

# Drinking Water Quality

## Annual Report 2020-21



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## Authorisation

I authorise the use of this report in the Department of Health Annual Report and made freely available on Westernport Water's website – [www.westernportwater.com.au](http://www.westernportwater.com.au)



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# Introduction

## Westernport Water Overview

Westernport Region Water Corporation (WPW) provides water and wastewater services in an economically, environmentally and socially sustainable manner to customers within its service area.

WPW services Phillip Island and an area of the mainland from The Gurdies to Archies Creek. Individual towns that are provided with drinking water include Bass, Grantville, Corinella, Kilcunda, Dalyston, San Remo, Cape Woolamai, Rhyll, Cowes and Ventnor. A map of the service area is included in this report as Figure 1.

## Aims and Objectives of this Report

Under section 26 of the *Safe Drinking Water Act 2003* (SDWA), WPW is required to provide the Department of Health (DoH) with an annual report on the quality of drinking water supplied to its customers.

The aim of this report is to provide all stakeholders, including the community, with water quality information compliant with Section 26 of the SDWA. The report covers the period of 1 July 2020 to June 30 2021 and covers issues relating to the quality and management of drinking water.

## Westernport Water's Commitment to Drinking Water Quality

WPW is committed to a comprehensive risk management approach to the safe provision of drinking water to its customers. This is achieved through the adoption of the framework for the management of drinking water quality outlined in the Australian Drinking Water Guidelines 2011, (ADWG) and implemented through continual review and improvement of WPW's Water Quality Risk Management Plan (WQRMP).

WPW's commitment to drinking water quality is supported by its drinking water quality policy (endorsed by the Executive and Board). The policy demonstrates WPW's long-term commitment to the development and implementation of an effective system for drinking water quality management.

## 2020-21 Performance

WPW met all its obligations to provide water compliant with the *Safe Drinking Water Act 2003* and *Safe Drinking Water Regulation 2015* throughout 2020-21.

Performance against drinking water quality standards outlined in the *Safe Drinking Water Regulations 2015* (SDWR) are presented in Analysis of Results.

## Arrangements for water supply

There have been no major changes to the arrangements for water supply in 2020-21.

