



Annual Drinking Water Quality Report

2022-23

Acknowledgement

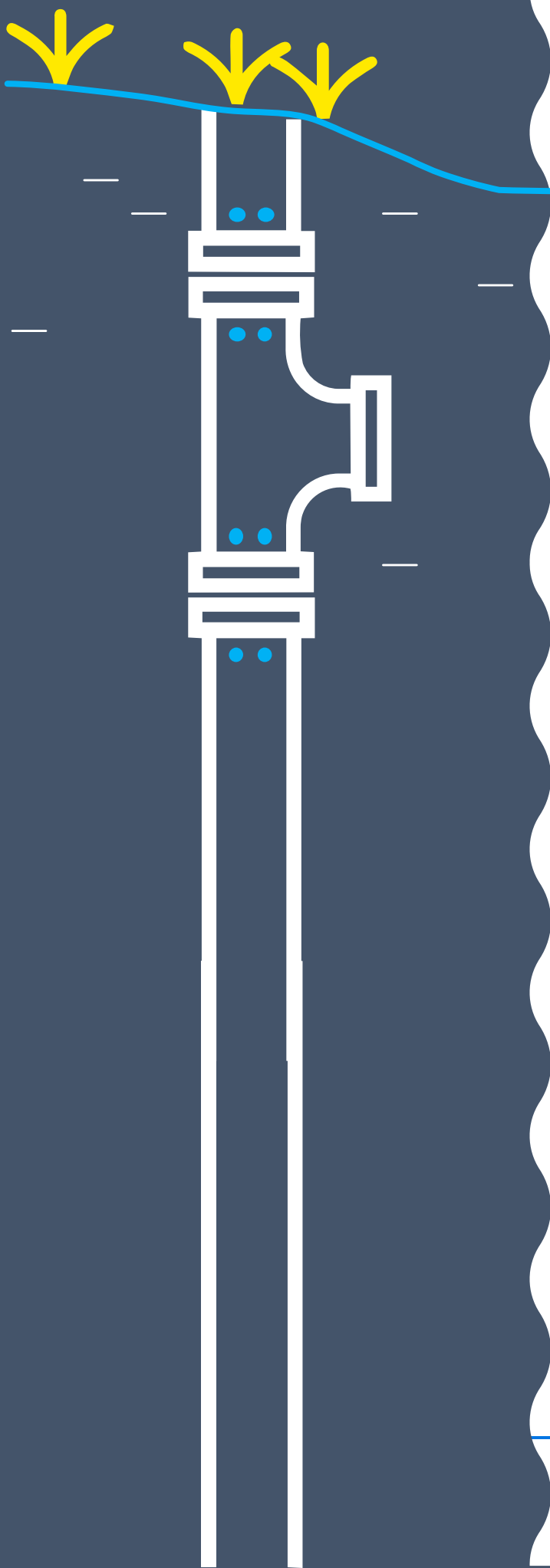
South East Water proudly acknowledges the Bunurong, Gunaikurnai and Wurundjeri Woi Wurrung as the Traditional Owners of the land on which we work and live, and pay respect to their Elders past, present and future.

We acknowledge their songlines, cultural lore and continuing connection to the land and water.

We recognise and value their rich cultural heritage and continued contributions of Aboriginal people and communities to our society in Victoria.

Cover: A student from Wooranna Park Primary School, Dandenong North (Bunurong Country) enjoys the Active Families Program run by City of Greater Dandenong and Bluearth

Foundation. Photo by Rod Black, Photocorp



Contents

- Overview 3
- A message from our Managing Director..7
- Water quality localities and services 9
- Drinking water treatment processes..... 15
- How we manage risk and protect our customers' water 18
- Water quality results for 2022–23..... 29
- Drinking water quality standards 30
- Other water quality standards results ... 40
- Aesthetic characteristics 65
- Regulatory reporting to the Department of Health..... 76
- Glossary/acronyms 89
- Appendix A 90

Overview

Ever wondered where your water comes from?

In Victoria, we enjoy some of the best drinking water in the world. So, what's involved in getting water that starts as rain, to your taps? There's more to it than you might think.

Here's a snapshot of the journey in supplying our 1.8 million customers across Melbourne's south-east – residential, commercial, and industrial – with safe, high-quality drinking water.

It starts north in the Yarra Ranges

We purchase your drinking water from Melbourne Water, who harvest, store, and apply the primary treatment to the water before it arrives in our system.

A large proportion of your drinking water comes from protected or uninhabited mountain ash forests high in the Yarra Ranges. Here, more than 157,000 hectares have been reserved for the primary purpose of harvesting water. These catchments were set aside more than 100 years ago to supply high-quality water that requires minimal treatment. Melbourne is one of only 5 major cities in the world with protected catchments such as these. They're managed by Melbourne Water and Parks Victoria.

From these uppermost catchments, water flows into the Thomson and Upper Yarra reservoirs, where water may be stored for many years before being used. This is a good thing. Time allows sediment from the forests, washed in by the rain, to settle, providing natural purification – in fact, the upper catchments are so pristine that the water from these protected areas doesn't need filtration.

And moves south to the Dandenong Ranges and Cardinia

From here, the water transfers to the Silvan and Cardinia reservoirs further south. As it leaves these reservoirs, it's disinfected to support public health. Chlorine is used to kill potentially harmful micro-organisms and fluoride is added to improve dental health (as directed by the Department of Health under the *Health (Fluoridation) Act 1973*). Acidity is adjusted to a pH level of 7 to 7.5 by adding lime to improve the taste and to reduce pipe corrosion.

The water is then transported to our supply system through a secure closed network to various covered or enclosed storages and delivered to our customer taps.

Our customers around our South Melbourne locality are supplied with some water from the Winneke Water Treatment Plant, located at Sugarloaf Reservoir. This water is harvested from both the Yarra River at Yering Gorge, as well as the Maroondah Aqueduct. It's then transferred to the Winneke plant, where it's filtered, then undergoes the same treatment as water from Silvan and Cardinia reservoirs.

Localities from Bunyip to Lang Lang, the Mornington Peninsula and Cranbourne receive water from the Tarago Reservoir and Tarago Water Treatment Plant. Tarago is a Dissolved Air Flotation and Filtration (DAFF) and ultraviolet (UV) disinfection water treatment plant.

Water from the Tarago plant is fed directly into our supply system via the Tarago–Westernport Pipeline.

Much of what we do our customers never see, much like the plumbing in their homes. Our distribution system operates 24 hours a day, so that drinking water is there when you need it.

All about desalinated water

By balancing the volume of water stored in Melbourne’s reservoirs, Cardinia Reservoir can receive desalinated water. Desalinated water is drinking water produced from sea water.

Our desalinated water comes from the Victorian Desalination Plant at Wonthaggi, where sea water passes through reverse osmosis membranes and is fully treated through a series of processes (see page 15).

The plant is a public-private partnership between the Victorian Government and AquaSure (a Ventia/Suez joint venture). The Department of Energy, Environment and Climate Action (DEECA) manage it on behalf of the Victorian Government.

Like all drinking water, desalinated water from the Victorian Desalination Plant meets the requirements of the *Australian Drinking Water Guidelines 2011*, *Safe Drinking Water Act 2003*, and World Health Organisation guidelines.

The plant’s water quality specifications were determined by Melbourne’s water industry and included in the contract with AquaSure by DEECA.

So that the desalinated water can join our water supplies, the plant features an 84 km underground 2-way transfer pipeline to Berwick where it connects with our existing network and mixes with our supply from Cardinia Reservoir.

Each year the Victorian Government decides how much water to order from the Victorian Desalination Plant. During 2022–23, 4.2GL of the 15GL water order from the plant was produced. The remainder of the order was cancelled in October 2022 after considering advice from Melbourne Water about the current and projected weather conditions, and the secure state of Melbourne’s water supply.

Our water system by numbers (for 2022–23 financial year)



Assets

14,531 km of drinking water mains (includes service connections).

824,097 customer connections.

11,404 water quality samples.

40 water sampling localities.

82 pump stations.

68 water storage facilities.

26 secondary disinfection plants.



People

1.8 million people serviced.

Our customer base grew by 1.3% to 824,097.

92.4% of our customers rely on us for their home's water and wastewater services.

7.6% of our customers rely on us for non-residential purposes (businesses, schools, etc.).

Our customers speak more than 200 languages.

Our service area spans across the lands and waters of the Bunurong people, and the Wurundjeri Woi Wurrung people, the Gunaikurnai people and an area in our far north-east around Longwarry that currently has no Registered Aboriginal Party. There are 10,484 people who identify as Aboriginal or Torres Strait Islander in our region.

How we supply water to you



Our supply system is closely linked with Melbourne Water’s transfer system. These arrangements are formalised under a Bulk Water Supply Agreement. This sets out the amount and quality of water we receive from them.

A message from our Managing Director

At South East Water, we know that our customers and community want safe and reliable services – this means clean and high-quality drinking water, and the safe disposal of wastewater.

In 2022–23 we delivered over 138 billion litres of drinking water across 14,531* kms of drinking water mains (*includes service connections) across our network. We provided this water as an essential service to 1.8 million people across Melbourne’s south-east who relied on us every day and every night.

We took over 11,000 water samples to test against a range of water quality standards. These are specified in Schedule 2 of the *Safe Drinking Water Regulations 2015* and include *Escherichia coli* (*E. coli*), trihalomethanes (a by-product of chlorine disinfection) and turbidity. Other water quality standards include minerals and elements like fluoride, copper, lead, and manganese, to name a few.

We performed well with the testing requirements and complied with all standards, the *E. coli* detection at The Basin detailed below as an exception.

Water quality events

Across the 2022–23 year, we provided 4 Section 22 reports to the Department of Health. These were events where we suspected there was contaminated drinking water posing possible health risks.

One notification was due to a significant water main burst in Bunyip. With the capacity of its high-level tank reduced to half and water pressure reduced in the area, our teams worked to maintain a positive water pressure, which prevented any foreign materials from potentially contaminating the water source.

Three reports were due to *E. coli* detections, where 2 met the criteria for a false positive sample and met all of the circumstances as applied in paragraphs a), b) and c) as per *E. coli* Schedule 2 drinking water quality standard. The third *E. coli* detection was in a storage tank in The Basin. In this case, the *E. coli* standard wasn’t met and a Section 18 notification was made to the Department of Health. The storage tank was promptly taken offline and cleaned while water was supplied from a different tank.

Since the incident at The Basin, we’ve added a chlorination site in the area to boost chlorine levels. Through our chlorination strategy, we’re increasing the number of chlorination sites in our area, improving the effectiveness of our water treatment, and making sure all our customers receive quality water. We explain all events reported in more detail under the ‘Regulatory reporting’ section of this report.

There were a number of other events that didn’t fall within our responsibility, as they were due to internal plumbing contamination, however had the potential to pose a significant health risk to our customers. For those events, we worked closely with the Department of Health, ensuring they were kept up to date on the actions being taken and developments as they occurred. During these events, we also worked with our other stakeholders, such as the Environment Protection Authority (EPA) Victoria and councils, due to the potential public exposure.

Optimising our operations to deliver healthy water for life

This report details how we performed against the *Safe Drinking Water Act 2003* (the Act), the *Safe Drinking Water Regulations 2015* (the Regulations) and the *Australian Drinking Water Guidelines 2011* (ADWG) in 2022–23.

We've detailed our results from our Water Quality Monitoring Program and explained how we're working to deliver safe and high-quality water.

We continue to optimise our operations to improve our systems and processes behind how we deliver. We're actively responding to results from our Drinking Water Risk Management Plan audit completed this year. The audit found us to be non-compliant in relation to Section 7 (1) of the *Safe Drinking Water Act 2003*, with one major and one minor non-compliance and 8 opportunities for improvements identified. Part of our response is what we've committed to in the long-term, through our Price Submission 2023–28.

As we enter a new price period, we're committed to providing safe and reliable water services, minimising interruptions, and continually delighting our customers – so we can continue to deliver healthy water to our customers, community, and the environment, now and into the future.



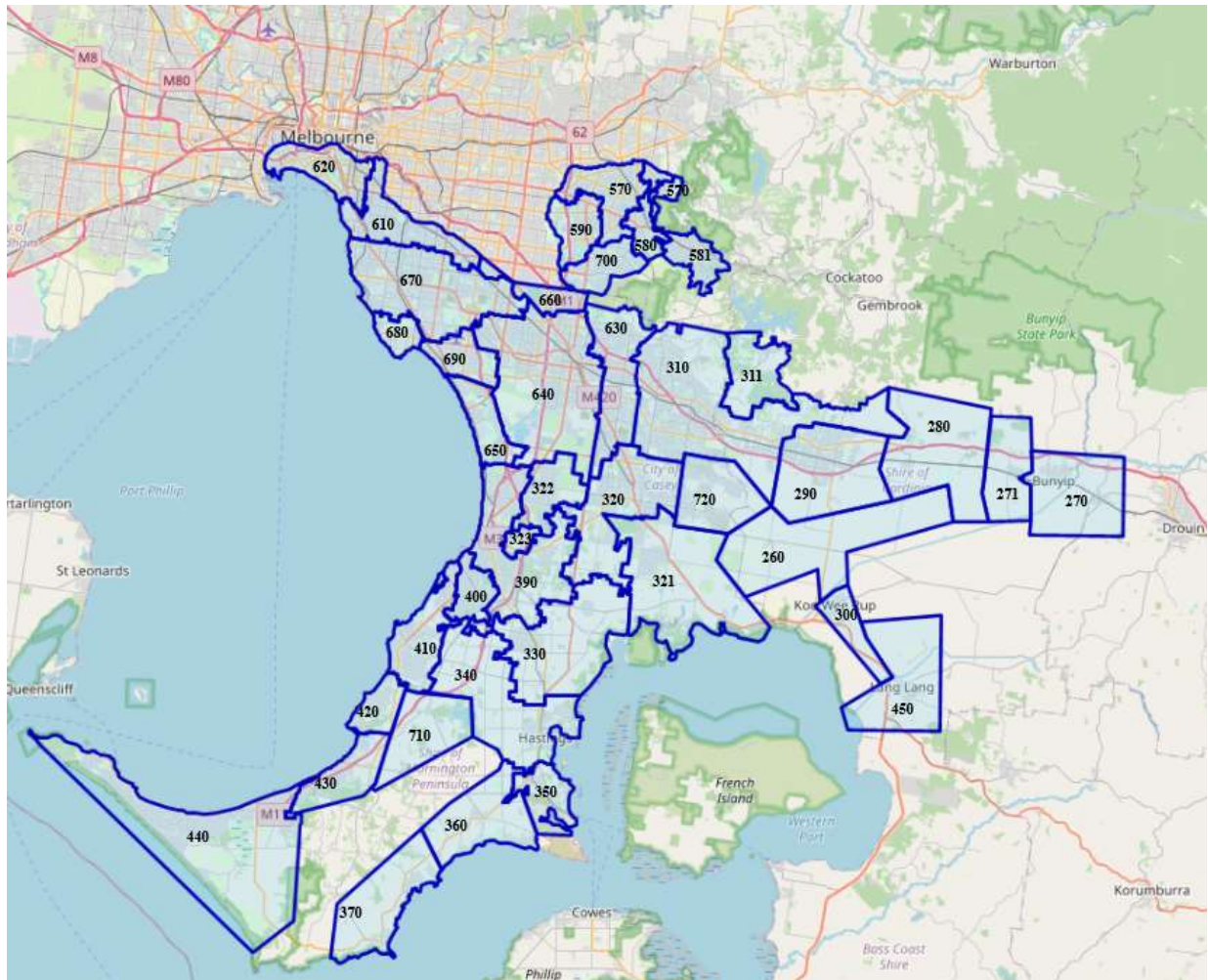
Lara Olsen
Managing Director
October 2023

Water quality localities and services

We don't just take water from various water storages to service our customers. We use different water treatments too. This ensures our water is safe, high-quality and complies with required regulations and standards.

You can see where your water is from, and which treatment we use, by looking at the locality table on page 12 or by visiting our [online water quality checker](#).

