SOUTH WEST IRRIGATION MANAGEMENT COOPERATIVE

2024 – 2025 Annual Water Quality Report

Contents

1 Abbreviations and Definitions....3
2 Water Provider Information....5
2.1 System Information....5
2.1.1 Supply Details....5
2.1.2 Catchment Details....5
2.1.3 Distribution System....6
2.1.4 Sampling Schedule and Procedure....6
2.2 Drinking Water Quality Management Plan....6
2.3 Drinking Water Source Protection Plan....7
2.4 Drinking Water Quality Policy....8
2.5 Mock Incident Scenario....8
2.5.1 Scenario....8
2.6 Customer Satisfaction....9
2.6.1 Customer Related Initiatives....9
2.7 ERA Audits....9
3 Performance Summary....10
4 Microbial Performance....11
4.1 Microbial – Compliance Summary....11
4.2 Microbial – Exception Notification....11
5 Chemical – Health Related Performance....12
5.1 Chemical: Health Related – Compliance Summary....12
5.2 Chemical: Health Related – Exception Notifications....13
6 Chemical – Aesthetic Performance....14
6.1 Chemical – Aesthetic....14
6.2 Chemical Aesthetic – Exception Notification....15
7 Radiological Performance....16
7.1 Radiological – Compliance Summary....16
8 Acknowledgements....17
9 Enquiries....17

1 Abbreviations and Definitions

ADWG	Australian Drinking Water Guidelines	The Australian Drinking Water Guidelines provide guidance to water regulators and suppliers on monitoring and managing drinking water quality https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines
Bq/L	Becquerels per litre	The unit of activity of radioactivity per unit volume
DoH	Department of Health	The Department of health overseas the compliance of the Western Australian health system
DWER	Department of Water and Environmental Regulation	Department of Water and Environmental Regulation manages and regulates the state's environment and water resources
DWQMP	Drinking Water Quality Management Plan	Describes how the production, distribution and monitoring of drinking water is managed by Harvey Water
DWSPP	Drinking Water Source Protection Plan	Outlines Harvey Water's plan to ensure the protection of water quality in the immediate area of the bore and the aquifer that is used for supply of drinking water in the Kemerton Industrial Area
ERA	Economic Regulation Authority	The ERA is Western Australia's independent economic regulator responsible for ensuring the delivery of water, electricity, gas and rail services in Western Australia in the long term interest of consumers
KIA	Kemerton Industrial Area	Kemerton Industrial Area is a site for strategic and heavy industry located approximately 17 kilometres north of Bunbury in Western Australia
mg/L	Milligrams per litre	Mass of a chemical per unit volume of water
ML	Megalitre	A unit of volume in the metric system, equal to 1,000,000 litres
MoU	Memorandum of Understanding	An agreement between the DoH and Harvey Water with respect to the supply and delivery of drinking water
NATA	National Association of Testing Authorities	Australia's leading national accreditation body, recognised by government to assess organisations against a number of international standards for laboratories, inspection bodies, proficiency testing scheme providers and reference material producers.

NTU	Nephelometric Turbidity Unit	A measure of turbidity
PFAS	Per – and polyfluoroalkyl substances	A group of over 4,000 synthetic chemicals that are used for a variety of household and industrial purposes
pH	pH	A figure expressing the acidity or alkalinity of a solution
TDS	Total Dissolved Solids	A measure of the dissolved combined content of all inorganic and organic substances present
TSS	Total Suspended Solids	The dry weight of suspended particles, that are not dissolved, in a sample of water that can be trapped by a filter.
	Thermophilic *Naegleria*	Thermophilic *Naegleria* refers to a group of amoebae which includes *Naegleria fowleri*, the organism that causes the waterborne disease primary amoebic meningoencephalitis. *Naegleria fowleri* is an environmental pathogen which naturally lives in fresh warm water.