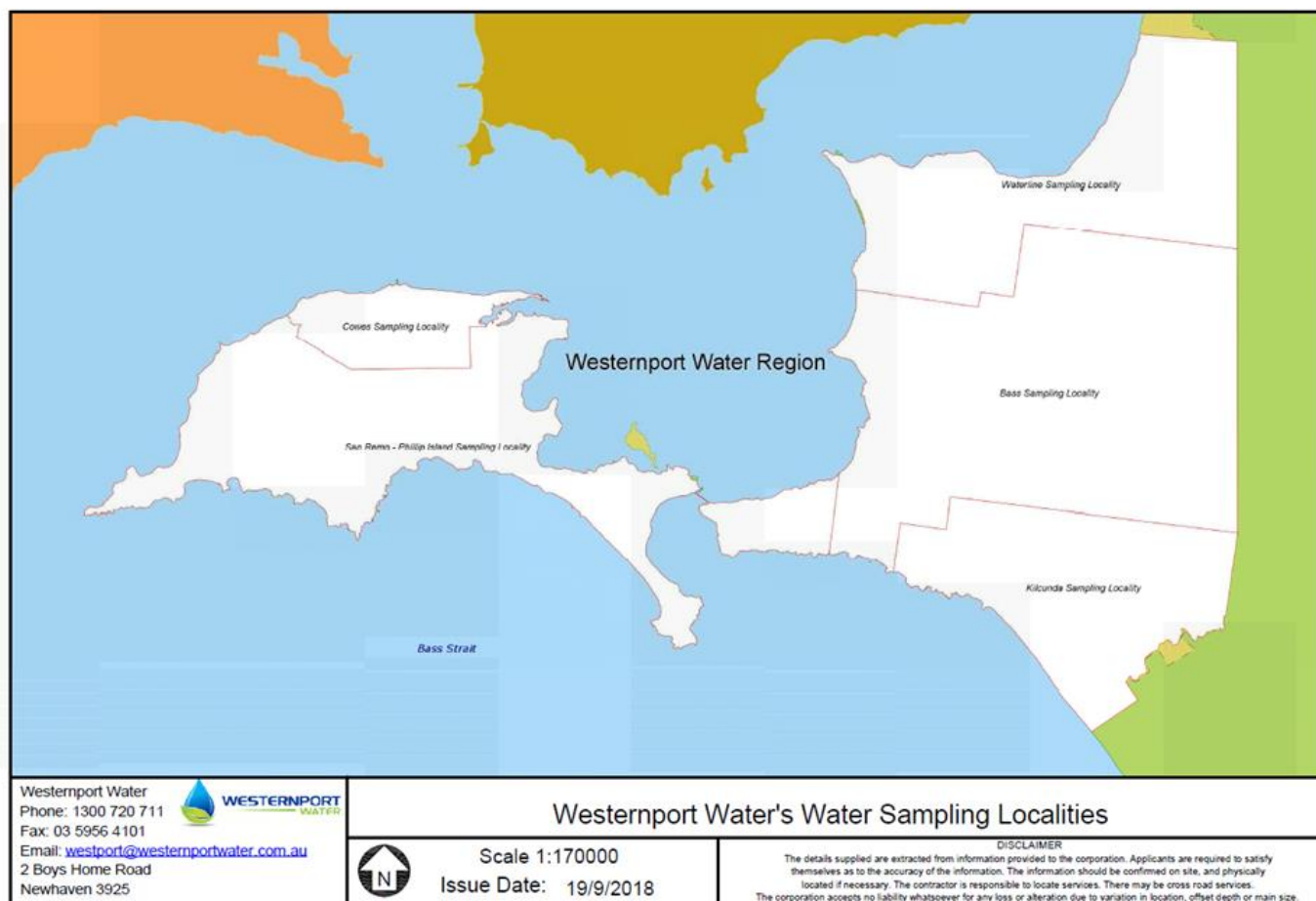


Figure 1 WPW region by water sampling localities

# Characterisation of Westernport Water's Supply System

## System Overview

WPW has a single water supply storage (Candowie Reservoir), which is an on-stream storage on Tennant Creek, located in the Bass Hills near Glen Forbes.

Water is treated at the Ian Bartlett Water Purification Plant (IBWPP) and then reticulated to communities through a single main supply line, with a number of smaller offtakes servicing each of the residential communities within WPW's area of supply.

Raw water quality is typical of water that is sourced from an unprotected catchment. Water quality is impacted by farming activities and runoff from cleared land within the catchment area. Before treatment, the raw water is high in nutrients and organics. Following treatment, the water complies with the ADWG and standards outlined in regulation 12 of SDWR.

Table 1 is a summary of the localities and population supplied treated water by WPW. Table 2 is a summary of water sources and treatment process utilised by WPW.

## Water Sources

Other sources of water are available to supplement Candowie Reservoir during low rainfall periods. These alternative sources are surface water from the Bass River and groundwater from bores constructed in the Corinella Groundwater Management Unit (GMU). Water from these alternative sources is pumped via a pipeline to Candowie Reservoir for centralised storage and treatment at the IBWPP. Table 2 also lists where raw water is sourced and the treatment processes used to produce potable water to customers. WPW holds a Bulk Entitlement (BE) to the Greater Yarra system – Thompson River (Desalination and Cardinia Reservoir) pool which can supply potable water from a delivery point to our distribution network.

### Bass River

Westernport Water's pump station, located along the banks of the Bass River, can be used to transfer water into Candowie Reservoir. This is licenced under the Bass River Bulk Entitlement. The Bass River BE was not used during the 2020-21 reporting period.

### Melbourne Pool

WPW holds a BE to the Greater Yarra system – Thompson River pool. In 2018 the Retailers' Bulk Entitlement (Desalinated Water) Orders 2014 were amended to support WPW's access to water under its BE through the delivery point.

In 2020-21, South East Water and WPW undertook reciprocal trades of 252.7 ML of water allocation. This is part of an ongoing administrative process to enable WPW to continue to access, by substitution, its water from the Melbourne surface water system. This happens via its offtake on the transfer pipeline while the transfer pipeline is pumping desalinated water from the Victorian Desalination Plant to Cardinia Reservoir. South East Water trades the required volume of desalinated water allocation to WPW and WPW trades the same volume of Melbourne surface water allocation (under its Greater Yarra System – Thomson River Pool bulk entitlement) back to South East Water resulting in a net 0 ML trade. This is required because WPW does not hold an entitlement to desalinated water. This ongoing administrative process was agreed between South East Water, South Gippsland Water, Melbourne Water, Westernport Water and DELWP.

Westernport Water extracted 0.02 ML of water from the Greater Yarra System whilst the Victorian Desalination Plant was off. A total of 252.8 ML was extracted from the Greater Yarra System in 2020-21.

