

Quarterly Drinking Water Report to the Department of Health

1 April – 30 June 2026



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1. Water Provider Information

Rottnest Island Authority Contact Details	
Name of Company	Rottnest Island Authority
Company Address	1 Mews Road, Fremantle WA 6160
Company Phone	Ph: (08) 9432 9300
Company Website	www.rottnestisland.com
Company Email	enquiries@rottnestisland.com
Executive Director	Jason Banks
Director Environment Heritage and Parks	Arvid Hogstrom
Director Infrastructure	Martin Marerwa
Manager Approvals and Compliance	Tim Macknay
Environmental Compliance Officer (PFM)	Brendan Mitchell

1.1 System Information

Water demand on Wadjemup / Rottnest Island is highly seasonal and varies in response to visitor numbers and accommodation occupancy. Demand is typically highest during the summer months and lower during winter. In April there were 83,877 visitor arrivals, with 49,815 in May and 30,325 in June.

The Island provides approximately 4,362 guest beds, with visitors staying for an average of two nights. It also supports a fluctuating permanent population of approximately 150 residents, with numbers varying according to seasonal operational demand.

1.1.2 Distribution System & Water Supply

The Rottnest Island water distribution system is a relatively small network comprising approximately 22 km of mains. Water supply for the island is sourced from six saline bores within the Longreach Borefield. The abstracted seawater is directed to the desalination plant, where it undergoes reverse osmosis (RO) treatment. Following desalination, the water is disinfected through a dual chlorination system, ensuring the provision of safe drinking water to consumers on the island.

The water demand on Rottnest Island is becoming more consistent throughout the year with reduced seasonal variability. Monthly consumption can range from approximately 12,000 kL in July to 25,000 kL in December. Consumption levels for April 2026 18,321 kL, with May 2026 consumption of 18,742kL kL and 15,651 kL in June 2026.

Rottnest Island has a combined potable water storage capacity of 14,000 kL, providing approximately 18 days of supply at full capacity. Water security is managed to maintain a minimum of twelve days storage during peak periods. Trains 1 and 2 within the existing desalination plant are nearing end-of-life but have recently had major refurbishment undertaken on them. While the desalination plant has a theoretical maximum production capacity of 910 kL per day with Trains 1, 2, and 4 operational, production is currently limited to approximately 720 kL per day due to operational constraints at the Bore field, allowing only either Train 1 or Train 2 to operate alongside Train 4.

The RIA has appointed a contractor to deliver two new 500 kL/day seawater reverse osmosis desalination trains as part of a major plant upgrade. The new plant will be up to the equivalent of Water Corporation water quality standard and will include Multi Media Filtration as well as a second pass train.

Remote locations outside the main settlement, such as the outer island ablutions, Wadjemup Lighthouse and surrounding area, are supplied with water via a tanker. The supplied water in these areas is deemed not suitable for drinking and warning signs are posted accordingly.



Figure 1 Example of Public Signage



1.1.3 Sampling Schedule & Procedure

Potable water quality monitoring on Rottnest Island is conducted in line with the Australian Drinking Water Guidelines (ADWG) and follows the sampling schedule outlined in the Rottnest Island Drinking Water Quality Risk Management Plan (November 2022).

All sampling, reporting, and compliance assessments are based on the ADWG Version 3.7 as per direction from Department of Health (DoH).

The monitoring program is adaptable and may be revised in response to:

- Updated risk assessments;
- Emerging industry trends or best practice;
- Guidance or specialist recommendations from Government Departments; and
- Incident investigations or post incident reviews.

In addition to routine sampling under the 2022 risk management plan, RIA also undertakes targeted monitoring of:

- Tanks 4 and 7, however, the data does not form part of the statistical data required for analysis in this quarterly report.
- Drinking water fountains, as recommended by the DoH in 2017.
- Bromate, following testing for additional minerals and metals in 2017. Bromate was identified, and weekly sampling occurs to monitor the results.