2 Water Provider Information

If you have any concerns, comments or would like more information relating to the water quality provided by Harvey Water, please do not hesitate in contacting Harvey Water by any of the below forms of contact.

Harvey Water Contact Details	
Name of Company	South West Irrigation Management Co-Operative, Trading as Harvey Water
Company Address	1 Turnbull Street, Harvey, WA, 6220
Company Phone	(08) 9721 0100
Company Email	admin@harveywater.com.au
Chief Executive Officer	Bruce Hathway
DoH Liaison Officers	Cameron Norris and Aled Lewis

2.1 System Information

2.1.1 Supply Details

Harvey Water's main water supply is of non-potable water for farming, irrigation and industrial services through water from dams in the south west, but this report relates to Harvey Water's supply of drinking water to the Kemerton Industrial Area through the water treatment plant in the Kemerton Industrial Area. For information about Harvey Water's supply of non-potable water, or our drinking water supply, please visit the Harvey Water website www.harveywater.com.au.

2.1.2 Catchment Details

Harvey Water has installed a bore into the Leederville aquifer to supply water for treatment to the Kemerton Industrial Area. Water from the bore is treated through a water treatment plant designed to bring the water into compliance with the Department of Water and Environmental Regulation (DWER), the Department of Health (DoH) and the Australian Drinking Water Guidelines (ADWG).

The bore area is situated on the Swan Coastal Plain, which is formed of shoreline and coastal dune deposits extending from the Darling Scarp to the Indian Ocean.

Raw groundwater is pumped to the water treatment plant where it is treated through a system of filters and chemical dosing. Water is initially passed through a multimedia filter to remove large particulates from the source water. After the multimedia filtration, water is chlorinated with sodium hypochlorite. The chlorinated water is then passed through a media filter that utilises catalytic filtration media for the removal of iron and manganese.

The Harvey Water drinking water supply is not fluoridated.

2.1.3 Distribution System

Chlorination and pH adjustments are undertaken in order to maintain a final free chlorine concentration of between 0.5 – 2.0 milligrams per litre and a pH between 6.5 – 8.5 as per ADWG. Treated drinking water is stored in a 200 kilolitre storage tank on site prior to supply to the end user. To manage pH levels in the drinking water system, Harvey Water uses sulfuric acid.

2.1.4 Sampling Schedule and Procedure

Drinking water sampling is carried out in accordance with the ADWG and Harvey Water's Drinking Water Quality Management Plan (DWQMP). Free chlorine residual, pH and turbidity are analysed continuously within the drinking water treatment plant. Weekly samples of drinking water are analysed in a NATA registered laboratory for pH, electrical conductivity, total dissolved solids, total suspended solids, alkalinity, chloride, coliforms, *E. coli* and amoeba. Further to this, monthly samples are analysed for metals (calcium, magnesium, sodium, iron, cadmium, copper, manganese and lead), hardness, sulfate and nitrate. Annual analysis further expands on the weekly and monthly analysis to include a full suite of metals analysis as well as organic compounds and radiological tests.

2.2 Drinking Water Quality Management Plan

Harvey Water has implemented a Drinking Water Quality Management Plan (DWQMP) to ensure the optimum operation and management of the drinking water supply to the Kemerton Industrial Area. The DWQMP is an integral part of the Memorandum of Understanding (MoU) between Harvey Water and the Department of Health (DoH). The DWQMP and MoU are also supported by the Australian Drinking Water Guidelines (ADWG). For the 2024-25 reporting period, compliance was assessed against version 3.7 (2022) of the ADWG.

A copy of the MoU is available on the Harvey Water website https://www.harveywater.com.au/uploads/1/2/0/6/120624466/swimco_harvey_doh_mou_text_jun2022.pdf.

The current ADWG can be accessed via the following link: https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines.

