into the future
- improve the operational efficiency by increasing capacity and modernising infrastructure

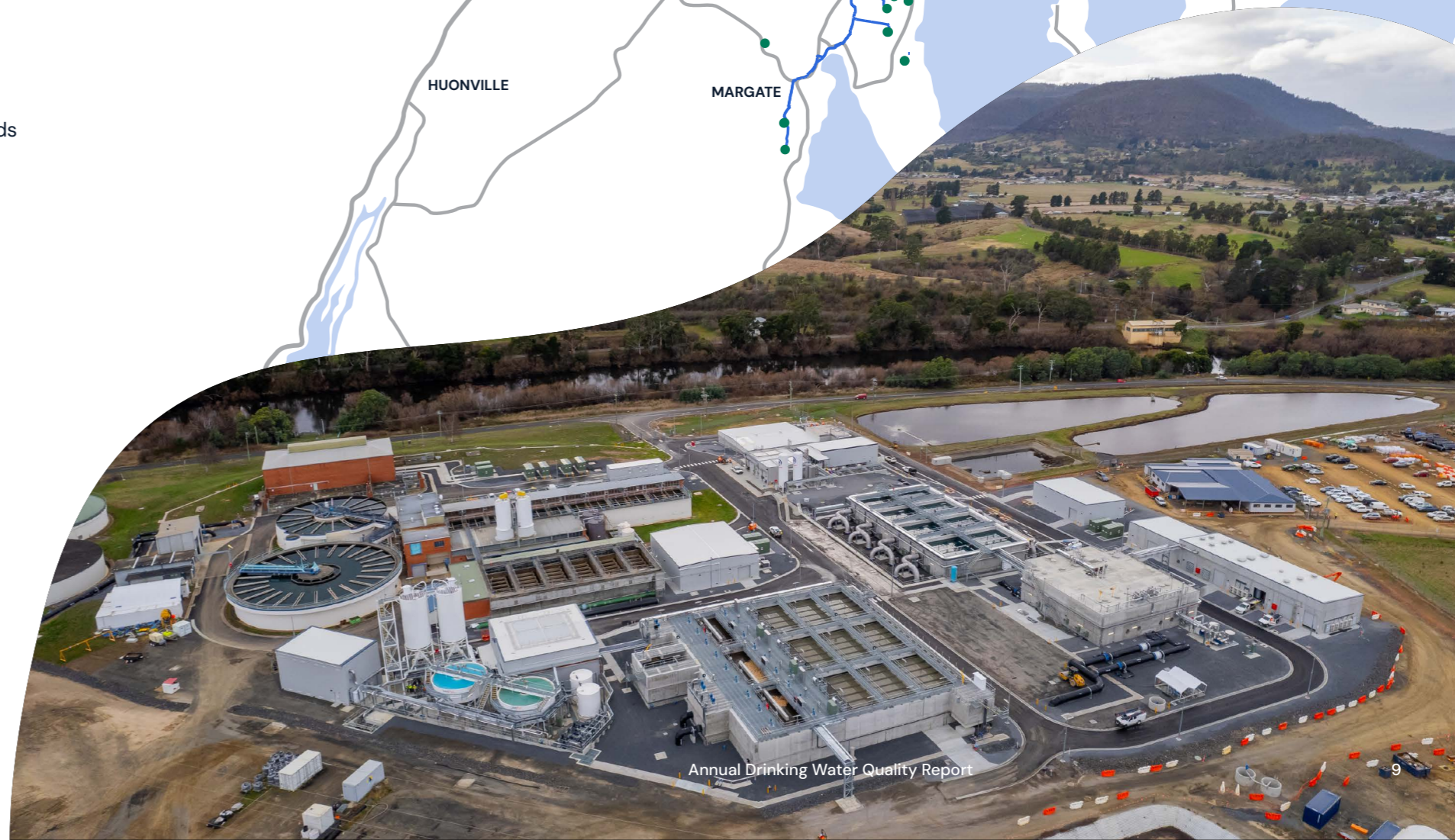
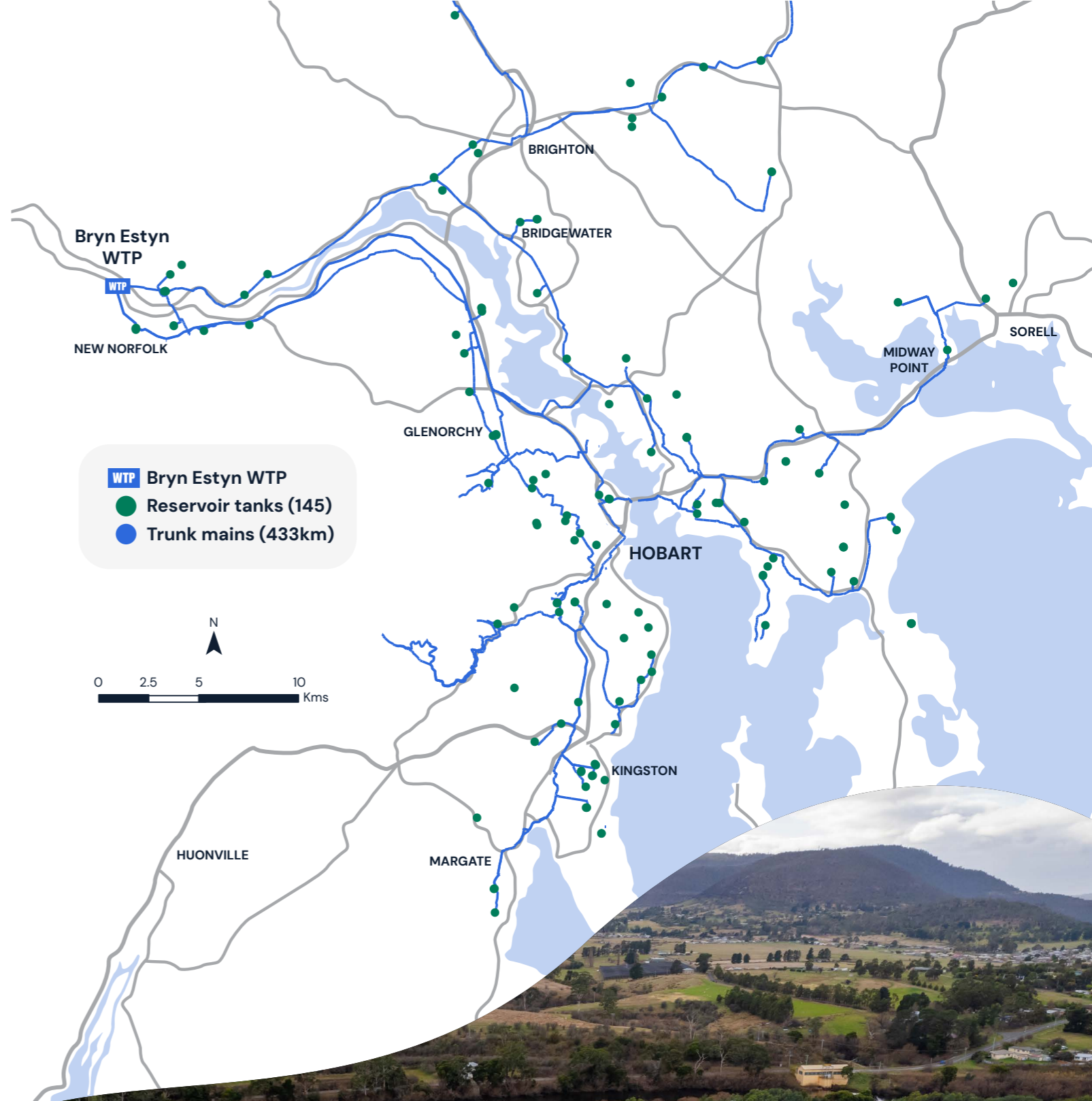
The project will be officially opened in September 2023.