Please note that water quality locality boundaries don't align exactly with suburbs in our service area.



Water quality and private water services

Private water services, which have a 'supply by agreement' with us, are included in relevant water quality localities. This is because the water supplied through your private connection is still guaranteed to meet the requirements of the *Safe Drinking Water Regulations 2015* (the Regulations).

If our customers' private connection is in Cora Lynn (locality no.260) or Moorooduc (locality no. 710), they're supplied from large transfer pipelines (the Tarago-Westernport Pipeline for Cora Lynn and the Bittern-Dromana Pipeline for Moorooduc). As detailed in their supply agreement, these large pipelines may be shut down for maintenance reasons for extended periods of time – and that means continuous access to water can't be guaranteed.

Non-drinking water

Some of our customers receive non-drinking water from the Bunyip Main Race and Tarago Main Race. This supply is not classified as regulated water under the *Safe Drinking Water Act 2003* (the Act), as determined in consultation with the Department of Health.

The Bunyip Main Race and Tarago Main Race are open channel aqueduct systems, owned and operated by Melbourne Water. The water is not disinfected or treated in any way and customers draw water into their properties for non-drinking usage (e.g. stock and irrigation purposes). To manage risks associated with supplying water that's not for drinking, all Bunyip Main Race and Tarago Main Race customers have an individual supply agreement with us regarding the quality of the water that they receive.

This agreement specifically states that the water supplied is not fit for human consumption. We also put a note that the water is 'not fit for drinking' on our customers' water bills and on any Section 32 agreement for land transfer.

The water is not publicly available and can only be accessed by the customers on an agreement.

Our water localities

We divide our water system into 40 water sampling localities and each one is numbered.

We determine each locality by where the water comes from, how it is delivered and how it's treated. This includes areas where we boost the primary treatment through secondary disinfection. You can see a summary of the treatment processes on page 15.

To maintain the safe drinking quality of our customers' water, we have 26 secondary disinfection plants that deliver a balanced level of chlorine. In the past year, we've installed 3 new secondary chlorination plants - in Boronia, The Basin, and Lysterfield. These further improve our ability to deliver safe and reliable drinking water for our customers.

This secondary treatment minimises fluctuations in chlorine levels that occur with changing demand and water temperature. We show the locations of these secondary disinfection plants on the map of our water supply system on page 6.

Water sampling locality number	Water sampling locality name	Towns/suburbs supplied	Population*
360	Balnarring	Balnarring, Bittern, Merricks, Merricks Beach, Somers	6,564
570	Bayswater	Bayswater, Boronia, Ferntree Gully, Knoxfield, Upper Ferntree Gully, The Basin, Wantirna, Wantirna South	74,737
680	Beaumaris	Beaumaris, Black Rock, Cheltenham	31,506
581	Belgrave	Belgrave, Belgrave Heights, Belgrave South, Selby, Upper Ferntree Gully, Tecoma, Upwey	16,002
310	Berwick	Beaconsfield, Berwick, Nar Nar Goon, Narre Warren, Narre Warren South, Narre Warren North, Officer, Pakenham	133,085
350	Bittern	Bittern, Bittern West, Crib Point, HMAS Cerberus	6,200
670	Brighton-Heatherton	Bentleigh, Bentleigh East, Brighton, Brighton East, Caulfield South, Cheltenham, Clarinda, Clayton South, Hampton, Heatherton, Highett, McKinnon, Mentone, Moorabbin, Oakleigh South, Ormond, Sandringham	245,687
270	Bunyip	Bunyip, Longwarry	5,081
322	Carrum Downs	Carrum Downs, Skye, Sandhurst	32,422
610	Caulfield	Armada, Carnegie, Caulfield, Caulfield North, Caulfield South, Clayton, Elsternwick, Elwood, Hughesdale, Huntingdale, Murrumbeena, Oakleigh, Oakleigh South, Ormond, Prahran, Ripponlea, South Yarra, Springvale, St Kilda, St Kilda East, Toorak, Windsor	201,396
650	Chelsea	Aspendale, Aspendale Gardens, Bonbeach, Carrum, Chelsea, Chelsea Heights, Edithvale, Patterson Lakes	55,235
720	Clyde North	Cardinia, Clyde, Clyde North, Officer, Officer South	36,823
260	Cora Lynn	Bunyip, Koo Wee Rup, Nar Nar Goon, Tooradin	139

Water sampling locality number	Water sampling locality name	Towns/suburbs supplied	Population*
320	Cranbourne	Cranbourne, Centreville, Cranbourne East, Cranbourne North, Cranbourne West, Cranbourne South, Langwarrin, Pearcedale	83,442
640	Dandenong	Bangholme, Dandenong, Dandenong South, Dingley Village, Doveton, Keysborough, Noble Park, Springvale South	137,662
660	Dandenong North	Clayton, Dandenong North, Noble Park North, Springvale	28,804
321	Devon Meadows	Clyde, Fiveways, Warneet, Cranbourne, Blind Bight, Cannons Creek, Tooradin, Warneet	14,864
430	Dromana	Dromana, McCrae, Mt Martha, Safety Beach	24,277
580	Ferntree Gully	Boronia, Ferntree Gully, The Basin, Upper Ferntree Gully	23,859
390	Frankston	Baxter, Carrum Downs, Cranbourne, Frankston, Frankston North, Langwarrin, Seaford, Pearcedale	98,804
400	Frankston South	Baxter, Frankston, Frankston South, Mt Eliza	14,687
271	Garfield	Garfield, Garfield North	1,957
630	Hallam	Dandenong South, Doveton, Endeavour Hills, Eumemmerring, Hallam, Hampton Park, Lynbrook, Lyndhurst, Narre Warren North	75,431
340	Hastings	Bittern, Hastings	12,625
323	Karingal	Frankston	11,666
300	Koo Wee Rup	Koo Wee Rup	3,505
450	Lang Lang	Lang Lang	2,858
710	Moorooduc	Dromana, Moorooduc, Tuerong	137
690	Mordialloc	Braeside, Dingley Village, Mentone, Mordialloc, Parkdale, Waterways	36,033

Water sampling locality number	Water sampling locality name	Towns/suburbs supplied	Population*
410	Mornington	Mt Eliza, Mornington, Mt Martha, Osborne	49,549
420	Mt Martha	Mt Martha	10,866
290	Pakenham	Pakenham	49,679
700	Rowville	Lysterfield, Rowville	34,369
440	Rye	Blairstown, Cape Schanck, Fingal, McCrae, Portsea, Rosebud, Rosebud South, Capel Sound, Rye, Sorrento, St Andrews Beach, Tootgarook	84,827
370	Shoreham	Flinders, Point Leo, Shoreham	3,776
330	Somerville	Pearcedale, Somerville, Tyabb	18,018
620	South Melbourne	Albert Park, Balacava, Middle Park, Port Melbourne, Prahran, South Melbourne, South Yarra, Southbank, St Kilda, St Kilda East, St Kilda West, Toorak, Windsor	249,135
280	Tynong	Nar Nar Goon, Nar Nar Goon North, Tynong	1,721
311	Upper Beaconsfield	Beaconsfield, Guys Hill, Officer, Upper Beaconsfield	2,204
590	Wantirna	Knoxfield, Scoresby, Wantirna, Wantirna South	26,885

*The population for each locality is derived by taking the number of property connections and multiplying by the average number of people per property. Population data is based on the growth estimates submitted to the Essential Services Commission as part of the 2023 price review process

Drinking water treatment processes

Treatment plant	Source water/ Catchment	Storage	Locality supplied	Treatment processes ^{1, 2}										Added substances			
				Aeration	Organic removal	Iron/manganese/ algae removal	Coagulation/ Flocculation	Clarification / Filtration	Chlorination	UV irradiation	Fluoridation	pH correction	Reverse osmosis		Remineralisation	Sludge handling	Dissolved air flotation
Cardinia WTP	Cardinia Reservoir supply from Wonthaggi Desalination Plant and Silvan Reservoir	Local storage tanks	290, 311, 650, 310, 322, 630, 640, 660, 670, 680, 690, 700, 260 ³ , 710 ³ , 270, 271, 280, 300, 320, 321, 323, 330, 340, 350, 360, 370, 390, 400, 410, 420, 430, 440, 450, 720, 620, 610						✓		✓	✓					Chlorine gas, Sodium hypochlorite, Fluorosilicic acid (FSA), Lime, Carbon Dioxide
Wonthaggi Desalination Plant	Offtake from Bass Strait	Cardinia Reservoir	See Cardinia WTP				✓	✓	✓		✓		✓	✓	✓		Ferric sulphate, Sulphuric acid, PolyDADMAC, Chlorine gas, Sodium fluoride, Anti-scalant,

¹ Secondary disinfection is applied by South East Water by boosting sodium hypochlorite throughout network.

² South East Water is a water supplier; for a more detailed description of treatment processes refer to Melbourne Water's annual report.

³ The localities of 260 and 710 are directly supplied without secondary disinfection from the Tarago-Westernport pipeline and the Bittern-Dromana pipeline, respectively. Customers supplied by private water services and supply-by-agreement conditions.

																		Sodium hydroxide, Polyacrylamide, Sodium hypochlorite, Sodium bisulphate, Membrane cleaning chemicals (caustic, detergent, acid), Fluorosilicic acid, Hydrated lime / Carbon dioxide, Polymer
Tarago WTP	Tarago Reservoir supply from Tarago Catchment	Local storage tanks	260 ³ , 710 ³ , 270, 271, 280, 300, 320, 321, 323, 330, 340, 350, 360, 370, 390, 400, 410, 420, 430, 440, 450, 720	✓	✓	✓	✓		✓	✓	✓	✓				✓	✓	Powdered activated carbon, Potassium permanganate, Aluminium chloralhydrate, PolyDADMAC, Polyacrylamide, Lime, Carbon dioxide, Fluorosilicic acid, Gaseous chlorine, Polyacrylamide, Sodium hypochlorite
Silvan WTP	Silvan Reservoir supply from Thomson Catchment, Upper Yarra Catchment, O'Shannassy Catchment, Armstrong Catchment,	Cardinia Reservoir and Local storage tanks	580, 620, 570, 581, 590, 610						✓		✓	✓						Gaseous chlorine, Fluorosilicic acid, Lime

	McMahons Catchment, Starvation Catchment, Coranderrk Catchment, Treated water from Wonthaggi Desalination plant via Cardinia																
Winneke WTP	Sugarloaf Reservoir supply from Maroondah Reservoir, Yarra River	Sugarloaf Reservoir	620	✓		✓	✓	✓		✓	✓			✓			Aluminium sulphate Polymer, Sodium hypochlorite, Fluorosilicic acid, Lime, Polyacrylamide, Sodium hypochlorite

How we manage risk and protect our customers' water

Risk Management Plan

This robust plan helps us to identify and manage risks to our customers' drinking water quality. It also ensures that we meet the requirements of the Act, the Regulations, and the *Australian Drinking Water Guidelines 2011*. It draws on our Incident Management Plan and research projects that help us to continually improve the quality of our water.

A key component of how we manage risk is our Hazard Analysis and Critical Control Point (HACCP) Plan. This plan details the specific procedures and corrective measures we use to protect water quality.

We work with Melbourne Water to optimise and integrate our HACCP plans. This ensures water quality risks are considered and managed along the whole water supply journey – from Melbourne Water's catchments to our customers' taps.

Our Risk Management Plan was audited under the *Safe Drinking Water Act 2003* in February 2023. This identified one major non-conformance, one minor non-conformance and 8 opportunities for improvement. These are listed below, along with the rectification works.

While we maintained our HACCP certification, we acknowledge the non-conformances and opportunities for improvement identified.

- We're actively working to address these issues and are committed to taking the necessary steps to ensure full compliance.
- We continue our commitment to safety and quality.
- We're confident that with ongoing efforts, we'll successfully align with the requirements of the *Safe Drinking Water Act 2003* to maintain high standards of water quality.

Non-conformances

Non-conformances noted in the 2023 audit	Actions taken	Implementation status
<p>Major non-compliance: Storage tank integrity</p> <p><i>The audit sample identified a level of concern for the management and maintenance of the identified risks for storage tanks. The risks to storage tanks and preventive measures have been detailed in the Drinking Water HACCP plan, however during the audit it was not satisfied that the preventative measures are being implemented in all cases.</i></p>	<p>We're advancing a risk-based maintenance program for water storages and have implemented an improved inspection checklist after consultation with staff and providing updated training.</p> <p>We've also implemented a technology-assisted inspection program for hard-to-access storages, and we're using aerial drones and engaging professionals specialising in working at heights. On sites where there are co-located telecommunication installations, we've sought expert consultation to verify our radiation hazard plans, and made enhancements to our inspection tracking systems for better oversight.</p> <p>Lastly, we're reviewing our safety protocols for working at heights, ensuring that both infrastructure and procedures prioritise safety.</p>	<p>Completed September 2023.</p> <p>Working at heights upgrades will continue as a program of work over the 2023–28 period.</p>
<p>Minor non-compliance: Unreliability of Water Quality Management System (WQMS)</p> <p><i>The Water Quality Management System is vital for monitoring water quality and alerting to parameter exceedances. The system lacks internal IT support, making it challenging to maintain. The Water Quality team faces limitations in database modifications, necessitating external support. Daily issues and system alterations rely on external consultants. A prior incident involved system inaccessibility during Microsoft 365 Office rollout, necessitating manual notifications between South East Water and the laboratory for exceedance management.</i></p>	<p>We've allocated funding for replacing/upgrading the WQMS and commenced work on this, with a view to deliver an upgraded IT solution by August 2024.</p> <p>In the interim, arrangements we have in place to manage issues identified include:</p> <ul style="list-style-type: none"> • Continuing to work closely with our external consultant for day-to-day matters and system improvements. • In the event the external consultant is unavailable, our internal Business Technology Services department have assured they have the capability and skills in-house to provide support for the system. 	<p>In progress, completion expected in August 2024</p>

Opportunities for improvement

Opportunities noted in the 2023 audit	Actions taken	Implementation status
<p>Water quality policy and training</p> <p><i>The Water Quality Policy is currently not effectively communicated to new employees beyond the Water Quality team. Although some key personnel, including the water quality team, receive training in this area, it's not extended to all South East Water employees. To enhance the organisation's emphasis on water quality, it's recommended that all employees undertake water quality awareness training.</i></p>	<p>A Water Quality team representative delivered a water quality awareness presentation at an all-employee event in April 2023. Follow up communication was then provided to all employees on our Water Quality Policy.</p> <p>Further to this, our Water Quality Policy will be incorporated into organisation-wide compulsory compliance training for all employees. This will be rolled out every 2 years, in line with the Water Quality Policy review and Board approval.</p> <p>To further enhance water quality awareness, we're preparing to roll out a training program to our industry partners via participation at toolbox meetings.</p> <p>We've also engaged an industry expert who has delivered a training package targeted at key areas of the business with the highest impact on water quality. This training was conducted in October 2023, and we'll make a recording available for all employees to view online.</p> <p>A new interactive online water quality induction package is currently being developed, which will also include water quality policy and risk management. This will be included as part of the induction process for all new employees.</p>	<p>Complete</p>
<p>Water quality policy and training</p> <p><i>No training records could be sighted for the use of the HACH turbidity, pH, and conductivity handheld meter. While operator-to-operator training is conducted for new starters, there's no documentation or records showing this. Suggested training on use of meters be recorded for all users of device.</i></p>	<p>In March 2023, HACH attended our Frankston headquarters to provide a training session and issue certificates of participation on 'HACH handheld instruments'.</p> <ul style="list-style-type: none"> • Refresh training is available as required. • All new starters will undergo training. • Refresher training for current employees will be conducted every 5 years, or if new equipment is purchased. 	<p>Complete</p>