The Harvey Water DWQMP was developed to manage and ensure that Harvey Water's water treatment plant is operating efficiently and to ensure compliance with ADWG and early detection of faults. It outlines the following:

- General background information of the system, including location, duty of care, catchment details, pipe route and water treatment processes. Monitoring plan including operational checks, sampling procedures and record keeping.
- Staff training and competency.
- Work Health and Safety procedures.
- Risk Assessment of the drinking water system, including the bore, pipeline and water treatment plant.
- Non-Conformance procedures, including reporting of non-conformances to the health regulator the Department of Health.

The MoU between Harvey Water and the DoH commenced in June 2022 and is used to establish and maintain a strong co-operative relationship between Harvey Water and the DoH with a commitment from both parties with respect to managing the drinking water quality and protecting public health. The MoU operates within licensing framework that has been developed by the Economic Regulation Authority (ERA) in accordance with the *Water Services Act 2012*.

Harvey Water is committed to ensuring that all dosing, measurement and sampling equipment and instrumentation used to monitor and control the quality of the drinking water is appropriately calibrated in accordance with the *National Measurement Act 1960 (Cth)*.

Harvey Water recognises and supports the ongoing work of the Advisory Committee for the Purity of Water (ACPOW).

2.3 Drinking Water Source Protection Plan

In addition to the Drinking Water Quality Management Plan, Harvey Water has developed a Drinking Water Source Protection Plan (DWSPP) which was to be approved during the 2024-25 reporting period, although this has been delayed due to actions required to be completed by DWER and other agencies. This plan identifies existing and potential threats to the groundwater source in the immediate vicinity of the Harvey Water production bore.

The plan is a result of consultation with key stakeholders including landowners, local government authorities and State Government, DoH and DWER. The plan provides additional information on the source of water used for drinking water supply by Harvey Water for the Kemerton Industrial Area and the operation for the provision of safe drinking water supply through protection and management of the drinking water source.

In relation to compliance with the provisions of the Groundwater Licence and the DWSPP, Harvey water monitors the level of groundwater in the vicinity of the abstraction bore as well as groundwater chemistry levels with annual reporting to DWER. The bores are sealed with concrete to minimise the chance of contamination. Environmental factors have been considered with the ongoing use of the bore.

The site will not have onsite chemical storage, the only chemical onsite will be in the form of diesel within the generator, This generator has been installed using appropriate bunding as noted by DWER in the Water Quality Protection Note 56 (DWER, 2018). In the 2024 to 2025 reporting period, a total of 18,840 kilolitres of groundwater was abstracted from the supply bore in the Kemerton Industrial Area.

2.4 Drinking Water Quality Policy

2.4.1 Purpose

Harvey Water is committed to providing sustainable, high quality drinking water that consistently meets or exceeds customer expectations, the Australian Drinking Water Guidelines and all regulatory requirements.

2.4.2 Scope

This policy covers all drinking water supplied by Harvey Water.

2.4.3 Policy Statement

Harvey Water will:

- Endorse and embrace the Australian Drinking Water Guidelines.
- Maintain a Memorandum of Understanding with the Department of Health and fulfil all requirements as required by the Harvey Water operating licence.
- Maintain and implement a Drinking Water Quality Management System consistent with the ADWG framework.
- Use a risk-based approach in which potential threats to water quality are identified and controlled.
- Monitor drinking water through a prescribed testing regime, using NATA accredited laboratories to test water quality.
- Ensure relevant staff training is provided.
- Operate and maintain our treatment plant and infrastructure following best practice principles.
- Provide timely and relevant updates on water quality.
- Maintain appropriate contingency planning and incident response capabilities.
- Promote confidence in the water supply and its management
- Welcome customer feedback on water quality and promptly address any concerns identified.
- Ensure our own water extraction is sustainable.

2.5 Mock Incident Scenario

As part of Harvey Water's Drinking Water Quality Management Plan and the MoU with the Department of Health, Harvey Water are required to undertake mock incident scenario's in relation to failure of the drinking water system.