Bryn Estyn supplies water to seven local government areas including:

- Hobart
- Glenorchy
- Kingborough
- Brighton
- Derwent Valley
- Southern Midlands
- Sorell
- Clarence

Fast Facts:

- Bryn Estyn takes water from the River Derwent upstream of New Norfolk
- The water treatment plant provides multi-barrier treatment to ensure safe and pleasant-tasting water
- Sediment is removed through a clarification and flocculation process
- Ozone oxidises the organic material and the Biological Activated Carbon Filters removes particulate matter through adsorption
- UV treatment and chlorination provide disinfection and the final water is fluoridated



List of drinking water supply systems

As of the 30 June 2023, there were 60 drinking water supply systems. All systems were classified as potable.

Table 1: Potable drinking water supply systems as of 30th June 2023

System	Catchment/ water source	Connections	Population	Fluoridated supply*
Adventure Bay (Bruny Island)	Bore	1	1	No
Barrington	Lake Barrington	1,161	2,678	Yes
Bicheno	Aspley River	932	996	Yes
Bothwell	Clyde River	291	618	No
Bracknell	Liffey River	179	476	No
Bridport	Brid River	1,035	1,529	Yes
Bronte Park	Bronte Canal	60	27	No
Burnie	Pet River	12,358	28,692	Yes
Bushy Park	Lake Fenton	115	302	Yes
Campbell Town	Elizabeth River	717	1404	Yes
Coles Bay	Saltwater Creek	250	139	No
Conara	South Esk	61	146	No
Cornwall	Fanshaft Spring/ unnamed watercourse	48	94	No
Deloraine	Meander River	1,296	2,987	Yes
Dover	Esperance River	618	1,069	Yes
Ellendale	Jones River	70	139	No
Fentonbury	Lake Fenton	123	258	Yes
Fingal	South Esk River	334	684	No
Forth	Forth River	18,121	42,261	Yes
Gladstone	Ringarooma River	77	145	No
Grassy (King Island)	Grassy River	562	1,046	Yes
Greater Hobart	Lake Fenton	83,582	215,550	Yes
	Derwent River			
	Mt Wellington (multiple offtakes)			
Herrick	Cascade and Frome dams	26	60	No
Huonville	Huon River	3,579	8,900	Yes
Lady Barron (Flinders Island)	Bore	105	139	No
Launceston Distillery Creek	Distillery Creek / St Patricks River	12,931	29,914	Yes
Launceston North Esk	North Esk	14,447	35,348	Yes
Launceston South Esk	Lake Trevallyn	5,156	12,731	Yes
Launceston West Tamar	Lake Trevallyn	9,524	23,786	Yes

* Drinking water can only be fluoridated with a ministerial direction from the Minister of Health as per the Fluoride Act 1968 for systems supplying more than 500 customers.

System	Catchment/ water source	Connections	Population	Fluoridated supply*
Longford	Macquarie River	4,433	10,780	Yes
Mathinna	South Esk	80	143	No
Maydena	Unnamed tributary	124	165	No
Mole Creek	Weir	203	449	No
National Park	Lake Fenton	22	32	Yes
Oatlands	Blackman River	437	842	Yes
Orford	Prosser River	1,092	925	Yes
Ouse	Derwent River	224	452	No
Penguin	Leven River	2,174	5,154	Yes
Queenstown	Conglomerate Creek	1,247	1,982	Yes
Ringarooma	Dunn's Creek Dam/ Ringarooma River	619	1,068	Yes
Rocky Creek	Rocky Creek	447	1,205	Yes
Rosebery	Mountain Creek / Stitt River	592	924	Yes
Rossarden	Aberfoyle Creek	43	50	No
Scamander	Scamander River	570	963	Yes
Scottsdale	Great Forester River / Brid River	1,211	2,818	Yes
Smithton	Deep Creek	2,137	4,822	Yes
St Helens	Georges River	1,897	2,830	Yes
St Marys	Bore	341	652	Yes
Strahan	Manuka River	506	660	Yes
Swansea	Swan River / Meredith River	764	1,149	Yes
Triabunna	Maclaines Creek / Brady's Creek	459	871	Yes
Tullah	Lake Rosebery	179	286	No
Tunbridge	Blackman River	99	176	No
Ulverstone	Gawler River	5,892	13,822	Yes
Waratah	Waratah River	114	190	Yes
Wayatinah	Lake Liapootah	52	20	No
Westbury	Meander River	1,090	2,564	Yes
Whitemark (Flinders Island)	Pats River	171	262	No
Yolla	Dowlings Creek	102	230	No
Zeehan	Parting Creek	501	789	Yes
Total		195,581	469,394	464,493

No systems operated under a public health alert aside from 80 customers who were advised to Do Not Consume at Penguin for 24 hours in November 2022. This was due to the identification of potentially inadequate treatment and in consultation with the Department of Health the system was flushed before the public health alert was removed.

Quality of drinking water for FY2022-23

The compliance program includes the health parameters of microbiological, chemical (metals and disinfection by-products (DBPs)) and fluoride.

All laboratory samples were analysed by National Association of Testing Authorities (NATA) accredited laboratories. Customers can access data from our on-line map based portal - 'Your Drinking Water' on the TasWater website.

System performance

Table 2: High level health performance outcome for drinking water supply systems (against ADWG health-regulated parameters)
(✓ = 100% compliant, ✗ = non-compliant, - = not fluoridated)

System	Compliance program completeness (samples collected) 2022-2023	Microbiological performance					Chemical Performance					Fluoride Performance				
		18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23
Adventure Bay (Bruny Island)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Barrington	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Bicheno	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
Bothwell	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Bracknell	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Bridport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Bronte Park	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Burnie	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
Bushy Park	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Campbell Town	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

System	Compliance program completeness (samples collected) 2022-2023	Microbiological performance					Chemical Performance					Fluoride Performance				
		18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23
Coles Bay	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✗ [#]	-	-	-	-	-
Conara	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Cornwall	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	-	-	-	-	-
Deloraine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
Dover	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ellendale	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	-	-	-	-	-
Fentonbury	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Fingal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Forth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓
Gladstone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Grassy (King Island)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓
Greater Hobart	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Herrick	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Huonville	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lady Barron (Flinders Island)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗ [#]	-	-	-	-	-
Launceston Distillery Creek	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Launceston North Esk	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
Launceston South Esk	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Launceston West Tamar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
Longford	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓

[#] See details on page 17 of this report.