Opportunities noted in the 2023 audit	Actions taken	Implementation status
	Records of training have been recorded in the water quality database.	
<p>Sample tap labels</p> <p><i>Sample tap identification numbers need to be clearly visible to samplers. Consider obtaining feedback from the samplers to identify labels which need replacing and organise replacement labels for clear identification.</i></p>	<p>Where sample tap identification number labels were deficient new labels have been installed along with new sample tap boxes.</p> <p>This will be reviewed and actioned on a regular basis.</p>	Complete
<p>Hypochlorite certificate</p> <p><i>There's no correlation between the certificate of analysis and the certificate of conformance for the batch received onsite. Consider requesting from the chemical supplier to provide a batch number on the certificate of analysis.</i></p>	<p>We've implemented actions to improve the process by:</p> <ol style="list-style-type: none"> 1. Collecting the certificates of analysis for sodium hypochlorite for all monthly production batches. 2. Testing the receiving sodium hypochlorite batch biannually and verifying the results with the <i>Australian Drinking Water Guidelines 2011</i>. 3. Visiting the sodium hypochlorite supplier production plant and auditing good quality management practices every 2 years. 	Complete
<p>Silvan DWQ Incident Joint Action Plan</p> <p><i>The Silvan drinking water quality incident joint action plan has not been updated with progress, and due dates need to be reassessed.</i></p>	<p>We've updated the action plan and reported on our progress to the South East Water Board on several occasions.</p> <p>Items from the plan are being worked on collaboratively and presented back to Department of Health, and closed off as they are completed.</p> <p>Two shared resources funded between all of the metropolitan water authorities, have been appointed.</p> <p>One is focused on the water quality items identified in the Joint Action Plan and is driving the projects to completion. The second resource is focused on emergency management practices and readiness.</p>	In progress – expected to be completed by June 2024

Opportunities noted in the 2023 audit	Actions taken	Implementation status
<p>Audit tracker system</p> <p><i>Consideration needs to be given to the naming convention in the audit tracker to allow for easier search functionalities. During the audit it proved difficult to locate audit records due to limited description in the naming convention.</i></p>	<p>Given SharePoint system functionality is limited for search capabilities, we identified a work around to export to Excel. This export ability already exists.</p>	<p>Complete</p>
<p>Handheld meters – calibration solutions</p> <p><i>The handheld meters are calibrated annually via an external contractor. Routine checks of the handheld meters using approved chemical solutions should be considered to determine any issues with the meters between calibrations.</i></p>	<p>Standard solutions have been purchased for use on the handheld devices in between the 12-monthly calibrations. Training was held by HACH to make sure everyone is using the equipment and standards correctly. A program is now in place to ensure this is undertaken on a regular basis.</p>	<p>Complete</p>
<p>Documentation</p> <p><i>Outdated documentation needs to be removed from sites. Ensure all controlled documents are current, contain document versions and review dates. i.e., Chlorination strategy document. Chlorination strategy document refers to secondary actions, the action progress is not captured.</i></p>	<p>All old documentation and folders have been removed from sites. An ‘uncontrolled’ stamp has been added on any relevant printed plans kept onsite.</p>	<p>Complete</p>

Proactive management of our water supply

We're always thinking ahead and managing our water supply in a proactive way. Several of our supporting programs and innovative projects are linked to our HACCP Plan. You can read about some of these in this report.

Chlorination strategy

We're actively working towards achieving a desired minimum of 0.2mg/L free chlorine residual within the majority of the water supply network.

Having sufficient chlorine to act as a disinfectant throughout the water distribution network prevents potentially harmful microorganisms regrowing in the water pipes and reduces potential taste and odour issues.

To be able to achieve this, we've developed a chlorination strategy. The strategy outlines a multipronged approach, including desktop analysis, operational changes, identification of storages with low chlorine residual, identification of sections of the network with sub-optimal hydraulic characteristics, and capital investment for supplementary disinfection.

As a first step, through collaboration with Melbourne Water, primary chlorination dosing set points have been increased at their storages that supply water into our network.

To increase the turnover of water, we've subsequently implemented operational changes at our tank sites, so we can better maintain the chlorine residual. The first phase of the strategy targets storages, as they're assessed as the highest risk.

Several existing secondary disinfection units have had their chlorine dosing set points increased, in a controlled and closely monitored manner, with no taste or odour issues reported by our customers.

The first target of the chlorination strategy for all storage tanks to have above 0.2 mg/L chlorine residual has been achieved.

The next step of the chlorination strategy implementation is to identify hydraulic zones with a high percentage of customer sample taps with <0.2 mg/L free chlorine. Through the increase in residual levels at the tank sites, there has been a follow-on increase that has been measured at customer taps, however there are still some zones that have a high percentage of taps with low chlorine residual. We'll assess these zones for operational changes, maintenance activities, or if required, install a new secondary chlorinator at the supply entry point.

Heat mapping tool

To complement the chlorination strategy, we developed a tool which can be used to identify chlorine trends over time visually through a 'heat map' representation. The tool allows for chlorine targets to be set, and time scales to be viewed to differentiate between seasons. The results can be drilled down to sample tap level and individual results, to allow for targeted approaches to achieve the desired results.

Chloroclam sensor installation

Historically, we've relied on manual, intermittent samples to be able to prove tank integrity or use the data as supporting evidence of sufficient chlorine residual within the water supply. To improve our process, we installed 'Chloroclam' continuous online monitoring devices on all storage outlets. The use of continuous online monitoring at storage outlets has the benefit of using the data for early detection and warning of potential issues if a trending decline in chlorine is detected, rather than relying on manual, intermittent samples to detect a problem. We can also use the data to dynamically prioritise the ongoing water storage maintenance program.

Secondary disinfection units upgraded to Programmable Logic Control (PLC) technology

We've initiated a program to enhance the technology that controls the secondary chlorination dosing throughout the network. This ensures we maintain a steady consistent disinfection chlorine residual.

The enhancements presented by this project are far more advantageous in comparison to traditional dosing technologies. The benefits include additional safeguards to prevent over/under dosing along with more efficient dosing control to ensure the best quality water reaches the customer and further complementing our chlorination strategy. It provides more calculated dosing, addressing areas of the network with a low chlorine residual, delivering chemical efficiency to minimise any aesthetic impacts on the consumer.

To further protect the quality of the drinking water, the new control methodology also offers the advantage of remote access, where our water quality experts can instantly adjust chemical dosing in the case of potential water quality issues, without having to travel to site.

Incident management plan

In the event that a water sample fails to conform, or a complaint is received that's deemed to be significant, we're able to declare an incident and this plan is implemented. The plan details the procedures to follow, including who to inform within certain timeframes. It also details escalation protocols and procedures for managing and controlling the incident.

Melbourne Metropolitan Water Industry Response Plan (MMWIRP)

In partnership with Melbourne Water, Yarra Valley Water and Greater Western Water, we operate a Metropolitan Water Industry Response Plan.

It builds on our Incident Management Plan to ensure we escalate all incidents promptly and appropriately, from localised occurrences through to major events impacting multiple water corporations. This plan is regularly tested for accuracy and effectiveness.

The most recent exercises were conducted on 12 September 2023 and in March 2022.

The following actions are currently being finalised with key stakeholders across the industry.

1. Revise the Industry Response Plan into an Industry Coordination Plan that builds on the existing mutual aid arrangements, coordinates planning and provides a structure for coordinated public messaging.
2. Develop a process for building an accurate and timely common operating picture where more than one corporation is affected by a disruption or contamination event.
3. Finalise and approve public information guidance and templates agreed by water corporations and the Department of Health, that include clear protocols for drafting, approving, authorising, and releasing messages with said timeframe.
4. Clarify roles, decision-making authorities, and control arrangements during water quality incidents up to and including a Class 2 major emergency (as defined under the State Emergency Response Plan).
5. Develop a process for tracking resources and task information during a multi-corporation incident response.
6. Build incident management capability, focusing on planning, public information, and associated units. This is an ongoing process to embed learning, continuously roll out formal qualification training and provide coaching in incidents and exercises.

Locateus

Supporting the incident management response is our mapping tool, Locateus. This tool collates information from several other systems into a single map-based system, allowing for a quick visualisation of the sample taps, latest results, bursts or works in the area, hydrant usage in the area, zone boundaries, number of properties, and vulnerable or key customers.

Having all this information in one system allows us to respond to a water quality incident with confidence that all the information is available immediately. This allows us to undertake a rapid risk assessment determining any public health risk and to report to Department of Health.

Water main renewal program

Our water main renewal program is a system designed to effectively prioritise main renewal projects. This is done by incorporating weekly updates of the most recent field data, including the locations of burst mains. This enables us to optimise our renewal efforts, minimising customer disruptions and efficiently managing our capital budget.

This initiative not only enhances water quality by reducing the occurrence of main bursts that stir up sediment and result in dirty water, but also provides a framework for allocating and prioritising renewal and maintenance tasks. In 2022–23, we renewed approximately 20 kilometres of water mains through this program.

Backflow prevention program

This program requires all new properties connecting to our water supply network to install an appropriate containment backflow prevention device, relevant to the level of risk, so that contaminants don't enter the system. Backflow hazard ratings are determined in accordance with our Backflow Protection Policy.

In addition, we operate a backflow management system to ensure all industrial and commercial properties have the appropriate backflow device installed, with all testable (medium or high hazard) backflow devices scheduled for annual inspection. This inspection, carried out by a licenced Backflow tester, includes reporting of onsite test results, and is in accordance with the Water (Estimation, Supply & Sewerage) Regulations 2014.

Hydrant permit system

We operate a HydroTrak[®] system where registered users can access our water supply system at designated hydrants. A HydroTrak[®] device is installed on registered users' vehicles and tracks who is drawing water from the network, where they are taking it from and how much they are taking. This helps to provide greater water security for our precious supply.

We also use the system to monitor trends in hydrant use and reduce the number of issues associated with unauthorised hydrant use. When the incorrect hydrant is used, such as on a small diameter main, it can cause sediment in the main to resuspend and cause discoloured water for our customers. To help prevent this, registered users can access a web-based application that allows them to identify suitable hydrants to use in their area.

Water quality alert agent

We use a water quality complaints detection system to alert designated employees about water quality issues so they can investigate. The alerts are sent in instances where we receive 3 or more dirty water complaints from customers over 24 hours within 3km of each other.

It also helps us identify and investigate when we receive 3 or more taste and odour complaints across our service region in a 24-hour period.

The system ensures we can maintain our commitment to respond to each customer complaint individually.

Product quality notification

Continuing on from our water quality alert agent, our Water Quality team and other key areas of our organisation are notified of any instance where a water quality parameter is outside the optimal level. The limits for these notifications are based on more rigorous internal limits than those found in the *Australian Drinking Water Guidelines 2011*. This ensures we strive for excellence in water quality, rather than simply satisfying the guidelines' criteria. The limits are set within the water quality database and are automatically alerted to the team member as data is uploaded.

Alternatively, if the notification is based on customer complaints, an automated water quality alert agent is used (as described above). The product quality notification involves a water quality team member investigating the cause of the alert and noting corrective actions undertaken. The information is then entered into a web-based platform and sent out to nominated employees and management.

Routine monitoring and testing water quality

We have a contract with ALS Group, an independent, National Association of Testing Authorities (NATA) accredited, laboratory, to collect and test all our drinking water samples.

During 2022–23 we collected more than 11,000 water quality samples from our customers' properties, our water storages, and our large water mains to ensure we had a clear picture and understanding of water quality across our whole system.

These samples were tested for a range of parameters including *E. coli*, turbidity, pH, chlorine, disinfection by-products, temperature, hardness, fluoride, and metals. More than 50 parameters were measured, consistent with the regulatory requirements and guidance in the *Australian Drinking Water Guidelines 2011*. The samples were collected across the whole system, covering all areas within the 40 water sampling localities.

This sampling allows us to react quickly and investigate any identification of contaminants in our water as shown with The Basin incident described on page 79. During the same period, we had no undertakings, exemptions, or variations under the Act. There is no regulated water under the Act being supplied to customers.

Continuous On-Line Testing units

Our Continuous On-Line Testing (COLT) units allow real-time monitoring of water quality which can be viewed on our Supervisory Control and Data Acquisition (SCADA) network. These units are distributed throughout our system and continuously monitor water for pH, turbidity, chlorine, temperature, and electrical conductivity.

This enables us to have 24-hour visibility of our water quality, allowing us to confirm results are within acceptable limits, with designated employees alerted by email of any abnormal trends for investigation. This adds an additional layer of monitoring to our system, allowing additional visibility within our system.

Drone program

We've recently enhanced our tank and storage inspection program through the integration of a drone program through specialised contractors. The drone program uses aerial and submersible drones to inspect and assist in assessing the condition of tanks in a thorough and safe manner.

Alongside this, we'll continue to utilise our in-house capabilities, particularly in reactive response scenarios. After storm events, our in-house team can swiftly and safely inspect bird proofing and roof integrity to reach areas that may not be safe to undertake manual inspections.

Water quality website

In compliance with Section 23 of the Act in relation to public disclosure of water quality monitoring information, we make water quality information publicly available to all of our customers on our website: southeastwater.com.au. This website details the most recent water quality test results from sample taps across our network. We usually publish these results within 24 hours of receiving them.

The website provides a rolling 12-month summary of data for our entire network and each water sampling locality and shows our compliance against the Regulation's drinking water quality standards and the *Australian Drinking Water Guidelines 2011*.

Customers can also use the website to determine where their water is supplied from, what chemicals it has been treated with and the treatment process their water has undergone. We also provide details on water quality parameters, including information on limits, compliance and why certain parameters are tested.

Water quality results for 2022–23

It matters to you, it matters to us

We're serious about making sure our customers' water is safe to drink.

Our monitoring starts when Melbourne Water transfers the water to us. From there, it's sampled every step of the way, right up to our customers' homes or businesses so that they can rely on us for safe and high-quality water.

So, when they turn on a tap, or press start on their dishwasher, they can be sure that everything's as it should be.

The following tables summarise the results of our monitoring program for each water sampling locality.

The data show results of routine samples taken at customer taps, water storage reservoirs, pump stations, pressure-reducing stations and large water mains. It excludes any results from resamples or non-routine samples.

Drinking water quality standards specified in Schedule 2 of the Regulations	Including <i>Escherichia coli</i> (<i>E. coli</i>), trihalomethanes and turbidity.	Page 30
Other water quality standards	Including fluoride, copper, lead, manganese, inorganic compounds, organic compounds, polycyclic aromatic hydrocarbons, and pesticides.	Page 40
Aesthetic water quality	Colour, pH, iron, chlorine, alkalinity.	Page 67

Drinking water quality standards

Drinking water quality standards as specified in Schedule 2 of Regulations, including *E. coli*, trihalomethanes and turbidity.

Escherichia coli (E. coli) results

The drinking water we supplied at each locality complied with the *Safe Drinking Water Regulations 2015* standard of no *E. coli* per 100 millilitres of drinking water, except for one sample at The Basin Elevated Tank in which 2 *E. coli* per 100 millilitres was detected. The other initial detects were found to be negative after further investigation. All notifications made to the Department of Health under Section 18 notification and Section 22 reports are explained on page 76.

E. coli is a coliform bacterium that indicates a high probability of recent faecal contamination of the drinking water. *E. coli* is found in large numbers in the faeces of human and other warm-blooded animals, although only a few strains of *E. coli* are human pathogens.

The table below is a summary of all *E. coli* results as part of our monitoring program for each water sampling locality. The data in the table shows results of routine samples taken at customer taps, water storage reservoirs, pump stations, pressure reducing stations and large water mains.