2.5.1 Scenario

In March 2025, Harvey Water, Albemarle and the Department of Health ran a mock scenario of a *Naegleria* being detected in the source water for the drinking water system. This scenario included actions involving the testing and contact times of the NATA accredited laboratory conducting the sampling, and contacting the Health Department to inform them of a contamination.

Harvey Water, Albemarle and the Albemarle Emergency Management Team have a good understanding of all parties duties if a contamination was to occur that could affect the drinking water system with improvements continually being made to ensure protection of the quality of water.

2.6 Customer Satisfaction

Harvey Water delivers a potable water service with a clear customer focus and a major objective to supply water with minimal complaint of quality. In the 2024-25 year Harvey Water received zero complaints of water quality supplied. Harvey Water is committed to resolving complaints fairly, efficiently and in a courteous and effective manner. Feedback is valued and is assessed as part of a continuous improvement process to enhance products and customer service.

2.6.1 Customer Related Initiatives

As Harvey Water only supplies drinking water to one commercial customer and no residential customers, Harvey Water is exempt from having a financial hardship policy but encourage our customers to keep us updated on any difficulties they may be experiencing.

Harvey Water is a committed member of the Energy and Water Ombudsman Scheme. The Energy and Water Ombudsman Western Australia is an independent, impartial body that investigates and resolves complaints about electricity, gas and water services providers.

As Harvey Water only supplies drinking water to one customer, Harvey Water does not have, and is not required to have, a preserved supply register.

2.7 ERA Audits

As part of the operating licence Harvey Water must participate in an ERA audit at least once every three years. The last audit was conducted in early 2023 and the next audit is expected to be in 2026.

3 Performance Summary

The performance of the Harvey Water drinking water system for the year July 2024 to June 2025 is summarised in Table 3-1 below.

Table 3-1 – Annual Performance

Water Quality Meeting the Drinking Water Guidelines July 2024 – June 2025			
Parameters	**No. of Analyses**	**No. of Analyses Complying with ADWG**	**No. of exceedances of ADWG**
Microbial Quality			
E. Coli	49	49	0
Thermophilic *Naegleria*	49	49	0
Chemical and Physical Quality			
Health Related	112	112	0
Aesthetic	243	194	49
Radiological Quality			
Gross Alpha activity	1	1	0
Gross Beta activity	1	1	0

4 Microbial Performance

During the July 2024 to June 2025 annual reporting period, there were no reported exceedances for the microbial parameters when compared against the ADWG (version 3.7, 2022) in the drinking water system as summarised in Section below.

4.1 Microbial – Compliance Summary

Harvey Water Distribution System July 2024 - June 2025				
Microbial Characteristic	**MOU Compliance Criteria**	**No. of Analyses**	**No. of Complying Analyses**	**% Compliance**
Bacterial				
E. Coli	Non-detect	49	49	100
Amoeba				
Thermophilic *Naegleria*	Non-detect	49	49	100

4.2 Microbial – Exception Notification

During the reporting period of July 2024 to June 2025, there were no reported exceedances of microbial characteristics.

5 Chemical – Health Related Performance

During the July 2024 to June 2025 annual reporting period, there were zero reported exceedances for the chemical health criteria in accordance with the ADWG (version 3.7, 2022).

5.1 Chemical: Health Related – Compliance Summary

Harvey Water Distribution System July 2024 – June 2025					
Health Characteristic	ADWG Guideline value (mg/L)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance	Max Value of Analysis (mg/L)
Antimony	0.003	1	1	100	<0.001
Cadmium	0.002	12	12	100	<0.0001
Chlorine (Inhouse testing free residual)	5	27	27	100	1.85
Copper	2	13	13	100	<0.0011
Fluoride	1.5	4	4	100	0.26
Lead	0.01	12	12	100	0.001
Manganese	0.5	13	11	100	0.036
Molybdenum	0.05	1	1	100	<0.001
Nickel	0.02	1	1	100	<0.001
Nitrate	50	12	12	100	0.49
Trihalomethanes	0.25	12	12	100	0.150