### Ground Water

WPW have four bores licenced to take and use groundwater within the Corinella GMU. WPW has an

entitlement of 490 ML/year. No groundwater was extracted during 2020-21 reporting period.

## Source Water Protection

WPW is committed to supplying safe, high quality drinking water. Aligned with the framework for the management of drinking water quality is the catchment to tap approach. To demonstrate this approach for the catchment, WPW builds our understanding of the source water risks by:

- I. Undertaking sanitary surveys of the catchment. A survey was undertaken in 2014.
- II. A comprehensive raw water monitoring program for pathogens, blue green algae, organic chemicals and radiological parameters.
- III. Continuous performance monitoring at the treatment plant.
- IV. Ongoing contractual partnership with Bass Coast Landcare and Melbourne Water on improving catchment health.



# Water treatment and quality management systems

WPW operates a comprehensive water quality management system that complies with the *SDWA 2003* and *SDWR 2015*. The system is designed to ensure that customers receive drinking water that is safe and of good quality.

## Water treatment

Raw water from Candowie Reservoir is treated using a combination of oxidation, adsorption, coagulation, flocculation, dissolved air flotation, filtration, pH correction, fluoridation and disinfection at the IBWPP. The following sections highlight the treatment process used at IBWPP. Table 2 summarises the treatment processes used from different water sources which can be accessed by WPW.

### Oxidation

Oxidation is used to remove iron and manganese from the water. Potassium permanganate is added to aid the removal process.

### Adsorption

Adsorption is a process where a solid is used to remove a soluble substance from the water. WPW uses Powdered Activated Carbon (PAC) as the solid in water. Water is pumped through PAC and accumulates the soluble substances in the filter. The PAC is then removed from the process, subsequently removing the substance from the water. Adsorption is used to control potential taste and odour issues, and to remove algal toxins from the water.

### Coagulation/flocculation

Coagulation is the process to remove fine suspended particles to aid the removal of colour and turbidity. Particles have a negative charge, repelling each other and allowing them to remain suspended in water as they will not clump together and settle out. Coagulation involves the addition of a coagulant (aluminium sulphate) with a positive charge that neutralises the negative charge enabling the fine particles to merge to create larger particles. Flocculation involves gentle mixing of the water which causes the particles to collide increasing their size to visible suspended solids. The visible particles are called a 'floc'.

### Dissolved air flotation and filtration (DAFF)

DAFF is a process of injecting air particles into water causing the floc to float to the surface. The floc is then removed to waste and the clear water is filtered through graded filter media. The purpose of DAFF is to produce water low in turbidity.

Over time filters become blocked with particles from the floc. To overcome the blockage, the filters are backwashed periodically to allow optimum production in the filters to produce consistently low turbidity results.

### Fluoridation

Fluoride is added to treated water at a level that helps protect teeth against decay. Fluoride does not alter the taste or smell of water. Fluoridated water is delivered to all localities in WPW distribution system.

### pH correction

To ensure treated water is within the ADWG desired range, caustic soda is added to raise pH.



## **Disinfection**

### **a) Ultraviolet (UV)**

UV light inactivates microorganisms by damaging their nucleic acid, thereby preventing them from replicating and disrupting their ability to infect hosts. UV disinfection can be used for the inactivation of chlorine resistant pathogens (e.g. Cryptosporidium and Giardia).

### **b) Chlorination**

The final stage of treatment at IBWPP is chlorine disinfection. Disinfection is required to prevent the spread of waterborne pathogens and to retain an appropriate chlorine residual throughout the system.

### **c) Chloramination**

WPW adopt the method of chloramination to address taste & odour issues and total chlorine residuals to the extremities of the distribution system. Chloramination is the process of adding chlorine to a small amount of ammonia. All localities (except Bass) receive chloraminated water.

## **Desalination**

During 2019/20 Westernport Water commissioned its connection to the Melbourne Pool. This provides another valuable source of water that WPW can access when needed. Information on the desalination plant and process can be found on the DELWP website. <https://www.water.vic.gov.au/water-grid-and-markets/desalination>

*Table 1 Localities supplied*

Water Sampling Locality	Population supplied	Towns supplied
Bass	560	Bass and Woolamai
Cowes	5050	Cowes and Silverleaves
Kilcunda	1000	Kilcunda, Dalyston and Archies Creek
San Remo/Phillip Island	13200	San Remo, Newhaven, Cape Woolamai, Rhyll, Smiths Beach, Sunderland Bay, Sunset Strip, Ventnor, Wimbledon Heights, the penguin parade and the Nobbies tourist attractions
Waterline	2200	Corinella, Coronet Bay, Tenby Point, Grantville and Pioneer Bay