Water sampling locality		Frequency of sampling	Number of samples	Maximum result (orgs/100mL)	Number of detections and investigations conducted (s.22)	Number of samples where standard was not met (s.18)
Locality number	Locality name					
360	Balnarring	Weekly	260	0	0	0
570	Bayswater	Weekly	504	2	1	1
680	Beaumaris	Weekly	129	0	0	0
581	Belgrave	Weekly	471	2	1	0
310	Berwick	Weekly	686	0	0	0
350	Bittern	Weekly	197	0	0	0

Water sampling locality		Frequency of sampling	Number of samples	Maximum result (orgs/100mL)	Number of detections and investigations conducted (s.22)	Number of samples where standard was not met (s.18)
Locality number	Locality name					
670	Brighton / Heatherton	Weekly	537	0	0	0
270	Bunyip	Weekly	169	0	0	0
322	Carrum Downs	Weekly	167	0	0	0
610	Caulfield	Weekly	476	0	0	0
650	Chelsea	Weekly	242	0	0	0
720	Clyde North	Weekly	129	0	0	0
260	Cora Lynn	Weekly	155	0	0	0
320	Cranbourne	Weekly	390	1	1	0
640	Dandenong	Weekly	385	0	0	0
660	Dandenong North	Weekly	154	0	0	0
321	Devon Meadows	Weekly	116	0	0	0
430	Dromana	Weekly	485	0	0	0
580	Ferntree Gully	Weekly	129	0	0	0
390	Frankston	Weekly	350	0	0	0
400	Frankston South	Weekly	394	0	0	0

Water sampling locality		Frequency of sampling	Number of samples	Maximum result (orgs/100mL)	Number of detections and investigations conducted (s.22)	Number of samples where standard was not met (s.18)
Locality number	Locality name					
271	Garfield	Weekly	222	0	0	0
630	Hallam	Weekly	267	0	0	0
340	Hastings	Weekly	157	0	0	0
323	Karingal	Weekly	199	0	0	0
300	Koo Wee Rup	Weekly	220	0	0	0
450	Lang Lang	Weekly	310	0	0	0
710	Moorooduc	Weekly	106	0	0	0
690	Mordialloc	Weekly	205	0	0	0
410	Mornington	Weekly	293	0	0	0
420	Mount Martha	Weekly	326	0	0	0
290	Pakenham	Weekly	329	0	0	0
700	Rowville	Weekly	242	0	0	0
440	Rye	Weekly	457	0	0	0
370	Shoreham	Weekly	221	0	0	0
330	Somerville	Weekly	242	0	0	0
620	South Melbourne	Weekly	535	0	0	0
280	Tynong	Weekly	169	0	0	0

Water sampling locality		Frequency of sampling	Number of samples	Maximum result (orgs/100mL)	Number of detections and investigations conducted (s.22)	Number of samples where standard was not met (s.18)
Locality number	Locality name					
311	Upper Beaconsfield	Weekly	265	0	0	0
590	Wantirna	Weekly	114	0	0	0
	Business Total		11404	5	3	1

Note: Sample numbers per locality are based on the population, with more samples required with greater population as per the *Australian Drinking Water Guidelines 2011* recommendations.

*Descriptions of these Section 18 and Section 22 reports can be seen from page 78 in the Emergency, incident, and event management section of this report.

Trihalomethane results

We complied with the *Safe Drinking Water Regulations 2015* standard that total trihalomethane levels must not exceed 0.25mg/L. All results were less than or equal to 0.065mg/L. Trihalomethanes (THMs) are by-products that form when water is disinfected with chlorine.

Water sampling locality		Frequency of sampling	Number of samples	Average (mg/L)	Maximum mg/L	Number of samples where standard was not met (s.18)
Locality number	Locality name					
360	Balnarring	Monthly	13	0	0.033	0
570	Bayswater	Monthly	12	0	0.038	0
680	Beaumaris	Monthly	12	0	0.047	0
581	Belgrave	Monthly	13	0	0.050	0
310	Berwick	Monthly	13	0	0.057	0
350	Bittern	Monthly	14	0	0.031	0
670	Brighton / Heatherton	Monthly	25	0	0.046	0
270	Bunyip	Monthly	13	0	0.055	0
322	Carrum Downs	Monthly	12	0	0.031	0
610	Caulfield	Monthly	13	0	0.030	0
650	Chelsea	Monthly	13	0	0.046	0
720	Clyde North	Monthly	13	0	0.050	0
260	Cora Lynn	Monthly	12	0	0.054	0
320	Cranbourne	Monthly	14	0	0.053	0
640	Dandenong	Monthly	14	0	0.043	0

Water sampling locality		Frequency of sampling	Number of samples	Average (mg/L)	Maximum mg/L	Number of samples where standard was not met (s.18)
Locality number	Locality name					
660	Dandenong North	Monthly	12	0	0.046	0
321	Devon Meadows	Monthly	13	0	0.050	0
430	Dromana	Monthly	13	0	0.042	0
580	Ferntree Gully	Monthly	13	0	0.044	0
390	Frankston	Monthly	24	0	0.029	0
400	Frankston South	Monthly	12	0	0.030	0
271	Garfield	Monthly	13	0	0.061	0
630	Hallam	Monthly	13	0	0.034	0
340	Hastings	Monthly	13	0	0.031	0
323	Karingal	Monthly	13	0	0.036	0
300	Koo Wee Rup	Monthly	12	0	0.070	0
450	Lang Lang	Monthly	12	0	0.035	0
710	Moorooduc	Monthly	12	0	0.058	0
690	Mordialloc	Monthly	15	0	0.070	0
410	Mornington	Monthly	13	0	0.035	0
420	Mount Martha	Monthly	12	0	0.041	0
290	Pakenham	Monthly	12	0	0.058	0
700	Rowville	Monthly	12	0	0.058	0
440	Rye	Monthly	12	0	0.034	0

Water sampling locality		Frequency of sampling	Number of samples	Average (mg/L)	Maximum mg/L	Number of samples where standard was not met (s.18)
Locality number	Locality name					
370	Shoreham	Monthly	13	0	0.030	0
330	Somerville	Monthly	12	0	0.035	0
620	South Melbourne	Monthly	13	0	0.026	0
280	Tynong	Monthly	12	0	0.065	0
311	Upper Beaconsfield	Monthly	12	0	0.029	0
590	Wantirna	Monthly	12	0	0.029	0
	Business Total		531	0	0.070	0

Turbidity results

We complied with the *Safe Drinking Water Regulations 2015* standard for turbidity, which sets the 95th percentile of results for samples in any 12-month period must be less than or equal to 5.0 Nephelometric Turbidity Units (NTU).

Turbidity is caused by the presence of fine suspended matter such as silt and clay in the water. High turbidity can give the water a cloudy or muddy appearance and can lessen the effectiveness of disinfection.

Water sampling locality	Frequency of sampling	Number of samples	Maximum NTU	95th Percentile	Number of 95th percentile of results in any 12 months above standard (s.18)	
Locality number	Locality name					
360	Balnarring	Weekly	65	0.4	0.30	0
570	Bayswater	Weekly	104	1.0	0.80	0
680	Beaumaris	Weekly	65	0.5	0.48	0
581	Belgrave	Weekly	67	1.1	0.90	0
310	Berwick	Weekly	115	0.5	0.40	0
350	Bittern	Weekly	65	0.4	0.30	0
670	Brighton / Heatherton	Weekly	105	2.1	0.60	0
270	Bunyip	Weekly	65	0.4	0.26	0
322	Carrum Downs	Weekly	74	1.0	0.40	0
610	Caulfield	Weekly	91	0.9	0.80	0
650	Chelsea	Weekly	78	0.5	0.40	0
720	Clyde North	Weekly	65	0.6	0.40	0
260	Cora Lynn	Weekly	74	0.2	<0.1	0
320	Cranbourne	Weekly	122	1.0	0.40	0
640	Dandenong	Weekly	79	1.0	0.60	0
660	Dandenong North	Weekly	91	1.1	0.80	0
321	Devon Meadows	Weekly	69	0.4	0.40	0

Water sampling locality		Frequency of sampling	Number of samples	Maximum NTU	95th Percentile	Number of 95th percentile of results in any 12 months above standard (s.18)
Locality number	Locality name					
430	Dromana	Weekly	70	0.7	0.26	0
580	Ferntree Gully	Weekly	77	1.1	0.90	0
390	Frankston	Weekly	78	0.6	0.40	0
400	Frankston South	Weekly	68	0.5	0.47	0
271	Garfield	Weekly	79	0.3	<0.1	0
630	Hallam	Weekly	78	0.8	0.40	0
340	Hastings	Weekly	65	0.6	0.30	0
323	Karingal	Weekly	65	1.1	0.40	0
300	Koo Wee Rup	Weekly	65	0.1	<0.1	0
450	Lang Lang	Weekly	78	0.4	0.20	0
710	Moorooduc	Weekly	52	0.8	0.30	0
690	Mordialloc	Weekly	74	0.6	0.40	0
410	Mornington	Weekly	91	0.3	0.20	0
420	Mount Martha	Weekly	65	0.3	0.30	0
290	Pakenham	Weekly	78	0.5	0.40	0
700	Rowville	Weekly	86	1.0	0.80	0
440	Rye	Weekly	65	0.6	0.30	0
370	Shoreham	Weekly	78	0.5	0.30	0
330	Somerville	Weekly	78	0.5	0.40	0
620	South Melbourne	Weekly	104	0.9	0.79	0
280	Tynong	Weekly	65	0.6	<0.1	0
311	Upper Beaconsfield	Weekly	68	0.5	0.40	0
590	Wantirna	Weekly	62	1.7	1.00	0
	Business Total		3083	2.1	0.70	0

Compliance summary for drinking water quality standards

For this reporting year, the one confirmed *E. coli* detection in February 2023 meant that 99.8% of our customers were supplied with water that complied with the requirements of the regulations.

Parameter	Percentage of localities supplied with compliant water			Percentage of customers supplied with compliant water		
	2020–21	2021–22	2022–23	2020–21	2021–22	2022–23
<i>Escherichia coli</i>	98%	100%	98%	99.8%	100%	99.8%
Trihalomethanes	100%	100%	100%	100%	100%	100%
Turbidity	100%	100%	100%	100%	100%	100%

Other water quality standard results

Fluoride, chlorine, arsenic, copper, lead, manganese, inorganic parameters, and organic parameters

These tables summarise the results of the other water quality standards in our monitoring program that could pose a risk to human health. We measure these standards against the *Australian Drinking Water Guidelines 2011* criteria. Many of these parameters only require infrequent sampling because the results don't vary significantly, from year-to-year, or from locality-to-locality, for the same source water.

Specific results for arsenic, copper, lead, and manganese have been shown not to change in Melbourne's water supply. For this reason, we've taken random samples in groups of localities with similar source water to achieve the monitoring spread across our distribution system in 2022-23.

All levels have remained consistently below the maximums specified in the *Australian Drinking Water Guidelines 2011* over the 3-year period. Results for 2020–21 and 2021–22 are available in our respective annual water quality reports on our [website: southeastwater.com.au](https://www.southeastwater.com.au).

Fluoride

We met the drinking water standard for fluoride, which stipulates all individual results must not exceed 1.5mg/L. Under s.5(3) of the *Health (Fluoridation) Act 1973* fluoride added to drinking water must not result in an average optimum concentration in excess of 1.0 mg/L.

We add fluoride to the water to improve dental health – a requirement of the *Health (Fluoridation) Act 1973*. Melbourne Water has a number of fluoridation plants that supply water to our service area. We list localities supplied from each fluoridation plant in the table on page 15.

Water sampling locality		Number of samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	Number of samples where standard was not met (s.18)
Locality number	Locality name					
360	Balnarring	12	0.69	0.79	0.85	0
570	Bayswater	12	0.49	0.76	0.92	0
680	Beaumaris	12	0.77	0.80	0.83	0
581	Belgrave	12	0.70	0.79	0.94	0
310	Berwick	12	0.53	0.75	0.90	0
350	Bittern	12	0.64	0.78	0.84	0
670	Brighton / Heatherton	13	0.73	0.80	0.84	0
270	Bunyip	12	0.72	0.86	0.93	0
322	Carrum Downs	12	0.55	0.81	0.89	0
610	Caulfield	12	0.62	0.78	0.88	0
650	Chelsea	13	0.75	0.80	0.85	0
720	Clyde North	12	0.55	0.81	0.89	0

Water sampling locality		Number of samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	Number of samples where standard was not met (s.18)
Locality number	Locality name					
260	Cora Lynn	12	0.80	0.85	0.89	0
320	Cranbourne	12	0.71	0.79	0.84	0
640	Dandenong	12	0.74	0.79	0.88	0
660	Dandenong North	12	0.66	0.81	0.86	0
321	Devon Meadows	12	0.74	0.81	0.92	0
430	Dromana	12	0.69	0.78	0.85	0
580	Ferntree Gully	12	0.78	0.83	0.88	0
390	Frankston	12	0.69	0.79	0.88	0
400	Frankston South	12	0.67	0.78	0.83	0
271	Garfield	12	0.80	0.85	0.92	0
630	Hallam	13	0.66	0.80	0.89	0
340	Hastings	12	0.73	0.80	0.86	0
323	Karingal	12	0.70	0.78	0.86	0
300	Koo Wee Rup	12	0.57	0.83	0.94	0
450	Lang Lang	12	0.75	0.83	0.90	0
710	Moorooduc	12	0.77	0.80	0.83	0
690	Mordialloc	12	0.64	0.78	0.88	0
410	Mornington	12	0.68	0.79	0.87	0

Water sampling locality		Number of samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	Number of samples where standard was not met (s.18)
Locality number	Locality name					
420	Mount Martha	12	0.66	0.79	0.87	0
290	Pakenham	12	0.69	0.80	0.85	0
700	Rowville	12	0.75	0.80	0.94	0
440	Rye	12	0.70	0.79	0.88	0
370	Shoreham	13	0.74	0.79	0.82	0
330	Somerville	12	0.67	0.78	0.85	0
620	South Melbourne	12	0.79	0.85	1.20	0
280	Tynong	12	0.75	0.84	0.88	0
311	Upper Beaconsfield	12	0.60	0.76	0.86	0
590	Wantirna	12	0.60	0.76	0.86	0
	Business Total	484	0.49	0.80	1.20	0

Chlorine

We met the *Australian Drinking Water Guidelines 2011* criteria for chlorine, which suggests a health limit of 5 mg/L. Less than 1.5 mg/L is added to drinking water at any point in our network through our secondary treatment units. The fundamental requirement is to maintain effective disinfection and a consistent concentration of chlorine. Chlorine levels are higher in the water sampling localities that are closer to where the treatment occurs as chlorine levels gradually decline over time.

Chlorine is the primary disinfectant used in Melbourne's water supply. We add chlorine to destroy any harmful micro-organisms, such as pathogenic bacteria. We measure it as 'free chlorine residual'.

Water sampling locality		Frequency of sampling	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG health limit (Yes/No)
Locality number	Locality name						
360	Balnarring	Weekly	260	0.06	0.73	1.4	Yes
570	Bayswater	Weekly	511	<0.05	0.61	1.8	Yes
680	Beaumaris	Weekly	129	0.17	0.63	0.94	Yes
581	Belgrave	Weekly	471	<0.05	0.41	1.2	Yes
310	Berwick	Weekly	687	<0.05	0.68	2.7	Yes
350	Bittern	Weekly	197	<0.05	0.73	1.0	Yes
670	Brighton / Heatherton	Weekly	537	0.1	0.58	1.1	Yes
270	Bunyip	Weekly	169	<0.05	0.55	0.82	Yes
322	Carrum Downs	Weekly	167	0.24	0.82	1.2	Yes
610	Caulfield	Weekly	476	<0.05	0.42	0.83	Yes
650	Chelsea	Weekly	241	0.12	0.68	1.0	Yes

Water sampling locality		Frequency of sampling	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG health limit (Yes/No)
Locality number	Locality name						
720	Clyde North	Weekly	131	0.17	0.77	1.1	Yes
260	Cora Lynn	Weekly	155	<0.05	0.28	0.73	Yes
320	Cranbourne	Weekly	385	<0.05	0.80	1.2	Yes
640	Dandenong	Weekly	385	<0.05	0.57	1.2	Yes
660	Dandenong North	Weekly	154	<0.05	0.37	0.95	Yes
321	Devon Meadows	Weekly	121	0.17	0.73	1.2	Yes
430	Dromana	Weekly	485	<0.05	0.66	1.4	Yes
580	Ferntree Gully	Weekly	129	<0.05	0.45	1.1	Yes
390	Frankston	Weekly	358	0.07	0.82	1.5	Yes
400	Frankston South	Weekly	386	<0.05	0.87	1.4	Yes
271	Garfield	Weekly	222	0.5	0.78	1.3	Yes
630	Hallam	Weekly	267	<0.05	0.81	1.3	Yes
340	Hastings	Weekly	157	0.74	0.91	1.2	Yes
323	Karingal	Weekly	209	0.1	0.69	1.1	Yes
300	Koo Wee Rup	Weekly	220	<0.05	0.50	0.97	Yes
450	Lang Lang	Weekly	310	0.17	0.91	1.8	Yes
710	Moorooduc	Weekly	106	0.34	0.92	1.2	Yes
690	Mordialloc	Weekly	205	<0.05	0.45	0.84	Yes

Water sampling locality		Frequency of sampling	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG health limit (Yes/No)
Locality number	Locality name						
410	Mornington	Weekly	293	0.22	0.79	1.2	Yes
420	Mount Martha	Weekly	328	0.21	0.80	1.3	Yes
290	Pakenham	Weekly	329	0.22	0.70	1.0	Yes
700	Rowville	Weekly	241	0.06	0.67	1.1	Yes
440	Rye	Weekly	464	0.36	0.79	1.4	Yes
370	Shoreham	Weekly	221	0.07	0.75	1.3	Yes
330	Somerville	Weekly	242	<0.05	0.54	0.97	Yes
620	South Melbourne	Weekly	542	<0.05	0.47	0.92	Yes
280	Tynong	Weekly	169	<0.05	0.49	1.1	Yes
311	Upper Beaconsfield	Weekly	265	<0.05	0.60	1.1	Yes
590	Wantirna	Weekly	114	<0.05	0.55	0.93	Yes
	Business Total		10736	<0.05	0.65	2.7	Yes

Arsenic

Drinking water we supplied complied with the *Australian Drinking Water Guidelines 2011* health-related guideline value for arsenic of 0.01mg/L.