2. Performance Summary

Summary of Water Quality results compared to the ADWG April – June 2026			
Parameters	No. of Analyses	No. of Analyses Complying with ADWG	No. of ADWG exceedance events
Microbial			
Bacterial (<i>E.coli</i>)	60 ¹	60	0
Amoeba (Thermophilic <i>Naegleria</i>)	27 ²	27	0
Chemical & Physical			
Health	292 ³	292	0
Aesthetic	354 ⁴	263	91
Radiological⁵			
Gross Alpha	0	NA	NA
Gross Beta	0	NA	NA
PFAS			
PFOS & PFHxS	2	2	0
PFOA	2	2	0

¹ This number does not include Tank 4 & 7

² Ibid

³ Ibid

⁴ Ibid

⁵ Samples were not scheduled within this quarter

3. Microbial Performance

During the April – June 2026 reporting period, there were no reported exceedances of microbiological parameters compared against the ADWG in the potable water distribution system. Section 3.1 presents an overall compliance summary for all microbial-related sample analyses.

3.1 Microbial – Compliance Summary

Rottnest Island Distribution System April – June 2026				
Microbial Characteristic	Memorandum of Understanding Compliance Criteria	No. of Analyses	No. of Analyses Complying with Memorandum of Understanding	% Compliance
Bacterial				
<i>E.coli</i>	Non-Detect	60	60	100%
Amoeba				
Thermophilic <i>Naegleria</i>	Non-Detect	27	27	100%

4. Chemical: Health Related Performance

During the April – June 2026 reporting period, no exceedances of the chemical health parameters outlined in the ADWG were recorded for the potable water distribution system.

Section 4.1 presents an overall compliance summary for all chemical health-related sample analyses.

4.1 Chemical: Health Related – Compliance Summary

Rottnest Island Distribution System April – June 2026					
Health Parameter	ADWG Compliance Criteria (mg/L)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance with ADWG	Max Value of Analysis (mg/L)
Antimony (Sb)	0.003	27	27	100%	< 0.001
Bromate (BrO ₃ ⁻)	0.02	108	108	100%	0.008
Chlorine Total (Cl ₂) (in house testing Total Residual)	5	90	90	100%	1.60
Copper (Cu)	2	4	4	100%	1.30
Fluoride (F)	1.5	27	27	100%	0.4
Lead (Pb)	0.01	4	4	100%	< 0.001
Nickel (Ni)	0.02	4	4	100%	< 0.001
Nitrate (NO ₃ ⁻)	50	4	4	100%	< 0.01
Nitrite (NO ₂ ⁻)	3	12	12	100%	< 0.01
Trihalomethanes (THMs)	0.25	12	12	100%	0.012

5. Chemical: Aesthetic Performance

During the April – June 2026 reporting period, there were 91 sample exceedances of chemical aesthetic parameters in the potable water distribution system, the details of which are outlined in Section 5.2.

5.1 Chemical: Aesthetic - Compliance Summary

Rottneest Island Distribution System April – June 2026					
Aesthetic Parameter	ADWG (mg/L unless stated)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance with ADWG	Max Value of Analysis (mg/L)
Aluminium (Al)	0.2	3	3	100%	< 0.05
Ammonia (NH ₃)	0.5	10	10	100%	< 0.02
Chloride (Cl ⁻)	250	1	1	100%	100
Free Chlorine (Cl) (in house testing)	0.6	90	0	0%	1.16
Colour	15 (HU)	7	7	100%	5.5
Hardness (CaCO ₃)	200	1	1	100%	14
Hydrogen Sulphide	0.05	4	4	100%	< 0.05
Iron (Fe)	0.3	27	26	96%	0.41
pH	6.5 – 8.5	108	108	100%	7.11, 7.71 ⁶
Sodium (Na)	180	108	108	100%	67
Sulphate	250	1	1	100%	1.9
TDS	600	1	1	100%	200
Turbidity	5 (NTU)	7	7	100%	0.90 (NTU)
Zinc (Zn)	3	4	4	100%	0.027

⁶ The two numbers represent the lowest and the highest pH values measured respectively.

5.2 Chemical: Aesthetic – Incident Specific Information

- **Chlorine (free):** During this reporting period, 90 recorded samples exceeded the ADWG aesthetic limit of 0.6 mg/L for chlorine.

The ADWG establishes an aesthetic odour threshold of 0.6 mg/L, however, these exceedances do not pose any health risks, as all values remained well below the health guideline limit of 5.0 mg/L.

Aesthetic exceedances were observed across multiple distribution sampling points over the three-month period, with a maximum recorded concentration of 1.16 mg/L at R12-001 on 13 April 2026.