Population sourced from 2016 census data

Table 2 Source Water and treatment processes to all localities

Source	Treatment process	Added substances	Frequency
Tennant Creek/ Bass River IBWPP	Coagulation and flocculation Dissolved air flotation Granular Media Filter Chlorination Chloramination Ultraviolet (UV)	Potassium permanganate powdered activated carbon (PAC) Aluminium sulphate Caustic soda Sodium Hypochlorite Ammonia Sodium fluoride	■
Desalination Plant	Coagulation Filtration Reverse osmosis Remineralisation Fluoridation Disinfection Sludge thickening Membrane preservation	Ferric sulphate Sulfuric acid PolyDADMAC Antiscalant Caustic soda Hydrated lime Carbon dioxide Fluorosilicic acid Sodium bisulfite Sodium hypochlorite Ferric sulphate Polyacrylamide	□
Cardinia Reservoir	Primary disinfection Fluoridation pH correction	Gaseous chlorine Fluorosilicic acid Lime	□

■ Treatment/Substance was applied regularly in 2020-21

□ Treatment/Substance was applied intermittently in 2020-21

## Water quality improvements in 2020-21

Water quality improvements during 2020-21 were:

- Construction of a treated water storage tank at Wimbledon Heights was completed
- Turbidity filter performance met the Health Based Target guideline of <0.2 NTU 95% of the time and not >0.5 NTU for 15 consecutive minutes throughout 2020-21.
- A backflow prevention project was undertaken in 2020-21 and is continuing into the following year. This project will provide protection of the distribution system against contamination from private supplies.
- Upgrade to the Powder Activation Carbon system to further remove organics and help improve the taste of water.
- Improvements to data management via the ongoing implementation of a water quality database.

## Issues

Westernport Water submitted two Section 22s during the reporting period. Information below.

## Emergency, Incident and Event Management

### Notifications under section 22 of the Act

Section 22 of the Safe Drinking Water Act requires water agencies to report any known or suspected instances where drinking water may be the cause of illness, transmitting illness, contain any pathogen, substance, chemical or blue-green algae toxin at levels that may pose a health risk or may cause widespread public complaint to the Department of Health immediately. During the 2020-21 Westernport Water reported two incidents under Section 22. Details below:

**Water Supply localities involved:** Waterline, Bass and Kilcunda

**Population served by localities:** 3760

**Issue:** Customer Complaints relating to dirty water from sediment stir caused by high flows within the network and taste and odour from Geosmin caused by Blue-green algae in the raw water source. This issue was reported under the criteria of widespread public complaint.

**Details:** After low flow in our pipes between April and October 2020, there was a sharp increase in demand during November primarily due to the increase in people travelling to the region from metropolitan Melbourne following the release of Covid-19 restrictions. The month's consumption was the highest November on record, consumption usually only seen in December, January and February. Starting on 19<sup>th</sup> November 2020 Westernport Water received complaints relating to discoloured water and taste and odour issues for a period of 6 weeks. After investigation, the discolouration was suspected to be the result of high flows causing the dislodgement of biofilm containing manganese, a contaminant known to cause colour issues. Taste and odour issues were suspected to be caused by an increase in the naturally occurring compound Geosmin in the source water.

To resolve the issues Westernport Water undertook a range of activities and initiatives. These included targeted flushing of water mains in all waterline townships; inspection and cleaning of treated water storage tanks; additional field sampling and analysis; and responding individually to each water quality complaint received.

During January Westernport Water also undertook air scouring of affected areas. Westernport Water is also investigating options including swabbing for a long term cleaning program for our large supply main to reduce the accumulation of naturally occurring sediment that can happen over time. Options will be investigated during 2021-22.

**Water Supply localities involved:** San Remo/Phillip Island and Cowes

**Population served by localities:** 18,250

**Issue:** Severe storms caused a tear in the floating cover at the San Remo Basin clear water storage. This incident was reported under the category of suspected potential contamination.

**Details:** Following severe storms a tear in the cover of the San Remo Basin which supplies San Remo/Phillip Island and Cowes was discovered on 11<sup>th</sup> June 2021. Specialist divers and engineers were engaged to undertake the repair. To mitigate the risk of contamination prior to the repair a number of corrective actions were put in place, these include, increasing the chlorine dosing at the inlet dosing to the basin, a chlorine analyser was installed on the outlet of the storage to verify the level of the chlorine residual, daily microbiological sampling at the storage and at 9 sites across the distribution network to verify the safety of the water. During this incident Westernport Water worked closely with the Department of Health and utilised Dr Dan Deere's water quality expertise in our response. Following the repair, a specialist dive team inspected and cleaned the storage to verify there were no ingress points. A project will be completed by May 2022 to replace the cover and liner at the storage.