Arsenic is a naturally occurring element that can be introduced into water through the dissolution of minerals and ores (where it exists mainly in the sulphide form) or from industrial effluent and atmospheric deposition (through the burning of fossil fuels and waste incineration).

Water Sampling Locality		Number of samples tested	Number of non-complying results	Minimum (mg/L)	Average (mg/L)	Maximum (mg/L)	Complying with ADWG (Yes/No)
Locality Number	Locality Name						
570	Bayswater	1	0	<0.001	<0.001	<0.001	Yes
310	Berwick	1	0	<0.001	<0.001	<0.001	Yes
670	Brighton / Heatherton	1	0	<0.001	<0.001	<0.001	Yes
610	Caulfield	1	0	<0.001	<0.001	<0.001	Yes
320	Cranbourne	1	0	<0.001	<0.001	<0.001	Yes
	Business total	5	0	<0.001	<0.001	<0.001	Yes

Copper

Drinking water we supplied complied with the *Australian Drinking Water Guidelines 2011* health-related guideline value for copper of 2mg/L.

Copper can occur naturally in catchments as it is widely distributed in rocks and soils as carbonate and sulphide minerals. Copper can cause the water to appear blue or green, which may stain appliances and clothing.

Water sampling locality		Number of samples tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name						
570	Bayswater	1	0	0.016	0.016	0.016	Yes
581	Belgrave	1	0	0.002	0.002	0.002	Yes
310	Berwick	1	0	0.012	0.012	0.012	Yes
350	Bittern	1	0	0.029	0.029	0.029	Yes
670	Brighton / Heatherton	2	0	0.011	0.02	0.029	Yes
610	Caulfield	2	0	0.011	0.037	0.063	Yes
650	Chelsea	1	0	0.014	0.014	0.014	Yes
720	Clyde North	1	0	0.007	0.007	0.007	Yes
320	Cranbourne	1	0	0.025	0.025	0.025	Yes
660	Dandenong North	2	0	0.012	0.018	0.024	Yes
321	Devon Meadows	1	0	0.014	0.014	0.014	Yes
580	Ferntree Gully	1	0	0.013	0.013	0.013	Yes
690	Mordialloc	1	0	0.019	0.019	0.019	Yes
700	Rowville	1	0	0.009	0.009	0.009	Yes

Water sampling locality		Number of samples tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name						
620	South Melbourne	2	0	0.008	0.014	0.020	Yes
590	Wantirna	1	0	0.013	0.013	0.013	Yes
	Business Total	20	0	0.002	0.018	0.063	Yes

Lead

Drinking water we supplied complied with the *Australian Drinking Water Guidelines 2011* health-related guideline value for lead of 0.01mg/L.

Lead can be present in drinking water as a result of dissolution from natural sources or from household plumbing systems containing lead. The amount of lead dissolved will depend on a number of factors including pH, water hardness and the standing time of the water.

Water sampling locality		Number of samples tested	Number of non-complying results	Minimum (mg/L)	Average (mg/L)	Maximum (mg/L)	Complying with ADWG (Yes/No)
Locality number	Locality name						
570	Bayswater	1	0	<0.001	<0.001	<0.001	Yes
581	Belgrave	1	0	<0.001	<0.001	<0.001	Yes
310	Berwick	1	0	<0.001	<0.001	<0.001	Yes
350	Bittern	1	0	<0.001	<0.001	<0.001	Yes
670	Brighton / Heatherton	2	0	<0.001	<0.001	<0.001	Yes
610	Caulfield	2	0	<0.001	<0.001	0.001	Yes
650	Chelsea	1	0	<0.001	<0.001	<0.001	Yes
720	Clyde North	1	0	<0.001	<0.001	<0.001	Yes
320	Cranbourne	1	0	<0.001	<0.001	<0.001	Yes
660	Dandenong North	2	0	<0.001	<0.001	<0.001	Yes
321	Devon Meadows	1	0	<0.001	<0.001	<0.001	Yes
580	Ferntree Gully	1	0	<0.001	<0.001	<0.001	Yes
690	Mordialloc	1	0	<0.001	<0.001	<0.001	Yes

Water sampling locality		Number of samples tested	Number of non-complying results	Minimum (mg/L)	Average (mg/L)	Maximum (mg/L)	Complying with ADWG (Yes/No)
Locality number	Locality name						
700	Rowville	1	0	<0.001	<0.001	<0.001	Yes
620	South Melbourne	2	0	<0.001	<0.001	<0.001	Yes
590	Wantirna	1	0	<0.001	<0.001	<0.001	Yes
	Business total	20	0	<0.001	<0.001	<0.001	Yes

Manganese

Drinking water we supplied complied with the *Australian Drinking Water Guidelines 2011* health-related guideline value for manganese of 0.5mg/L.

Manganese is naturally present in the environment in various water-soluble states. At concentrations exceeding 0.1mg/L, manganese imparts an undesirable taste to water and stains plumbing fixtures and laundry. All sample results were well below the *Australian Drinking Water Guidelines 2011* limit.

Sampling locations are random and change each year.

Water sampling locality		Number of Samples Tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name						
570	Bayswater	3	0	0.006	0.006	0.007	Yes
581	Belgrave	3	0	0.003	0.004	0.005	Yes
310	Berwick	2	0	0.001	0.001	0.001	Yes
350	Bittern	1	0	0.004	0.004	0.004	Yes
670	Brighton / Heatherton	8	0	<0.001	0.003	0.010	Yes
270	Bunyip	2	0	<0.001	<0.001	<0.001	Yes
322	Carrum Downs	1	0	0.004	0.004	0.004	Yes
610	Caulfield	6	0	0.004	0.005	0.006	Yes
650	Chelsea	1	0	0.007	0.007	0.007	Yes
720	Clyde North	2	0	<0.001	0.001	0.002	Yes
260	Cora Lynn	1	0	0.001	0.001	0.001	Yes

Water sampling locality		Number of Samples Tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name						
640	Dandenong	2	0	0.002	0.006	0.010	Yes
660	Dandenong North	7	0	0.003	0.006	0.013	Yes
321	Devon Meadows	1	0	0.002	0.002	0.002	Yes
580	Ferntree Gully	5	0	0.003	0.004	0.006	Yes
271	Garfield	1	0	<0.001	<0.001	<0.001	Yes
630	Hallam	2	0	0.002	0.005	0.007	Yes
710	Moorooduc	1	0	0.002	0.002	0.002	Yes
690	Mordialloc	1	0	0.002	0.002	0.002	Yes
420	Mount Martha	1	0	0.004	0.004	0.004	Yes
290	Pakenham	2	0	<0.001	<0.001	0.001	Yes
700	Rowville	1	0	<0.001	<0.001	<0.001	Yes
440	Rye	1	0	<0.001	<0.001	<0.001	Yes
370	Shoreham	2	0	<0.001	0.002	0.003	Yes
330	Somerville	1	0	<0.001	<0.001	<0.001	Yes
620	South Melbourne	8	0	0.002	0.005	0.007	Yes
280	Tynong	1	0	<0.001	<0.001	<0.001	Yes
311	Upper Beaconsfield	1	0	0.003	0.003	0.003	Yes
590	Wantirna	3	0	0.003	0.004	0.005	Yes

Water sampling locality		Number of Samples Tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name						
	Business Total	71	0	<0.001	0.004	0.013	Yes

Boron

Drinking water, we supplied complied with the *Australian Drinking Water Guidelines 2011* health-related guideline value for boron of 4mg/L.

Boron can be present in drinking water through the natural leaching of boron-containing minerals, or by contamination of water sources. All sample results were well below the *Australian Drinking Water Guidelines 2011* limit.

Sampling locations are random and change each year.

Water sampling locality		Number of Samples Tested	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name					
570	Bayswater	3	0	<0.02	<0.02	Yes
581	Belgrave	3	0	<0.02	<0.02	Yes
310	Berwick	2	0	0.19	0.21	Yes
350	Bittern	1	0	0.15	0.15	Yes
670	Brighton / Heatherton	8	0	0.17	0.21	Yes
270	Bunyip	2	0	<0.02	<0.02	Yes
322	Carrum Downs	1	0	0.19	0.19	Yes
610	Caulfield	6	0	0.04	0.06	Yes
650	Chelsea	1	0	0.17	0.17	Yes
720	Clyde North	2	0	0.21	0.23	Yes
260	Cora Lynn	1	0	<0.02	<0.02	Yes
640	Dandenong	2	0	0.15	0.17	Yes
660	Dandenong North	7	0	<0.02	<0.02	Yes

Water sampling locality		Number of Samples Tested	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name					
321	Devon Meadows	1	0	0.26	0.26	Yes
580	Ferntree Gully	5	0	<0.02	<0.02	Yes
271	Garfield	1	0	<0.02	<0.02	Yes
630	Hallam	2	0	0.21	0.21	Yes
710	Moorooduc	1	0	0.14	0.14	Yes
690	Mordialloc	1	0	0.25	0.25	Yes
420	Mount Martha	1	0	0.13	0.13	Yes
290	Pakenham	2	0	0.20	0.20	Yes
700	Rowville	1	0	0.19	0.19	Yes
440	Rye	1	0	0.20	0.20	Yes
370	Shoreham	2	0	0.23	0.23	Yes
330	Somerville	1	0	0.24	0.24	Yes
620	South Melbourne	8	0	<0.02	0.06	Yes
280	Tynong	1	0	<0.02	<0.02	Yes
311	Upper Beaconsfield	1	0	0.20	0.20	Yes
590	Wantirna	3	0	<0.02	<0.02	Yes
	Business Total	71	0	0.19	0.25	Yes

Inorganic parameters

The following tables summarise the results of all the other parameters in our monitoring program that may pose a risk to human health.

We measure these parameters against the *Australian Drinking Water Guidelines 2011* (ADWG) criteria, health-based guideline values – if available (N/A indicates that a guideline value has not been set). For these parameters, we randomly take the samples in groups of localities, rather than within each locality, to achieve the monitoring spread. We can provide details of the specific locations upon request. All results are in mg/L unless otherwise indicated after the parameter name.

Parameter	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value	Complying with ADWG (Yes/No)
Ammonia	15	< 0.002	0.003	0.006	0.5	Yes
Calcium	20	4	6	11	N/A	N/A
Chloride	5	7	7.8	9	250	Yes
Dissolved Oxygen	13	7.8	9.9	11.2	N/A	N/A
Electrical Conductivity (µS/cm)	1972	49	86	170	~780	Yes
Hardness	20	15	19	32	200	Yes
Magnesium	20	0.6	1.1	1.6	N/A	N/A
Potassium	5	0.4	0.52	0.6	N/A	N/A
Silica	5	3.5	5.1	6.6	80	Yes
Sodium	5	4.3	4.5	4.6	180	Yes

Note: N/A indicates that a guideline value has not been set.

Organic parameters

Parameter	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value	Complying with ADWG (Yes/No)
Trihalomethanes						
Dibromochloromethane	531	< 0.001	0.003	0.013	N/A	N/A
Bromoform	531	< 0.001	< 0.001	< 0.001	N/A	N/A
Dichlorobromomethane	531	0.002	0.011	0.031	N/A	N/A
Chloroform	531	0.006	0.029	0.092	N/A	N/A
Haloacetic Acids						
Bromoacetic Acid	120	< 0.005	< 0.005	< 0.005	N/A	N/A
Bromochloroacetic Acid	120	< 0.005	< 0.005	< 0.005		
Bromodichloroacetic Acid	120	< 0.005	0.006	0.013		
Dibromoacetic Acid	120	< 0.005	< 0.005	< 0.005	N/A	N/A
Dichloroacetic Acid	120	< 0.005	0.008	0.027	N/A	N/A
Monochloroacetic Acid	120	< 0.005	< 0.005	< 0.005		
Trichloroacetic Acid	120	0.006	0.020	0.054	N/A	N/A
Chlorophenols						
2 chlorophenol	15	< 0.001	< 0.001	< 0.001	0.3 mg/L	Yes
2,4 dichlorophenol	15	< 0.001	< 0.001	< 0.001	0.2 mg/L	Yes
2,4,6 trichlorophenol	15	< 0.001	< 0.001	< 0.001	0.02 mg/L	Yes

Parameter	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value	Complying with ADWG (Yes/No)
Pentachlorophenol	15	< 0.001	< 0.001	< 0.001	0.01 mg/L	Yes
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	5	<0.000002	<0.000002	<0.000002	0.00001 mg/L	Yes
Volatile Organic Compounds						
Benzene	15	< 0.001	< 0.001	< 0.001	0.001 mg/L	Yes
Carbon Tetrachloride	15	< 0.001	< 0.001	< 0.001	0.003 mg/L	Yes
Chlorobenzene	15	< 0.001	< 0.001	< 0.001	0.3 mg/L	Yes
1,2-dichlorobenzene	15	< 0.001	< 0.001	< 0.001	1.5 mg/L	Yes
1,3-dichlorobenzene	15	< 0.001	< 0.001	< 0.001	0.02 mg/L	Yes
1,4-dichlorobenzene	15	< 0.001	< 0.001	< 0.001	0.04 mg/L	Yes
1,1-dichloroethane	15	< 0.001	< 0.001	< 0.001	N/A	N/A
1,2-dichloroethane	15	< 0.001	< 0.001	< 0.001	0.003 mg/L	Yes
1,1-dichloroethene	15	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
cis-1,2-dichloroethene	15	< 0.001	< 0.001	< 0.001	0.06 mg/L	Yes
trans-1,2-dichloroethene	15	< 0.001	< 0.001	< 0.001	0.06 mg/L	Yes
Dichloromethane	15	< 0.001	< 0.001	< 0.001	0.004 mg/L	Yes
cis-1,3-dichloropropene	15	< 0.001	< 0.001	< 0.001	0.1 mg/L	Yes
trans-1,3-dichloropropene	15	< 0.001	< 0.001	< 0.001	0.1 mg/L	Yes
Ethylbenzene	15	< 0.001	< 0.001	< 0.001	0.3 mg/L	Yes

Parameter	Number of samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value	Complying with ADWG (Yes/No)
Styrene	15	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
Tetrachloroethene	15	< 0.001	< 0.001	< 0.001	0.05 mg/L	Yes
Toluene	15	< 0.001	< 0.001	< 0.001	0.8 mg/L	Yes
1,2,3-trichlorobenzene	15	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
1,2,4-trichlorobenzene	15	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
o -Xylene	15	< 0.001	< 0.001	< 0.001	0.6 mg/L	Yes
m&p -Xylene	15	< 0.002	< 0.002	< 0.002	0.6 mg/L	Yes

Note: N/A indicates that a guideline value has not been set.