System	Compliance program completeness (samples collected) 2022-2023	Microbiological performance					Chemical Performance					Fluoride Performance				
		18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23
Mathinna	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Maydena	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Mole Creek	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
National Park	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Oatlands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Orford	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Ouse	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Penguin	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✗	✗	✓	
Queenstown	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Ringarooma	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Rocky Creek	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	
Rosebery	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Rossarden	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	
Scamander	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
Scottsdale	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Smithton	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	
St Helens	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	
St Marys	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Strahan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Swansea	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Triabunna	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Tullah	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	

System	Compliance program completeness (samples collected) 2022-2023	Microbiological performance					Chemical Performance					Fluoride Performance							
		18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23	18-19	19-20	20-21	21-22	22-23			
Tunbridge	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Ulverstone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Waratah	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wayatinah	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Westbury	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whitemark (Flinders Island)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Yolla	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Zeehan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Microbiological performance

Monitoring for the presence of microbiological quality of the water is a requirement under the TDWQG and is undertaken by testing drinking water for *E. coli*. Each drinking water system is sampled in accordance with the sampling frequency specified in the compliance sampling program, which is based on the number and frequency of sampling contained in the ADWG.

For FY2022-23:

- 100 per cent (60 of 60) of systems met microbiological compliance# and
- 100 per cent of the serviced population achieved microbiological compliance.

a system is deemed compliant if 98% of samples are clear of *E.coli* as per TDWQG

Events:

System	Treatment process	Detection date	Nature of event	Outcomes
Launceston Distillery Creek	Full treatment	06/07/2022	A routine sample in the Distillery Creek supply zone detected 3.1 MPN/100mL <i>E. Coli</i> . Department of Health (DoH) immediately notified. The supply system was reviewed, and subsequent samples were clear of <i>E. coli</i>	Reported to DoH Subsequent sample (08/07/2022) clear of <i>E.coli</i>

Chemical performance

Chemical performance is determined by monitoring for the presence of metals and disinfection by-products and is a requirement under the TDWQG and is undertaken in line with the risk-based approach promoted by the ADWG. Sampling programs are designed specifically for each drinking water system based on the site-specific risks.

During FY2022-23 all samples from all systems were compliant with the ADWG health limits for metals.

This is the second year in a row we have been 100% compliant for metals across all systems.

During FY2022-23, Coles Bay and Lady Barron recorded detections of total trihalomethanes above the ADWG health limit of 250 µg/L.

Events:

System	Treatment process	Detection date	Detection details	Outcomes
Coles Bay	Full Treatment	20/03/2023	Trihalomethanes – Total exceedance in compliance sample at GCSTE86 Coles Bay Esplanade of 300 µg/L.	Reported to DoH Carbon (GAC) due to be replaced at the treatment plant to remove organics from the raw water and prevent future disinfection by-product exceedances. Planned Maintenance program put into place to prevent future occurrence.
		22/05/2023	Trihalomethanes – Total exceedance in compliance sample at GCSTE86 Coles Bay Esplanade of 259 µg/L.	Reported to DoH Ongoing monitoring of carbon performance is being undertaken.
Lady Barron (Flinders Island)	Full Treatment	18/10/2022	Trihalomethanes – Total exceedance in compliance sample at LBW51W01 Lady Barron Police Station of 279 µg/L.	Reported to DoH Weekly investigation sampling program implemented.

Fluoride performance

Monitoring for the presence of fluoride is a requirement of the Tasmanian Code of Practice for the Fluoridation of Public Water Supplies to ensure that there are no adverse health effects from elevated fluoride concentrations and that customers receive fluoridated water within an optimal range for oral health benefits. At the end of FY2022-23 there were 38 fluoride dosing systems across Tasmania.

- Fluoride must not exceed the health-based guideline value of 1.5 mg/L contained in the ADWG. There were no fluoride exceedances.
- The average fluoride concentration determined over a year should be between 0.8 and 1.1 mg/L. This is the first year that all systems have maintained the required average concentration. This is due to an increased focus on monitoring and awareness along with fluoride dosing system upgrades.
- For the performance of a fluoridation system to be compliant, that system must demonstrate compliance with both the average concentration and the health-based guideline value.

Customer Complaints

TasWater recorded 1,403 water quality complaints during FY2022-23. The majority of complaints related to discoloured water. Projects are underway to replace corroded networks and implement targeted flushing programs.



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