# Analysis of Results

The quality of drinking water supplied to our customers was of good quality and met water quality standards detailed in regulation 12 of the SDWR 2015.

During 2020-21 samples were collected in accordance with WPW's sampling program, compliance with regulation 13(1) of the SDWR 2015 was met.

Achieving 100% compliance this year continues the 100% compliance in the previous 3 annual reports. For more information on the previous reporting periods please visit our publications page on our website:

<http://www.westernportwater.com.au/learning-centre/resources-support/forms-publications/>

The following results tables show the performance for 1 July 2020 to 30 June 2021.

## Drinking Water Quality Standards

**Table 3 *E.coli***

SDWR 2015 water quality standard: All samples of drinking water collected are found to contain no *Escherichia coli* per 100mL of drinking water, with the exception of any false positive sample.

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum Detected (orgs/100mL)	Number of detections and investigations conducted (s.22)	Number of samples where standard was not met (s. 18)
Bass	Weekly	52	0	0	0
Cowes	Weekly	109	0	0	0
Kilcunda	Weekly	104	0	0	0
San Remo/Phillip Island	Weekly	171	0	0	0
Waterline	Weekly	156	0	0	0

Cowes, Kilcunda, San Remo/Phillip Island and Waterline include additional samples of clear water storages.

Cowes and San Remo/Phillip Island include additional samples due to population.

**Table 4 Trihalomethanes (THM's)**

SDWR 2015 water quality standard: 0.25mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Monthly	12	0.14	0.08	0
Cowes	Monthly	12	0.13	0.10	0
Kilcunda	Monthly	12	0.10	0.08	0
San Remo/Phillip Island	Monthly	12	0.14	0.10	0
Waterline	Monthly	12	0.09	0.07	0

**Table 5 Turbidity**

SDWR 2015 water quality standard: the 95th percentile of results for samples in any 12 month period must be  $\leq 5.0$  NTU

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum turbidity in a sample (NTU)	Maximum 95th percentile of turbidity results in any 12 months (NTU)	Number of samples where standard was not met (s. 18)
Bass	Weekly	52	2.60	0.25	0
Cowes	Weekly	52	1.40	0.14	0
Kilcunda	Weekly	52	0.10	0.10	0
San Remo/Phillip Island	Weekly	52	0.20	0.20	0
Waterline	Weekly	52	0.50	0.40	0

## Other algae, pathogen, chemical or substance not specified above that may pose a risk to human health

WPW regularly tests for other substances in the drinking water they supply to customers. The following sections detail the results for the 2020/21 reporting period.

**Table 6 Cadmium**

The ADWG health value is 0.002mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Annually	1	< 0.0002	< 0.0002	0
Cowes	Annually	1	< 0.0002	< 0.0002	0
Kilcunda	Annually	1	< 0.0002	< 0.0002	0
San Remo/Phillip Island	Annually	1	< 0.0002	< 0.0002	0
Waterline	Annually	1	0.0006	0.0006	0

Results with a less than qualifier (<) are below the laboratory detection limit.

**Table 7 Copper**

The ADWG health value is 2mg/L

The ADWG aesthetic value is 1mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Quarterly	4	0.011	0.008	0
Cowes	Quarterly	4	0.019	0.009	0
Kilcunda	Quarterly	4	0.011	0.007	0
San Remo/Phillip Island	Quarterly	4	0.011	0.007	0
Waterline	Quarterly	4	0.013	0.008	0

**Table 8 Cyanide**

The ADWG health value is 0.08mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Annually	1	< 0.005	< 0.005	0
Cowes	Annually	1	< 0.005	< 0.005	0
Kilcunda	Annually	1	< 0.005	< 0.005	0
San Remo/Phillip Island	Annually	1	< 0.005	< 0.005	0
Waterline	Annually	1	< 0.005	< 0.005	0

Results with a less than qualifier (<) are below the laboratory detection limit.