Pesticides

The following table summarises the results of pesticides in our monitoring program that may pose a risk to human health.

These parameters are measured against the *Australian Drinking Water Guidelines 2011* criteria, health-based guideline values – if available (N/A indicates that a guideline value has not been set).

For these parameters, the samples are taken randomly in groups of localities, rather than within each locality, to achieve the monitoring spread. Details of the specific locations can be provided upon request.

Parameter	Number of Samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value (mg/L)	Complying with ADWG (Yes/No)
2,4,5-T	5	<0.00001	<0.00001	<0.00001	0.1 mg/L	Yes
2,4,6-T	5	<0.00001	<0.00001	<0.00001	N/A	N/A
2,4-D	5	<0.00001	<0.00001	<0.00001	0.03 mg/L	Yes
2,4-DB	5	<0.00001	<0.00001	<0.00001	N/A	N/A
2,6-D	5	<0.00001	<0.00001	<0.00001	N/A	N/A
4-CPA	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Aldrin	5	< 0.00001	< 0.00001	< 0.00001	0.0003 mg/L	Yes
Ametryn	5	< 0.002	< 0.002	< 0.002	0.07 mg/L	Yes
AMPA	5	< 0.03	< 0.03	< 0.03	N/A	N/A
Atrazine	5	< 0.002	< 0.002	< 0.002	0.02 mg/L	Yes
Bentazone	5	<0.00001	<0.00001	<0.00001	0.4 mg/L	Yes

Parameter	Number of Samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value (mg/L)	Complying with ADWG (Yes/No)
BHC (Alpha Isomer)	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
BHC (Beta Isomer)	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
BHC (Delta Isomer)	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
Bromoxynil	5	<0.00001	<0.00001	<0.00001	0.01 mg/L	Yes
Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
cis-Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
Clopyralid	5	<0.00005	<0.00005	<0.00005	2 mg/L	Yes
DDD	5	< 0.00006	< 0.00006	< 0.00006	N/A	N/A
DDE	5	< 0.00006	< 0.00006	< 0.00006	N/A	N/A
DDT	5	< 0.00006	< 0.00006	< 0.00006	0.009 mg/L	Yes
Dicamba	5	<0.00001	<0.00001	<0.00001	0.1 mg/L	Yes
Dichlorprop	5	<0.00001	<0.00001	<0.00001	0.1 mg/L	Yes
Dieldrin	5	< 0.00001	< 0.00001	< 0.00001	0.0003 mg/L	Yes
Dinoseb	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Endosulphan I	5	< 0.00005	< 0.00005	< 0.00005	0.02 mg/L	Yes
Endosulphan II	5	< 0.00005	< 0.00005	< 0.00005	0.02 mg/L	Yes

Parameter	Number of Samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value (mg/L)	Complying with ADWG (Yes/No)
Endosulphan Sulphate	5	< 0.00005	< 0.00005	< 0.00005	0.02 mg/L	Yes
Endrin	5	< 0.0001	< 0.0001	< 0.0001	N/A	N/A
Endrin Aldehyde	5	< 0.0001	< 0.0001	< 0.0001	N/A	N/A
Endrin Ketone	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
Fluroxypyr	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Glyphosate	5	< 0.03	< 0.03	< 0.03	1 mg/L	Yes
Heptachlor	5	< 0.00005	< 0.00005	< 0.00005	0.0003 mg/L	Yes
Heptachlor epoxide	5	< 0.00005	< 0.00005	< 0.00005	0.0003 mg/L	Yes
Hexachlorobenzene	5	< 0.000002	< 0.000002	< 0.000002	N/A	N/A
Lindane	5	< 0.00005	< 0.00005	< 0.00005	0.01 mg/L	Yes
MCPA	5	<0.00001	<0.00001	<0.00001	0.04 mg/L	Yes
MCPB	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Mecoprop	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Methoxychlor	5	< 0.0002	< 0.0002	< 0.0002	0.3 mg/L	Yes
Oxy-Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
Picloram	5	<0.0001	<0.0001	<0.0001	0.3 mg/L	Yes

Parameter	Number of Samples	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value (mg/L)	Complying with ADWG (Yes/No)
Prometon	5	< 0.002	< 0.002	< 0.002	N/A	N/A
Prometryne	5	< 0.002	< 0.002	< 0.002	N/A	N/A
Propazine	5	< 0.002	< 0.002	< 0.002	0.05 mg/L	Yes
Silvex (2,4,5-TP)	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Simazine	5	< 0.002	< 0.002	< 0.002	0.02 mg/L	Yes
Simetryn	5	< 0.002	< 0.002	< 0.002	N/A	N/A
Terbutylazine	5	< 0.002	< 0.002	< 0.002	0.01 mg/L	Yes
Terbutryn	5	< 0.002	< 0.002	< 0.002	0.4 mg/L	Yes
trans-Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
Triclopyr	5	<0.00001	<0.00001	<0.00001	0.02 mg/L	Yes

Note: N/A indicates that a guideline value has not been set.

Aesthetic characteristics

Colour, pH, iron, alkalinity, and inorganic parameters

The following tables summarise the results of the aesthetic water quality parameters in our monitoring program that don't pose a risk to human health.

We measure these standards against the *Australian Drinking Water Guidelines 2011* criteria if available. Many of these parameters only require infrequent sampling because the results don't vary significantly, from year to year, or from locality to locality, for the same source water.

We compare all our data in the following tables to the previous 2 years' data, with no discernible differences noted in averages when analysed and trended.

All levels have remained consistently below the maximums specified in the *Australian Drinking Water Guidelines 2011* over the 3-year period. Results for 2020–21 and 2021–22 are available in our respective annual water quality reports on our website: southeastwater.com.au

Colour (apparent) results

Colour is caused by dissolved organic matter (humic and fulvic acids), which originate from the soils and decaying vegetation from the catchments. There are 2 ways to measure colour: 'true' colour is measured after filtering the water to remove the particulate matter (turbidity) and 'apparent' colour is measured without filtration and is more like what our customers see. We use apparent colour.

Water sampling locality		Frequency of sampling	Number of samples tested	Minimum HU	Average HU	Maximum HU	Complying with ADWG (Yes/No)
Locality number	Locality name						
360	Balnarring	Fortnightly	26	< 2	< 2	4	Yes
570	Bayswater	Fortnightly	26	< 2	4.0	6	Yes
680	Beaumaris	Fortnightly	26	< 2	< 2	4	Yes
581	Belgrave	Fortnightly	26	< 2	3.8	6	Yes
310	Berwick	Fortnightly	27	< 2	< 2	4	Yes
350	Bittern	Fortnightly	26	< 2	< 2	4	Yes
670	Brighton / Heatherton	Fortnightly	26	< 2	< 2	6	Yes
270	Bunyip	Fortnightly	27	< 2	< 2	6	Yes
322	Carrum Downs	Fortnightly	36	< 2	< 2	2	Yes
610	Caulfield	Fortnightly	26	< 2	3.6	6	Yes
650	Chelsea	Fortnightly	26	< 2	< 2	4	Yes

Water sampling locality		Frequency of sampling	Number of samples tested	Minimum HU	Average HU	Maximum HU	Complying with ADWG (Yes/No)
Locality number	Locality name						
720	Clyde North	Fortnightly	26	< 2	< 2	4	Yes
260	Cora Lynn	Fortnightly	35	< 2	< 2	4	Yes
320	Cranbourne	Fortnightly	53	< 2	< 2	6	Yes
640	Dandenong	Fortnightly	26	< 2	< 2	6	Yes
660	Dandenong North	Fortnightly	28	< 2	4.2	6	Yes
321	Devon Meadows	Fortnightly	26	< 2	< 2	4	Yes
430	Dromana	Fortnightly	27	< 2	< 2	4	Yes
580	Ferntree Gully	Fortnightly	26	< 2	4.3	8	Yes
390	Frankston	Fortnightly	26	< 2	< 2	6	Yes
400	Frankston South	Fortnightly	27	< 2	< 2	4	Yes
271	Garfield	Fortnightly	26	< 2	< 2	4	Yes
630	Hallam	Fortnightly	28	< 2	< 2	4	Yes
340	Hastings	Fortnightly	26	< 2	< 2	4	Yes
323	Karingal	Fortnightly	26	< 2	< 2	4	Yes

Water sampling locality		Frequency of sampling	Number of samples tested	Minimum HU	Average HU	Maximum HU	Complying with ADWG (Yes/No)
Locality number	Locality name						
300	Koo Wee Rup	Fortnightly	27	< 2	< 2	4	Yes
450	Lang	Fortnightly	26	< 2	< 2	6	Yes
710	Moorooduc	Fortnightly	26	< 2	< 2	6	Yes
690	Mordialloc	Fortnightly	29	< 2	< 2	4	Yes
410	Mornington	Fortnightly	28	< 2	< 2	4	Yes
420	Mount Martha	Fortnightly	26	< 2	< 2	4	Yes
290	Pakenham	Fortnightly	26	< 2	< 2	2	Yes
700	Rowville	Fortnightly	38	< 2	2.7	6	Yes
440	Rye	Fortnightly	29	< 2	< 2	4	Yes
370	Shoreham	Fortnightly	26	< 2	< 2	6	Yes
330	Somerville	Fortnightly	27	< 2	< 2	4	Yes
620	South Melbourne	Fortnightly	26	< 2	3.5	6	Yes
280	Tynong	Fortnightly	26	< 2	< 2	4	Yes
311	Upper Beaconsfield	Fortnightly	28	< 2	< 2	4	Yes

Water sampling locality		Frequency of sampling	Number of samples tested	Minimum HU	Average HU	Maximum HU	Complying with ADWG (Yes/No)
Locality number	Locality name						
590	Wantirna	Fortnightly	26	< 2	4.4	8	Yes
	Business Total		1118	< 2	< 2	8	Yes

**Compliance with the ADWG means the upper bound of the 95% confidence interval of the mean is less than the guideline value. The ADWG value is 15 HU for true colour, however as we use apparent colour, there is no limit set. All results are still below the true colour limit.*

pH results

We met the *Australian Drinking Water Guidelines 2011* (ADWG) criteria for pH*, which suggests a pH range of 6.5 to 8.5 and up to 9.2 for areas where new cement-lined pipes are present. Cement-lined pipes are common in our service area.

*pH is a measure of the acidic or alkaline nature of the water.

Water sampling locality		Frequency of sampling	Number of Samples Tested	Minimum (units)	Average (units)	Maximum (units)	Complying with ADWG (Yes / No)
Locality number	Locality name						
360	Balnarring	Fortnightly	26	6.8	7.6	8.0	Yes
570	Bayswater	Fortnightly	53	6.6	7.3	8.4	Yes
680	Beaumaris	Fortnightly	26	7.0	7.3	7.6	Yes
581	Belgrave	Fortnightly	60	7.0	7.5	8.6	Yes
310	Berwick	Fortnightly	27	6.9	7.3	8.1	Yes
350	Bittern	Fortnightly	26	7.2	7.6	8.3	Yes
670	Brighton/Heatherton	Fortnightly	26	6.8	7.3	8.1	Yes
270	Bunyip	Fortnightly	27	7.1	7.5	7.8	Yes
322	Carrum Downs	Fortnightly	36	7.0	7.3	7.6	Yes
610	Caulfield	Fortnightly	26	7.0	7.3	7.5	Yes
650	Chelsea	Fortnightly	26	7.0	7.3	7.6	Yes
720	Clyde North	Fortnightly	26	6.9	7.2	7.7	Yes
260	Cora Lynn	Fortnightly	35	7.3	7.5	7.8	Yes
320	Cranbourne	Fortnightly	53	6.9	7.3	7.8	Yes
640	Dandenong	Fortnightly	26	7.0	7.3	7.5	Yes
660	Dandenong North	Fortnightly	28	6.9	7.4	7.7	Yes
321	Devon Meadows	Fortnightly	26	7.1	7.4	7.9	Yes
430	Dromana	Fortnightly	27	7.2	7.5	7.9	Yes
580	Ferntree Gully	Fortnightly	26	7.1	7.5	9.1	Yes
390	Frankston	Fortnightly	26	7.0	7.4	7.7	Yes
400	Frankston South	Fortnightly	27	7.0	7.5	7.8	Yes
271	Garfield	Fortnightly	26	7.0	7.5	7.9	Yes

Water sampling locality		Frequency of sampling	Number of Samples Tested	Minimum (units)	Average (units)	Maximum (units)	Complying with ADWG (Yes / No)
Locality number	Locality name						
630	Hallam	Fortnightly	28	6.8	7.3	7.6	Yes
340	Hastings	Fortnightly	26	7.2	7.4	7.8	Yes
323	Karingal	Fortnightly	26	7.0	7.4	7.6	Yes
300	Koo Wee Rup	Fortnightly	49	7.2	7.5	7.9	Yes
450	Lang Lang	Fortnightly	26	7.2	7.6	7.8	Yes
710	Moorooduc	Fortnightly	26	7.0	7.4	7.7	Yes
690	Mordialloc	Fortnightly	29	6.9	7.4	7.8	Yes
410	Mornington	Fortnightly	28	7.1	7.5	7.8	Yes
420	Mount Martha	Fortnightly	68	6.8	7.4	8.0	Yes
290	Pakenham	Fortnightly	26	6.8	7.2	7.6	Yes
700	Rowville	Fortnightly	38	7.0	7.4	7.9	Yes
440	Rye	Fortnightly	29	7.3	7.6	8.0	Yes
370	Shoreham	Fortnightly	26	7.2	7.8	8.8	Yes
330	Somerville	Fortnightly	27	7.0	7.3	7.6	Yes
620	South Melbourne	Fortnightly	26	6.9	7.2	7.5	Yes
280	Tynong	Fortnightly	26	7.2	7.5	7.9	Yes
311	Upper Beaconsfield	Fortnightly	28	6.8	7.5	7.8	Yes
590	Wantirna	Fortnightly	26	7.2	7.4	7.8	Yes
	Business Total		1243	6.6	7.4	9.1	Yes

Iron results

We met the *Australian Drinking Water Guidelines 2011* criteria for iron, which suggests an aesthetic limit of 0.3mg/L.

Iron occurs naturally in the water from the catchment area soils. Iron can discolour the water and cause staining problems for plumbing fixtures and laundry.