5.1.1 PFAS

Harvey Water Distribution System July 2024 – June 2025					
Health Characteristic	ADWG Guideline value (µg/L)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance	Max Value of Analysis (µg/L)
PFOA	.560	1	1	100	<0.01
PFOS/PFHxS	.070	1	1	100	<0.01
PFBS		1	1	100	<0.01

During the 2024-25 reporting period PFAS sampling was undertaken. Results for the four key PFAS chemicals are reported above. As Harvey Water sources water from a protected underground source and the treatment process is through a closed loop, Harvey Water have assessed there is a low risk of PFAS contamination. Harvey Water will conduct PFAS sampling annually going forward.

5.2 Chemical: Health Related – Exception Notifications

During the 2024-25 reporting period there was no exceedances or missed samples relating to Health related performance.

6 Chemical – Aesthetic Performance

During the July 2024 to June 2025 annual reporting period, there were three analytes that exceeded the chemical aesthetic criteria in the drinking water distribution system. The details of these are outlined in section 6.2.

6.1 Chemical – Aesthetic

Harvey Water Distribution System July 2024 – June 2025					
Aesthetic characteristic	ADWG guideline value (mg/L unless stated)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance	Max Value of Analysis (mg/L unless stated)
pH	6.5 – 8.5	49	49	100	(8) 8.3
TDS	600	49	10	20	730
Turbidity	5 NTU	44	44	100	2.8 NTU
Aluminium	0.2	1	1	100	<0.01
Sodium	180	12	12	100	130
Hardness	200	10	0	0	250
Chloride	250	49	49	100	250
Sulfate	250	13	13	100	91
Iron	0.3	12	12	100	0.1
Zinc	3	1	1	100	0.027
Colour - True	15 HU	3	3	100	8.2

6.2 Chemical Aesthetic – Exception Notification

Two analytes exceeded the aesthetic guidelines with these exceedances discussed below:

- Total Dissolved Solids (TDS) – during this period, the TDS level in the drinking water system ranged from 530 – 730 milligrams per litre. It is noted water with TDS in the range of 600 – 900 milligrams per litre is considered to have fair palatability, rather than good palatability for water with TDS < 600 milligrams per litre. As the water in this system falls within the fair range, the water quality will continue to be monitored to ensure the quality does not deteriorate further.

- Hardness - Hardness is another parameter that exceeded the aesthetic guideline in accordance with the ADWG (version 3.7, 2022). The main issue of concern with hardness is the formation of scaling in pipework. The optimum hardness of drinking water is in the range of 60 – 200 milligrams per litre as $CaCO_3$. The maximum hardness level in this water source recorded during this reporting period was 250 milligrams per litre. According to the ADWG, water with hardness in the range of 200 – 500 milligrams per litre as $CaCO_3$ will have increasing scaling problems. Harvey Water will continue to monitor the level of hardness in the drinking water supply to ensure scaling does not pose an issue to the ongoing supply of water to the end user.

7 Radiological Performance

During the July 2024 to June 2025 annual reporting period, there were zero reported exceedances of radiological criteria in accordance with the ADWG (version 3.7, 2022).

7.1 Radiological – Compliance Summary

Harvey Water Distribution System July 2024 – June 2025					
Radiological Characteristic	ADWG Screening value (Bq/L)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance	Max Value of Analysis (Bq/L)
Gross Alpha activity	0.5	1	1	100	0.15
Gross Beta activity (excluding K-40)	0.5	1	1	100	0.32

8 Acknowledgements

Harvey Water acknowledges the valuable assistance of the Department of Health WA throughout the continued operation of the drinking water treatment and distribution system in the Kemerton Industrial Area.

9 Enquiries

Any request for further information regarding the Harvey Water drinking water supply in the Kemerton Industrial Area can be directed to Harvey Water via telephone at (08) 9729 0100, or via email admin@harveywater.com.au.