**Table 9 Fluoride**

Code of practice for fluoridation of drinking water supplies water quality standard: 1.5mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Target optimum operating fluoride concentration (mg/L)	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Monthly	13	0.900	0.97	0.71	0
Cowes	Monthly	16	0.900	0.98	0.73	0
Kilcunda	Monthly	16	0.900	0.95	0.61	0
San Remo/Phillip Island	Monthly	15	0.900	0.86	0.68	0
Waterline	Monthly	16	0.900	0.92	0.74	0

**Table 10 Lead**

The ADWG health value is 0.01mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Quarterly	4	0.001	0.001	0
Cowes	Quarterly	4	0.001	0.001	0
Kilcunda	Quarterly	4	0.001	0.001	0
San Remo/Phillip Island	Quarterly	4	0.001	0.001	0
Waterline	Quarterly	4	0.001	0.001	0

Results with a less than qualifier (<) are below the laboratory detection limit.

**Table 11 Manganese**

The ADWG health value is 0.5mg/L. The ADWG aesthetic value is 0.1mg/L.

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Quarterly	4	0.006	0.004	0
Cowes	Quarterly	4	0.008	0.004	0
Kilcunda	Quarterly	4	0.010	0.005	0
San Remo/Phillip Island	Quarterly	4	0.003	0.002	0
Waterline	Quarterly	4	0.097	0.032	0

**Table 12 Nickel**

The ADWG health value is 0.02mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Annually	1	< 0.001	< 0.001	0
Cowes	Annually	1	< 0.001	< 0.001	0
Kilcunda	Annually	1	< 0.001	< 0.001	0
San Remo/Phillip Island	Annually	1	< 0.001	< 0.001	0
Waterline	Annually	1	< 0.001	< 0.001	0

Results with a less than qualifier (<) are below the laboratory detection limit

**Table 13 Nitrate**

ADWG health value: 50mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Cowes	Fortnightly	54	0.81	0.24	0
Kilcunda	Fortnightly	54	0.40	0.18	0
San Remo/Phillip Island	Fortnightly	53	0.81	0.20	0
Waterline	Fortnightly	26	0.48	0.21	0

Bass locality not sampled as it is a chlorinated supply as per the Risk Management Plan.

Distribution system inlets sampled at Kilcunda, San Remo/Phillip Island and Cowes.



**Table 14 Nitrite**

ADWG health value: 3mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Cowes	Fortnightly	54	0.37	0.05	0
Kilcunda	Fortnightly	54	0.30	0.01	0
San Remo/Phillip Island	Fortnightly	53	0.22	0.01	0
Waterline	Fortnightly	26	0.24	0.02	0

Bass locality not sampled as it is a chlorinated supply as per the Risk Management Plan.

Distribution system inlets sampled at Kilcunda, San Remo-Phillip Island and Cowes.

## Aesthetic Characteristics

The SDWR 2015 refers to aesthetic water quality and states the annual report must include the steps taken by a water supplier to manage aesthetic characteristics of drinking water supplied. Along with verification monitoring of colour and pH, WPW undertake jar testing for optimum coagulant dosing. Other steps taken to manage aesthetics are reactive maintenance programs: air scouring of the distribution pipe network and reactive flushing. The ADWG sets the aesthetic based guideline values for aluminium, true colour, iron and pH. Those parameters sampled throughout the distribution system, indicating compliance, are presented in tables below.

**Table 15 Aluminium, acid soluble**

The ADWG aesthetic value is 0.2mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Quarterly	4	0.02	0.01	0
Cowes	Quarterly	4	0.02	0.02	0
Kilcunda	Quarterly	4	0.02	0.01	0
San Remo/Phillip Island	Quarterly	4	0.02	0.02	0
Waterline	Quarterly	4	0.12	0.05	0

**Table 16 Colour, true**

The ADWG aesthetic value is 15HU

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum	Average	Number of samples where standard was not met (s. 18)
Bass	Monthly	12	4	2.50	0
Cowes	Monthly	12	4	2.50	0
Kilcunda	Monthly	12	4	2.50	0
San Remo/Phillip Island	Monthly	12	4	2.67	0
Waterline	Monthly	12	4	2.33	0

**Table 17 Hardness**

The ADWG aesthetic value is 60-200mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum	Average	Number of samples where standard was not met (s. 18)
Bass	Quarterly	4	72	68	0
Cowes	Quarterly	4	79	72	0
Kilcunda	Quarterly	4	83	76	0
San Remo/Phillip Island	Quarterly	4	77	64	0
Waterline	Quarterly	4	89	73	0

**Table 18 Iron**

The ADWG aesthetic value is 0.3mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Monthly	12	0.02	0.01	0
Cowes	Monthly	12	0.28	0.05	0
Kilcunda	Monthly	12	0.01	0.01	0
San Remo/Phillip Island	Monthly	12	0.02	0.01	0
Waterline	Monthly	12	0.04	0.02	0

**Table 19 pH**

The ADWG aesthetic range is 6.5-8.5pH

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum	Average	Aesthetic operating range
Bass	Weekly	52	8.08	6.87	6.5-8.5
Cowes	Weekly	113	8.29	7.08	6.5-8.5
Kilcunda	Weekly	108	8.48	6.91	6.5-8.5
San Remo/Phillip Island	Weekly	175	8.05	6.92	6.5-8.5
Waterline	Weekly	160	8.09	6.93	6.5-8.5

Cowes, Kilcunda, San Remo – Phillip Island and Water Line include additional samples of clear water storages.