Water sampling locality		Frequency of sampling	Number of Samples Tested	Minimum (units)	Average (units)	Maximum (units)	Complying with ADWG (Yes / No)
Locality number	Locality name						
360	Balnarring	Fortnightly	26	0.01	0.02	0.07	Yes
570	Bayswater	Fortnightly	26	0.04	0.07	0.09	Yes
680	Beaumaris	Fortnightly	26	0.02	0.02	0.04	Yes
581	Belgrave	Fortnightly	26	<0.01	0.07	0.09	Yes
310	Berwick	Fortnightly	27	0.01	0.02	0.08	Yes
350	Bittern	Fortnightly	26	0.01	0.02	0.03	Yes
670	Brighton / Heatherton	Fortnightly	26	0.02	0.03	0.07	Yes
270	Bunyip	Fortnightly	27	<0.01	<0.01	0.09	Yes
322	Carrum Downs	Fortnightly	25	0.02	0.02	0.04	Yes
610	Caulfield	Fortnightly	26	0.05	0.07	0.11	Yes
650	Chelsea	Fortnightly	26	0.02	0.03	0.04	Yes
720	Clyde North	Fortnightly	26	0.01	0.02	0.04	Yes
260	Cora Lynn	Fortnightly	26	<0.01	<0.01	0.02	Yes
320	Cranbourne	Fortnightly	26	0.01	0.02	0.04	Yes
640	Dandenong	Fortnightly	26	0.02	0.03	0.08	Yes
660	Dandenong North	Fortnightly	28	0.06	0.07	0.15	Yes
321	Devon Meadows	Fortnightly	26	0.01	0.02	0.04	Yes
430	Dromana	Fortnightly	26	0.01	0.02	0.03	Yes
580	Ferntree Gully	Fortnightly	26	<0.01	0.07	0.09	Yes
390	Frankston	Fortnightly	26	0.01	0.03	0.14	Yes
400	Frankston South	Fortnightly	27	0.02	0.02	0.03	Yes
271	Garfield	Fortnightly	26	<0.01	<0.01	0.01	Yes
630	Hallam	Fortnightly	28	0.01	0.02	0.04	Yes
340	Hastings	Fortnightly	26	0.01	0.02	0.03	Yes

Water sampling locality		Frequency of sampling	Number of Samples Tested	Minimum (units)	Average (units)	Maximum (units)	Complying with ADWG (Yes / No)
Locality number	Locality name						
323	Karingal	Fortnightly	26	0.01	0.02	0.03	Yes
300	Koo Wee Rup	Fortnightly	27	<0.01	<0.01	0.02	Yes
450	Lang Lang	Fortnightly	26	<0.01	0.01	0.02	Yes
710	Moorooduc	Fortnightly	26	<0.01	0.02	0.04	Yes
690	Mordialloc	Fortnightly	29	0.02	0.03	0.04	Yes
410	Mornington	Fortnightly	28	0.01	0.02	0.02	Yes
420	Mount Martha	Fortnightly	26	0.01	0.02	0.03	Yes
290	Pakenham	Fortnightly	26	0.01	0.02	0.04	Yes
700	Rowville	Fortnightly	26	0.01	0.06	0.25	Yes
440	Rye	Fortnightly	29	0.01	0.02	0.03	Yes
370	Shoreham	Fortnightly	26	0.01	0.02	0.04	Yes
330	Somerville	Fortnightly	27	0.01	0.02	0.04	Yes
620	South Melbourne	Fortnightly	26	0.04	0.06	0.08	Yes
280	Tynong	Fortnightly	26	<0.01	<0.01	0.01	Yes
311	Upper Beaconsfield	Fortnightly	28	0.01	0.02	0.04	Yes
590	Wantirna	Fortnightly	26	0.06	0.07	0.10	Yes
	Business Total		1058	<0.01	0.03	0.25	Yes

Alkalinity results

Alkalinity is a measure of the water's ability to maintain a balanced pH. pH is an important factor in water quality and measuring alkalinity as it provides additional useful information on how pH is likely to change within the system. Melbourne's water supplies typically have low alkalinity. We measure alkalinity as mg/L of calcium carbonate equivalent. To minimise undesirable build-up of scale in hot water systems, total hardness (as calcium carbonate) in drinking water should not exceed 200 mg/L.

Water sampling locality		Number of Samples Tested	Minimum mg/L	Average mg/L	Maximum mg/L	Complying with ADWG (Yes/No)
Locality number	Locality name					
581	Belgrave	1	0	14	14	Yes
350	Bittern	1	0	22	22	Yes
670	Brighton / Heatherton	2	0	20	20	Yes
610	Caulfield	1	0	12	12	Yes
650	Chelsea	1	0	19	19	Yes
720	Clyde North	1	0	19	19	Yes
660	Dandenong North	1	0	9	9	Yes
321	Devon Meadows	1	0	22	22	Yes
580	Ferntree Gully	1	0	10	10	Yes
690	Mordialloc	1	0	22	22	Yes
700	Rowville	1	0	22	22	Yes
620	South Melbourne	2	0	12	12	Yes

590	Wantirna	1	0	12	12	Yes
	Business Total	15	0	17	22	Yes

Regulatory reporting to the Department of Health

Section 22 reports

Section 22 of the Act:

‘(1) This section applies if an officer of a water supplier believes or suspects, on reasonable grounds that water supplied, or to be supplied, for drinking purposes –

- a. May be the cause of an illness; or*
- b. May be the means by which an illness is being, has been or will be, transmitted; or*
- c. May contain any pathogen, substance, chemical or blue-green algae toxin, whether alone or in combination, at levels that may pose a risk to human health; or*
- d. May cause widespread public complaint.’*

‘(2) On forming that belief or suspicion, the officer must immediately report his or her belief or suspicion to the Secretary, and must make the report in the form required by the Secretary.’

During 2022–23, we reported 4 water quality events to the Department of Health pursuant to Section 22 of the Act.

Two Section 22 reports were due to *E. coli* detections, in Upwey and Pearcedale; however, both were found to be false positive. A **false positive sample** means a sample that is found, after analysis conducted in accordance with regulation 14 met all circumstances, isn't representative of the water supplied in that locality. A common example of this could be sample contamination from the sample tap assembly, or contamination during the sampling process.

One of the Section 22 reports originated as a consequence of a main break in Bunyip, which had the potential for a depressurised water supply network, but South East Water was able to maintain pressure within the system.

One Section 22 resulted in a Section 18 notification due to an *E. coli* detection in a tank located in The Basin.

Upwey *E. coli* detection

A routine sample collected on 5 December 2022, from a sample tap at our Upwey Elevated Tank, returned a positive *E. coli* result of 2 orgs/100mL. The sample also returned results of 15 orgs/100mL Coliforms, with 0.54mg/L and 0.65mg/L of free and total chlorine respectively. South East Water's Ferntree Gully Tank supplies the Upwey Elevated Tank. The Ferntree Gully tank water undergoes secondary disinfection at the outlet as it pumps to the Upwey Elevated Tank.

Microbiological sampling undertaken at several sites on the same day, both upstream and downstream of the detection sample location, were high in chlorine and negative for *E. coli* and coliforms. Nevertheless, the Upwey Elevated Tank was isolated on the same day and

multiple samples were taken upstream and downstream. The resample results were all negative showing no presence of *E. coli* / *coliforms*. All upstream treatment processes and storage tanks were checked and were verified to be in good condition.

On the day of the incident, the sample tap was located in a box, but the gooseneck connection (used for sampling) was extended outside of the cabinet during the sampling. It is believed that this situation provided an opportunity for the contamination of the sample water with rainwater dropping off the overhead structure. South East Water has replaced the sample tap box with a more suitable box. We've also commenced a program to install all sample taps at tank sites in a protected sample tap box with a fixed gooseneck assembly to prevent any repeats of sample tap contamination at tank sites.

Our investigation and consultation with the Department of Health suggested that the result collected on 5 December was a false positive sample and therefore not representative of the water supply.

Pearcedale *E. coli* detection

A routine sample collected on 14 April 2023 from a sample tap in Pearcedale returned a positive *E. coli* result of 1 org/100mL. Water supplied to the sample tap in Pearcedale and the surrounding Cranbourne locality comes directly from Melbourne Water's Cardinia Reservoir via the Cranbourne Pipeline.

On the same day of the positive sample, other samples were also collected in the same area and from the entry point into the supply zone. All other results were clear of *E. coli*.

The results for the sample tap showed no chlorine residual, which was unusual for this tap and area, particularly with all other results showing a much higher chlorine residual.

Water quality field team members attended site and immediately noticed that the customer's stop tap was turned off. This prevents water from our water main entering the property and more importantly, prevents mains water from being supplied to the sample tap assembly.

A thorough investigation on site determined that the customer had rainwater tanks on site that were connected to their internal water supply, and this is what had been sampled with the positive *E. coli* detection.

This assumption was further confirmed when the original sample was tested for fluoride, with no fluoride detected (fluoride is an indicator of potable water, not rainwater).

The area was resampled with upstream sample taps and other sample taps in the area, as well as the original site with the supply turned on. All results were clear of *E. coli*.

Due to this anomaly, South East Water has investigated water usage at all of our customer sample tap locations, to ensure all sample taps are on mains water supply, and not located at a property with an alternative water supply.

Due to the results, our investigation and consultation with the Department of Health, the sample collected on 14 April was deemed a false positive sample and therefore not representative of the water supply.

Bunyip main break event

A significant water main burst occurred in the township of Bunyip in the early hours of the morning on 12 April 2023. The Bunyip High Level Tank was reduced to half its capacity during this event, resulting in a pressure reduction within the Bunyip and Longwarry distribution network.

Immediately, an alternative water source was brought from the Garfield distribution network along with water tankers strategically located to assist with maintaining water supply and pressure in the network.

The primary concern with an effectively depressurised network is the potential for material to enter the network, resulting in unsafe drinking water being supplied to customers, therefore the key focus was to establish hydraulic pressure trending within the network by utilising the SCADA system. Pressure monitoring continued during the event, showing that positive pressure was maintained even at the extremes of the network where elevation was greatest, preventing any unwanted material entering the network. This was also confirmed by operational personnel on site testing water pressure at customer taps at these locations.

In addition to pressure monitoring, 4 samples from Bunyip and 4 samples from Longwarry distribution networks were taken for microbial testing at the day of incident. No *E. coli*, coliforms or plate count were detected in the 8 samples, adding further evidence that no material entered the network during this incident. Healthy levels of free chlorine within the distribution network also provided the advantage of additional disinfection should any bacterial contamination have occurred, with average free chlorine identified in Bunyip and Longwarry measured as 0.51mg/L, and 0.44mg/L respectively.

The Department of Health was notified, and a rapid risk assessment to determine potential public health risks was submitted for review. All the evidence provided was taken into consideration, leading both parties to conclude that there was low risk to public health resulting from this event.

As a result of this incident, we're now investigating the option of providing an alternative supply into this area, which will prevent a repeat of this incident in the event of another burst.

The Basin Elevated Tank *E. coli* detection

A routine sample taken on 10 February 2023 from a sample tap at The Basin Elevated Tank returned a positive *E. coli* result of 2 orgs/100mL.

This incident resulted in a Section 18 notification as a pre-flush sample taken from a customer tap within the distribution returned a positive *E. coli* result. Details of this incident can be found under the Section 18 notifications below.

Section 18 Notifications

Section 18 of the Act:

‘A water supplier must notify the Secretary in writing if it becomes aware that the drinking water it is supplying to another person does not comply, or is not likely to comply, with any relevant water quality standard and must do so within 10 days after it becomes aware of that fact.’

During 2022–23, one water quality event was reported to the Department of Health pursuant to Section 18 of the Act as detailed below.

The Basin Elevated Tank *E. coli* detection

A routine sample collected on 10 February 2023 returned an *E. coli* result of 2 orgs/100mL from a sample tap located at The Basin Elevated Tank outlet. Other samples collected on the same day from the upstream tank and the water supply network were all clear of *E. coli*.

Water supplied to The Basin Elevated Tank comes from Melbourne Water’s Silvan Reservoir. Silvan water supplies Melbourne Water’s Boronia Reservoir, which has secondary disinfection on the reservoir outlet. It’s then transferred to our The Basin No.2 Tank which then pumps water to The Basin Elevated Tank.

This area has historically had low chlorine residuals.

Once notified of the results, re-samples were collected from The Basin Elevated Tank, as well as upstream and in the elevated tank supply network.

The Basin Elevated Tank was then isolated from supplying the network, with the customers being supplied from The Basin No. 2 Tank instead, which was spot dosed with chlorine to improve residuals in the area.

The water supply area was thoroughly flushed, with post-corrective action samples then collected from the same taps.

The following day the results were received, with one customer sample tap in the pre-flush samples returning a positive result for *E. coli* of 2 orgs/100mL. All other samples were clear.

All post-flush samples were clear of *E. coli*.

The Basin Elevated tank was then drained, cleaned, and inspected. No cause of contamination was determined, however based on the resample results, it is believed to have been a real contamination event.

After the tank had been cleaned and a reinstatement plan approved, including testing of the tank, it was reinstated back into supply.

A secondary chlorination unit has been installed in this area, increasing the chlorine residuals in the tank and the water supply network.

Other incidents reported to the Department of Health

There were other incidents reported to the Department of Health that did not fall under a regulatory Section 22 disclosure and reporting requirements, as they were not from our supply network, rather they were private water service internal contamination issues that South East Water provided advice and assistance with. We consulted with the Department of Health about these internal contamination incidents as they could impact on public health.

Community hub internal cross connection with recycled water

On 15 December 2022, in response to a water quality complaint, an internal cross connection with recycled water was discovered at a community hub in the south-east area, supplying a recreation centre and canteen.

The recycled water supply was immediately isolated, and an investigation conducted.

The recycled water cross connection was determined to be isolated to one set of toilets and a kitchen on one side of the community hub facility.

Water testing in all other parts of the building and the broader school showed no sign of recycled water in other locations.

The plumber onsite connected both feeds into the community hub to drinking water. With our assistance, he then flushed this water through to all relevant water fixtures, including the hot water service.

We then took water samples from several taps, with the water to the affected taps turned off until clear results were achieved.

Once clear results were received, the supply was able to be reinstated to the affected areas.

Pakenham internal contamination

On 19 May 2023, we attended to a taste and odour complaint at a group of factories in Pakenham. This comprised 12 factories all supplied from an internal privately-owned ring main, with a suspected petrochemical contamination of their internal water supply.

The inspection by the water quality technician revealed strong hydrocarbon odours at several factories.

The garden tap adjacent to the water meter (the meter outlet being the extent of our asset responsibility) had no odour or taste. The hydrant out the front of the property, located on our water main, was also checked with no odour detected.

A low hazard dual check backflow device was present after the water meter. The backflow device was replaced with a high hazard device by the owners corporation at our request.

The technician then found barrels of chemicals including paint thinner sitting outdoors behind one of the factories, assumed to be illegally dumped by an unknown person. An

inspection of the drums showed they were leaking out of the bottom and the area smelled strongly of thinners.

The original plumber was contacted, who confirmed that the internal pipework was polyethylene pipe.

We notified the owners corporation to advise them about the issue, including the need to notify occupants not to consume the water or use it for washing purposes. The water was for toilet flushing only.

Water quality testing was conducted, with a number of factories sampled, as well as at the meter coming into supply, and also from a hydrant on our water main.

The results of the water sampling were received a few days later, confirming that there was no petrochemical detection in our supply main, but there were petrochemical compounds detected in the private main. The factory with the dumped barrels yielded the higher concentrations within the complex, albeit none of the parameters exceeding ADWG health limits.

The occupants at the property were all notified of the issue, with water quality results showing no contamination within our network.

In our view, the contamination was caused by petrochemicals leaching through the wall of the medium density polyethylene internal plumbing pipework, most likely from the leaking barrels on site. We provided assistance and advice to the owners corporation upon request while they undertook their own investigation and fixed the issue.

Fresh fruit and meat market

An odour complaint from the water supply was received from a fresh fruit and meat market located in our supply area on 8 June 2023. We investigated the complaint, and one of our water quality technicians on site confirmed that there was an odour in the toilets and from some of the internal taps on the hand wash basins. There was no market on that day, only preparatory activities for opening in the next 2 days.

Due to the strong odour from the water, the issue was escalated immediately within South East Water and the local council and market, with a council-led incident team quickly assembled.

South East Water plumbers attended site and aided in identifying the cause of the contamination.

During an onsite inspection of the roof and the rainwater tanks on site, several dead birds and silt/dirt was found in the areas used for harvesting rainwater. It appeared that the previous night's heavy rain event washed a significant amount of silt into the rainwater tanks. There also appeared to be a backflow prevention failure in the private plumbing between the rainwater tank supply and the top-up/back-up drinking water supply pipes.

Our laboratory partners took samples internally (private plumbing) and externally (our network) and confirmed chlorine residual was present on the network side, and no chlorine residual on the internal side.

Backflow protection at the meter assembly on the single supply point was present and was 'in test' i.e., within the acceptable period between testing, and providing a barrier between our network and the internal plumbing.

Our Water Inspection & Compliance and Water Quality teams assisted council health officers and management onsite to isolate the contamination. The internal drinking water plumbing was isolated from the rainwater tank, taps opened, and the internal drinking water system was flushed. Chlorine residual levels noticeably increased once the rainwater tank was isolated.

All vendors were called in to open their stalls that night, to assist with flushing through all internal pipework.

We also assisted the council with messaging to ensure all vendors and visitors to the site were well informed.