While higher chlorine concentrations may affect the aesthetic quality of drinking water, maintaining adequate disinfection is essential to ensuring safety of the drinking water sources.

- **Iron(Fe):** During this reporting period, one sample exceeded the ADWG aesthetic limit of 0.3 mg/L for iron, recorded at R12/008 on 4 May 2026 at a concentration of 0.41 mg/L.

This is an aesthetic exceedance only – iron at this level may affect taste and cause staining but does not pose a health risk, as the ADWG does not set a health-based guideline value for iron.



6. Radiological Performance

No radiological water quality samples were collected during this reporting period.



7. PFAS Performance

During the April – June 2026 reporting period, no exceedances of radiological parameters outlined in the ADWG were recorded for the potable water distribution system.

6.1 PFAS - Compliance Summary

Rottnest Island Distribution System April – June 2026					
PFAS Parameter	ADWG (µg/L unless stated)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance with ADWG	Max Value of Analysis (Bq/L)
PFOS & PFHxS	0.07	2	2	100%	< 0.001
PFOA	0.56	2	2	100%	< 0.001



8. Planned Sample Summary

During the April – June 2026 reporting period, routine monitoring was conducted in accordance with the planned sampling schedule for microbial, chemical, and radiological parameters, with a total of 1,251 samples collected. A summary of sample numbers and compliance with the sampling program is provided in Section 8.1.

8.1 Planned Sample – Compliance Summary

Planned Samples April – June 2026								
Microbial			Chemical			PFAS		
Planned ⁷	Taken ⁸	% Taken	Planned	Taken	% Taken	Planned	Taken	% Taken
386	386	100%	863	863	100%	2	2	100%

⁷ A planned sample is defined as being included in the sampling schedule for this reporting period.

⁸ A taken sample is the physical sample taken for this reporting period.



9. Customer Complaints

There were no customer complaints relating to drinking water quality performance during this reporting period. RIA has a [Utilities Customer Complaint Procedure](#), which outlines how complaints can be submitted.



10. Special Investigations

10.1 Bromate Management

The RIA continues to actively monitor and manage bromate formation across the distribution network, in line with the decisions made during the Quarterly Meeting held on 26 September 2019 between the RIA, PFM, and the DoH. To ensure water quality, bromate levels are tested weekly at the following locations: R12/001 - R12/008, Fays Bay, Tank 4, and Homestead. Additionally, bromide levels are monitored weekly at Tank 7 to support effective management of bromate formation.

10.2 Drinking Fountain Monitoring Initiative

The RIA initiated a drinking fountain monitoring program in December 2017, following a recommendation from the DoH. The findings from this sampling program played a key role in supporting the island's drinking fountain replacement project, which involved the replacement of all existing drinking fountains and the installation of new facilities throughout the settlement.

The drinking fountain monitoring program and its sampling results are reported separately from the broader distribution system or network. The results for the April – June 2026 quarter are provided in the table below. Sampling of the drinking fountains occurs on a four-week cycle. During this reporting period, there were two exceedance events for Nickel, one at P&F 1 and one at DD1.

Rottneest Island Drinking Fountain April – June 2026					
Health Characteristic	ADWG (mg/L)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance with ADWG	Max Value of Analysis (mg/L)
Antimony (Sb)	0.003	72	72	100%	< 0.001
Cadmium (Cd)	0.002	72	72	100%	< 0.0001
Copper (Cu)	2	72	72	100%	1.300
Lead (Pb)	0.010	72	72	100%	0.001
Nickel (Ni)	0.020	72	70	97%	0.025
Aesthetic Characteristic	ADWG (mg/L)	No. of Analyses	No. of Analyses Complying with ADWG	% Compliance with ADWG	Max Value of Analysis (mg/L)
Zinc (Zn)	3	72	72	100%	0.027



10.3 Other Sampling

10.3.1 Homestead

PFM initiated monthly sampling of a 3 kL potable water storage tank at the Rottnest Island Homestead shortly after its installation in November 2022. In February 2024, this tank was replaced with a larger 50 kL tank, which is directly supplied by the pressurised water main. The new tank is now sampled weekly for bromate levels and monthly for microbiological indicators to ensure water quality is maintained.

- 17 May 2026: Bromate level of 0.025 mg/L.

Water at the Homestead has been deemed not suitable for drinking, with non-potable water signage in place and bottled water supplied to residents.