Cowes and San Remo-Phillip Island include additional samples due to population.

**Table 20 Zinc**

The ADWG aesthetic value is 3mg/L

Water Sampling Locality	Frequency of Sampling	Number of Samples	Maximum (mg/L)	Average (mg/L)	Number of samples where standard was not met (s. 18)
Bass	Quarterly	4	0.006	0.005	0
Cowes	Quarterly	4	0.006	0.003	0
Kilcunda	Quarterly	4	0.004	0.003	0
San Remo/Phillip Island	Quarterly	4	0.004	0.004	0
Waterline	Quarterly	4	0.005	0.004	0

# Complaints relating to water quality

## Summary of complaints

The number of customer complaints to WPW regarding drinking water totalled 167 for 2020/21. This was an increase of 153 from 2019/20. Table 21 details the type of customer complaints. Table 22 details water quality complaints by sampling locality.

**Table 21 Customer^ complaints relating to water quality**

Type of Complaint	Number of complaints			Comparison with previous reporting periods	Comments
	2020-21	2019-20	2018-19		
Discoloured water	134	6	12	Increase from previous years	The increase in complaints for 2020-21 can be attributed to a water quality event which occurred in Nov/Dec 2020. Refer to the Emergency, Incident and Event Management Section for detail.
Taste/odour	28	4	21	Increase from previous years	
Other*	5	4	4	Increase from previous years	
Total	167	14	37	Increase from previous years	

**Table 22 Complaints by water sampling locality**

Locality	Type of Complaint			Total Complaints
	Discoloured Water	Taste/odour	Other*	
Bass	6	3	0	9
Cowes	11	2	2	15
Kilcunda	29	1	0	30
San Remo - Phillip Island	49	2	2	53
Water Line	39	20	1	60

^for the purposes of this section, the term 'customer' has the same meaning as that used by the Essential Services Commission, that is, a customer = a connection.

\*includes any contact related to alleged illness.

80% of complaints were for discoloured water, 20% were for both taste/odour and other.

The majority of complaints were for discoloured water. Most of these complaints occurred in Nov/Dec 2020 and were resolved with a coordinated programme of flushing.

## Response to complaints

WPW is committed to providing its customers with high quality water and customer service. Each customer complaint is lodged using an entry form in WPW customer request management (CRM) system. Depending on the nature of the complaint, the details are electronically forwarded to either the Water Quality & Sustainability Officer for water quality complaints or the Network Operations & Maintenance Coordinator for water main bursts and leaks.

After a complaint is lodged, depending on the nature of the complaint, one or a combination of the following actions may be performed:

- Contact the customer who lodged the complaint to determine the seriousness of the issue.
- Discuss with the complainant the possible causes of the poor water quality i.e. temporary changes to normal operation or high manganese and/or iron in raw water.
- Explain to the complainant the multiple barriers and rigorous sampling and testing regime employed to provide a safe and aesthetically acceptable water.
- Proceed with remedial action such as water sample testing, mains flushing and occasionally water sampling testing after flushing.
- Give feedback to customer in terms of water quality information and links to further information regarding regulatory obligations.

## Findings of the most recent risk management plan audits

A regulatory risk management plan audit was conducted on 30-31 July 2020 and WPW was fully compliant with obligations under the SDWA, SDWR and audit guidelines. The audit certificate is provided in Appendix 1. The progress of the Opportunities for Improvements (OFI) identified from the 2018 and 2020 audit are listed in Table 23 and Table 24.