Due to the nature of the contamination, and with our advice, council made the decision to close the market the next day.

This was confirmed as the correct decision based on preliminary results from the samples collected prior to isolating and flushing the internal supply.

A risk assessment was conducted on site, with the roof inspected. The risk was determined to be bird contamination from the high bird population on the roof.

All the internal pipework was then flushed for hours, with chlorine residual readings being taken at all extremities of the system. Two rounds of sampling were conducted, with flushing continuing in between the sampling.

After receiving 2 consecutive rounds of sampling with all clear results, the market was able to re-open.

Water quality complaints and enquiries

Our water quality complaints have increased since previous years of reporting. This is due to us expanding the definition of a 'complaint', in line with the Essential Services Commission's advice, to include all enquiries in our reported complaint numbers. Under a previous definition, a complaint was only recorded when an action was required. The updated definition includes examples where information passed over the phone and recorded as an enquiry is now counted as a complaint.

Under the Essential Services Commission Water Industry Standard, a complaint is defined as:

“a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by a water business, its employees or contractors, requiring a resolution (as per AS/NZS 10002:2022)”.

An enquiry is defined by the same standard as:

“a written or verbal approach by a customer which can be satisfied by the water business providing written or verbal information, advice, assistance, clarification, explanation or referral about a matter”.

Due to this change, our complaint and enquiry results exceeded the Essential Services Commission target (0.27 per 100 properties), with a yearly result of 0.29 per 100 properties.

The table below compares complaints for previous years.

Type of complaint	Number of complaints			Comparison with previous reporting periods	Comments
	2020–21	2021–22	2022–23 ⁴		
Alleged illness	16	13	26	Increased from previous reporting periods.	All illness complaints were investigated thoroughly. No illness complaints have been found to be attributed to the water supply.
Dirty water (Brown, Blue, Black, Yellow)	604	600	1880 (840 complaints; 1040 enquiries)	Increase in number of complaints from previous year due primarily to inclusion of enquiries.	Brown / black water can be caused by resuspending the natural sediment in pipes after water supply disruption; we worked closely with our maintenance team and contractors to reduce this. Blue and yellow water are caused by old copper / galvanised pipes which is common in Melbourne homes.
Taste and odour	234	230	242	Slight increase compared to the last year.	Most of these complaints are attributed to chlorine.

⁴ This financial year's results are compiled of complaints and enquires received, compared to only complaints in previous financial years.

Type of complaint	Number of complaints			Comparison with previous reporting periods	Comments
	2020–21	2021–22	2022–23 ⁴		
					Due to our chlorination strategy, we have seen an increase in chlorine residuals across our entire network. While we have worked hard to make the changes slowly, some customers have noticed the change.
White water	106	61	88	Increase from previous year.	White water is due to entrapped air which occurs mostly when a main is recharged following leak repairs or other work. We worked closely with the maintenance team to reduce these events.
Other	48	62	152 (77 complaints; 75 enquiries)	Increase from previous reporting periods due to inclusion of enquiries.	These complaints cover broad types of enquiries, from pH to requests for data.
Total	1008	966	2388		

We try to minimise the number of complaints we receive by:

- responding to water quality complaints in a timely manner.
- ensuring all major shutdowns are conducted at night to reduce impact on the system.
- working closely with our contractor to improve the shutdown and recharging of water mains following bursts.
- working with the water carters to ensure only correct hydrants are used to fill the tankers.
- maintaining a fully closed system.
- working closely with our wholesaler, Melbourne Water, to ensure all major construction works have minimal impact on water quality.
- using secondary chlorinators for low level secondary disinfection.
- using COLT units at key locations around our system.
- using a water quality alert system to provide early warnings of potential incidents.
- ensuring all new mains are swabbed, flushed, and chlorinated where required and tested for several key water quality parameters by an independent laboratory so that we start with a clean asset before connections are made.

Our dedicated and highly trained Contact Centre team members handle all customer complaints about water quality. In all instances, the nature of the complaint determines our response, ranging from detailed investigative work to providing technical information.

Our specialised field employees respond to customer complaints with appropriate knowledge and skills to ensure customer satisfaction.

The following table shows a summary of all water quality complaints by water sampling locality.

Responding to our customers (continued)

Locality number	Locality name	Customer count ⁵	Brown	Blue	Black	White ⁶	Yellow	Chlorine	Earthy	Musty	Petro-chemical	Stale	Other taste and odour	Suspect illness	Other	Reporting Total	Complaints (per 100 customers)
260	Cora Lynn	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
270	Bunyip	2,154	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.09
271	Garfield	833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
280	Tynong	728	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.14
290	Pakenham	21,026	56	0	0	2	0	1	0	0	5	2	1	1	6	74	0.35
300	Koo-Wee-Rup	1,486	6	0	0	0	0	1	0	0	0	0	0	0	0	7	0.47
310	Berwick	56,360	164	3	2	15	2	9	3	2	2	0	9	0	9	220	0.39
311	Upper Beaconsfield	934	3	0	0	2	0	1	0	0	0	0	0	1	0	7	0.75
320	Cranbourne	35,325	182	0	1	8	0	2	2	0	0	0	8	3	15	221	0.63
321	Devon Meadows	6,300	2	0	0	0	0	3	0	1	0	0	0	0	1	7	0.11
322	Carrum Downs	13,719	40	0	0	2	0	5	0	1	1	0	1	0	3	53	0.39
323	Karingal	4,937	6	0	0	0	0	0	1	1	0	1	1	0	3	13	0.26
330	Somerville	7,627	23	0	0	2	1	1	0	0	0	0	3	1	0	31	0.41
340	Hastings	5,333	5	0	0	0	0	2	0	0	0	0	0	0	0	7	0.13
350	Bittern	2,625	3	0	0	0	0	0	0	0	0	0	1	0	1	5	0.19
360	Balnarring	2,781	3	0	0	0	1	0	0	0	0	0	0	0	0	4	0.14
370	Shoreham	1,601	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0.19
390	Frankston	41,793	71	3	0	6	2	3	0	2	0	0	3	0	8	98	0.23
400	Frankston Sth	6,222	21	0	0	1	0	1	0	0	0	1	0	0	2	26	0.42

⁵ Customer count refers to property connections.

⁶ White water is caused by trapped air in pressurised mains.

Locality number	Locality name	Customer count ⁵	Brown	Blue	Black	White ⁶	Yellow	Chlorine	Earthy	Musty	Petro-chemical	Stale	Other taste and odour	Suspect illness	Other	Reporting Total	Complaints (per 100 customers)
410	Mornington	20,992	32	0	0	2	0	3	2	1	3	1	1	0	2	47	0.22
420	Mount Martha	4,605	11	0	0	0	0	1	0	0	0	0	1	0	0	13	0.28
430	Dromana	10,250	20	1	0	0	0	1	0	0	1	0	0	0	0	23	0.22
440	Rye	35,885	45	0	0	1	0	3	0	0	1	0	4	2	1	57	0.16
450	Lang Lang	1,211	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.08
570	Bayswater	31,642	146	0	0	16	10	12	1	0	0	0	6	1	6	198	0.63
580	Ferntree Gully	10,087	29	0	0	2	0	2	0	0	1	0	0	0	0	34	0.34
581	Belgrave	6,781	33	0	0	1	1	0	0	0	0	0	1	0	2	38	0.56
590	Wantirna	11,401	52	0	0	0	0	0	0	0	0	0	1	0	2	55	0.48
610	Caulfield	85,146	213	6	0	4	6	2	0	1	2	0	6	3	26	269	0.32
620	South Melbourne	105,530	77	1	0	1	3	3	0	1	1	0	3	4	10	104	0.10
630	Hallam	31,930	101	2	0	2	2	5	2	1	1	0	3	2	8	129	0.40
640	Dandenong	58,135	103	1	0	1	3	4	4	3	0	1	5	3	6	134	0.23
650	Chelsea	23,354	40	3	0	1	0	4	0	0	2	0	1	1	3	55	0.24
660	Dandenong Nth	12,138	47	0	1	7	0	1	0	0	0	0	1	0	3	60	0.49
670	Brighton / Heatherton	103,976	173	12	0	9	11	16	1	0	2	0	11	2	22	259	0.25
680	Beaumaris	13,350	17	1	0	0	2	4	0	0	0	0	1	0	5	30	0.22
690	Mordialloc	15,296	26	1	0	0	1	0	0	0	1	0	2	0	2	33	0.22
700	Rowville	14,564	25	0	0	0	0	5	0	1	0	0	2	0	2	35	0.24
710	Moorooduc	58	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1.72
720	Clyde North	15,597	18	0	0	1	0	2	0	0	0	1	6	2	4	34	0.22
Business total		824,094	1797	34	4	88	45	98	16	15	24	7	82	26	152	2388	0.29

Discoloured water complaints

We enjoy high-quality water from our catchments, and carefully treat it before we send it out into our network. Much of Melbourne's water supplied into our pipeline system is unfiltered, which means some harmless natural sedimentation can occur in the pipes.

We attribute most discoloured water complaints received during 2022–23 to increases in the flow of water through the main, or a reversal of the flow direction within the main. This can disturb the fine sediment material from the source water, which can settle in the main during periods of low flow. A change of the flow in the main can stir up sediment and cause discoloured water.

Most discoloured water complaints are a result of emergency works. We're committed to meeting the needs and expectations of our customers and engaging with our community. When we receive complaints relating to a burst or damaged water main, we respond by communicating why the water is discoloured and how we'll resolve the problem. We respond by flushing the water main if the water is still discoloured, usually targeting dead-end streets where water does not move through the system as frequently.

Taste and odour complaints

Taste and odour complaints are generally related to chlorine. These complaints can vary with seasonal water demands and the location of the customer's property.

The chlorination process can lead to noticeable, yet harmless, tastes and odours if the chlorine reacts with organic matter present in the pipe. Chlorine has been used effectively around the world for more than 100 years as part of the water treatment process and the amount of chlorine added is minimal.

While we regularly monitor the drinking water supply, it's not possible to accurately predict the occurrence of taste and odour problems. However, once reported by customers, or detected by our employees, we investigate the issue to devise a prompt resolution.

Blue water

Blue water is caused by the release of copper into water passing through copper pipe, resulting in the water appearing blue. All blue water related complaints received in 2022–23 were associated with corrosion of the copper pipe within a customer's property or service pipe. We investigate these complaints, and we provide our customers with up-to-date information on this issue.

Alleged illness complaints

Alleged illness complaints are received from customers who suspect their water supply may be associated with an illness they are experiencing. We investigate each complaint relating to alleged illness from our water quality with care and concern, inviting the Department of Health to assist where appropriate.

During 2022–23 there were no confirmed cases of illness arising from our water supply system.

Other complaints

Other water quality complaints received were either from industrial customers concerned about water quality issues that could affect their processes (e.g., pH), or residential customers with concerns about water quality such as discolouration of appliances and issues with aquariums.

Glossary/acronyms

ADWG	Australian Drinking Water Guidelines 2011⁷
COLT	Continuous online testing
<i>E. coli</i>	Escherichia coli
HACCP	Hazard Analysis and Critical Control Point
HU	Hazen Units
mg/L	Milligrams per litre
mL	Millilitres
NTU	Nephelometric Turbidity Units
PRV	Pressure Reducing Valve
The Act	Safe Drinking Water Act 2003
The Regulations	Safe Drinking Water Regulations 2015
WTP	Water Treatment Plant

Primary disinfection refers to the initial disinfection treatment before water is supplied to customers, usually when water leaves an open storage such as Cardinia Reservoir.

Secondary disinfection refers to additional or booster disinfection treatment within the distribution system, usually a long time after primary disinfection. For example, secondary disinfection occurs towards the end of the distribution system where the residual from the primary disinfection has diminished.

⁷ The *Australian Drinking Water Guidelines 2011* is freely available on the National Health and Medical Research Council website: www.nhmrc.gov.au/guidelines/publications/eh52

Appendix A

Risk Management Plan Audit Certificate

Regulation 10

Schedule 1- Risk Management Plan Audit Certificate

Safe Drinking Water Regulations 2015

Certificate Number: 198

Audit Period: 1 January 2021 to 31 December 2022.

To: Mr Paul Jones
Water Quality Manager
WatersEdge 101 Wells Street
Frankston Vic 3199

Australian Business Number (ABN): 89 066 902 547

I, Sophia Dellis, after conducting a risk management plan audit of the water supplied by South East Water Corporation, am of the opinion that:

South East Water Corporation has not complied with obligations imposed by Section 7 (1) of the **Safe Drinking Water Act 2003** during the audit period.

The details for the reasons for the noncompliance are-

Issue	ADWG Framework for drinking water quality reference	Safe Drinking Water Regulations 2015 reference	Finding	Summary
Storage Tank Integrity	<p>3.2.3 Hazard identification and risk assessment.</p> <p>3.3.1 Preventive measures and multiple barriers.</p>	<p>s.9(1) (c)</p> <p>s.9 (1)(d)</p>	Major Noncompliance	<p>The audit sample identified a high level of concern for the management and maintenance of the identified risks for storage tanks. The risks to storage tanks and preventive measures have been detailed in the DW HACCP plan, however during the audit I was not satisfied that the preventative measures are being implemented in all cases.</p> <p>The auditees at the time of the audit could not provide a risk analysis/assessment for each storage tank to determine when the tanks should be cleaned or inspected. A tank cleaning schedule was provided; however, the schedule demonstrates that the tank cleans are not complying with SEW's procedure which states that tanks shall be cleaned every 5 years. There is also evidence that the Koo Wee Rup tank has a 10-year gap between cleaning and was cleaned as a reactive measure due to the <i>E.coli</i> detection.</p> <p>The current tank inspection checklist is focused on monitoring the security level onsite with limited water quality focus.</p> <p>Interviews with the water operators onsite revealed that tank inspections are not being conducted due to safety concerns and appropriate safety equipment not being available at McKenzie Rd, Koo Wee Rup High Level, Upwey, and Cook St tanks for the month of January, the 10 critical tanks had not been inspected due to a lack of resources, the information provided to the auditor did not align with the interview conversations onsite.</p> <p>Considering there have been <i>E. coli</i> incidents at tanks from 2021 with issues identified related to the maintenance of tanks, and despite the actions that have</p>

Issue	ADWG Framework for drinking water quality reference	Safe Drinking Water Regulations 2015 reference	Finding	Summary
				<p>been undertaken, including those within the Chlorination Strategy, there seems to have not been sufficient progress to manage the risks associated with tank inspection and cleaning. Given this, there is a high potential for a risk situation and that risk is likely to compromise public health.</p>
<p>Unreliability of Water Quality Management System (WQMS)</p>	<p>3.2.2 Assessment of water quality data.</p> <p>3.3.1 Preventive measures and multiple barriers.</p>	<p>r. 8(3)</p> <p>s. 9(1)(b)</p> <p>s.9 (1)(d)</p>	<p>Minor Noncompliance</p>	<p>The Water Quality Management System does not have technical internal IT support to maintain its functionality. The system is critical to monitor water quality and provide alerts for exceedances of water quality parameters. The Water Quality team has limited capability to make changes to the database, as a result the WQ team are unable to update the Water Quality Management System without external support. There is reliance on external consultant to provide ongoing system support for daily issues or system alterations. There already has been an instance where the system was inaccessible due to the rollout of the Microsoft 365 Office software suite. If there was an exceedance during this time, the water quality team would need to rely on manual notification between South East Water and the laboratory to manage the event. This system has been identified for replacement with funds sought in the recent pricing submission for the period commencing July 2023-2028. However, no evidence of meetings to indicate the WQMS will be prioritised for replacement within the next 12 months.</p> <p>It is imperative that either internal technical assistance be provided or the system be migrated to platforms within SE Water.</p>

Date: 6th March 2023

Signature of Approved Auditor



Sophia Dellis

Healthy Water. For Life.

How to get in touch

Email support@southeastwater.com.au

General account enquiries 13 18 51

South East Water Assist 03 9552 3540

Hearing and speech impaired services

TTY 13 36 77 (ask for 13 18 51)

Interpreter service (all languages) 03 9209 0130

Follow us