*Table 23 Status of OFI's from 2018 audit.*

OFI 2018 Audit	Comment	Status
WPW is encouraged to progress with its plans to create a suitably sized and outfitted storage depot that permits chemicals, parts, and fittings to be stored undercover, off the ground, in clean, sanitary conditions, out of sunlight and at suitable temperatures.	Depot upgrade completed in 2020 with additional undercover storage now available.	Closed
In continuing with its backflow prevention program, WPW is encouraged to consider the ongoing workload that this creates and resource that workload. Any backflow prevention role could be linked to recycled water and trade waste management roles. The role could link to the trend for more proactive involvement by water utilities in oversighting plumbing to help fill a regulatory weakness.	The backflow prevention project is presently managed and resourced within Engineering and Construction. The 2020 Network Operations and Maintenance functional realignment addressed the ongoing workload once the roll out of the program is complete with a resource allocated.	Closed

*Table 24 Status of OFI's from 2020 audit.*

OFI 2020 Audit	Comment	Status
WPW sources only code-compliant parts and fittings, however, experience from operators was that some new code-compliant sub-optimal parts and fittings are finding their way into the Australian supply chain. Consider whole of life costs and potentially recognising or requiring higher standards (European, Japanese and American) when installing assets to avoid premature failure and impact on water quality.	Compliance and performance of parts and fittings are assessed as part of the procurement process. Parts used are all compliant with Australian Standards.	Closed
A decision has been made to continue with a floating cover for the San Remo basin cover and lining replacement in the next few years. Whilst not best practice compared to a conventional fixed roof, the floating cover can be delivered and remain compliant with the SDWA. Conduct a reality check on possible future Disinfection By Products compliance implications for the floating covers at San Remo Basin vs. conventional roofs.	WPW's sampling program includes monthly monitoring for Disinfection By Products (DBP) as required by legislation. Sample results are assessed when received. Long term data to assess for changes in trends is analysed on an annual basis with insights informing effectiveness of organics removal and disinfection.	Closed
It is recommended that clearer labelling be provided of potable, recycled water, and even sewer, tankers with a view to reducing the risk of non-potable water being inadvertently supplied for potable use.	Project underway to label existing and new tankers.	To be completed by 1 <sup>st</sup> December 2021.
It was noted that clear commissioning processes and water quality criteria had been set for the new main construction. However, interview with field crews installing new works found that there was less clarity with respect to commissioning processes and water quality criteria for new main to meter connections (both repair and replacement). It is recommended that adequacy of the relevant current processes and criteria are assessed and augmented if necessary.	Processes will be reviewed and augmented to ensure there is clarity for contractors with respect to commissioning and water quality criteria for main to meter connections.	To be completed by February 2022.

## **Undertakings under section 30 of the Act**

WPW currently has no section 30 undertakings.

## **Regulated Water under section 6 of the Act**

No regulated water was supplied during the reporting period.

## **Exemption under section 20 of the Act**

WPW has no exemptions under section 20.

## **Variations of aesthetic standards under section 19 of the Act**

No variations of aesthetic standards in place under section 19.



## Glossary of Terms

Term	Meaning
ADWG	Australian Drinking Water Guidelines
BE	Bulk Entitlement
CRM	Customer Request Management System
DAFF	Dissolved Air Floatation and Filtration
DoH	Department of Health
E.coli	Escherichia coli
GMU	Groundwater Management Unit
IBWPP	Ian Bartlett Water Purification Plant
mg/L	Milligram per litre
ML	Mega litres (one million litres)
NTU	Nephelometric Turbidity Unit
PAC	Powdered Activated Carbon
SCADA	Supervisory Control and Data Acquisition
SDWA	Safe Drinking Water Act 2003
SDWR	Safe Drinking Water Regulations 2015
THM	Trihalomethanes
WPW	Westernport Water
RMP	Risk Management Plan

Section 23 of the Act requires Westernport Water to make water quality monitoring information publicly available. Customers and members of the public may access drinking water quality data by contacting Westernport Water on the details provided below:

Email: [westport@westernportwater.com.au](mailto:westport@westernportwater.com.au)

Website: [www.westernportwater.com.au](http://www.westernportwater.com.au)

Phone: 1300 720 711

## Appendix 1 – Risk Management Plan Audit Certificate

### Risk management plan audit certificate

#### Safe Drinking Water Regulations 2015 - Regulation 10

Certificate Number: 179

Audit period: 19 May 2018 to 28 August 2020

To: Susan O'Sullivan, Water Quality and Sustainability Officer

Westernport Water, 2 Boys Home Road, Newhaven, Vic 3925

Australian Business Number (ABN): 63 759 106 755

I, Dr Daniel Deere, after conducting a risk management plan audit of

the water supplied by Westernport Water am of the opinion that -

Westernport Water has complied with the obligations

imposed by section 7(1) of the *Safe Drinking Water Act 2003* during the audit period.

Signature of approved auditor: D Deere

Date: 28 Aug 2020