ORDINARY MEETING OF COUNCIL

REPORTS TO COUNCIL - ITEMS FOR INFORMATION 10.1 Bungendore PFAS Update (Ref: ; Author: Cunningham/Long)

File Reference: 32.1

Recommendation

That the report be received for information.

Report

Council received a report in November 2024 regarding baseline testing of PFAS in drinking water supplies in the Queanbeyan-Palerang region. The baseline testing identified that all QPRC drinking water supplies, except Bungendore, were clear of PFAS.

Whilst the baseline results for Bungendore are compliant with current Australian Drinking Water Guidelines (ADWG) values, one of the results was on the limit of changes proposed by the National Health and Medical Research Centre (NHMRC).

Since the initial report, additional testing and investigation has been undertaken in the Bungendore water network.

Table 1 summarises the results of the testing in the Bungendore network.

No results exceed the current ADWG guideline values. Late last year the NHMRC published draft new guideline values for PFAS which are currently out for public comment. The results highlighted orange exceed these proposed guideline values.

Table 1 – Bungendore PFAS results

	PFBS (ppt)	PFHxS (ppt)	PFOA (ppt)	PFOS (ppt)	PFOS + PFHxS (ppt)
ADWG limit	NA	NA	560	NA	70
Proposed NHMRC limit	1000	30	200	4	NA
24-Sep-24					
Currandooly - raw	0	0	0	0	0
Currandooly - treated	0	0	0	0	0
Post aeration	0	3	0	4	7
Pre aeration	0	4	0	5	9
08-Oct-24					
Bore # 3	0	2	0	9	11
Bore # 6	0	5	0	7	12
Post aeration	0	2	0	4	6
Pre aeration	0	3	0	5	8
04-Nov-24					
Bore # 1	0	2	0	2	4
Bore # 2	0	0	0	0	0
Bore # 3	0	4	3	4	8
Bore # 6	0	8	1	7	15
Post aeration	0	3	0	2	5
Post aeration - duplicate	0	4	0	3	7
Gibraltar Street - retic	0	3	0	2	5
Simms Drive - retic	0	0	0	0	0

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	PFBS (ppt)	PFHxS (ppt)	PFOA (ppt)	PFOS (ppt)	PFOS + PFHxS (ppt)
21-Nov-24					
Bore # 1	0	0	0	0	0
Bore # 2	0	0	0	0	0
Bore # 6	0	7	0	8	15
Currandooly - raw	0	0	0	0	0
Post aeration	0	4	0	3	7
Gibraltar Street - retic	0	0	0	0	0
Simms Drive - retic	0	0	0	0	0
18-Dec-25					
Bore # 1	0	1	0	1	2
Bore # 2	0	0	0	0	0
Bore # 6	0	7	0	6	13
Currandooly - raw	0	0	0	0	0
Post aeration	0	3	0	3	6
Gibraltar Street - retic	0	2	0	3	5
Simms Drive - retic	0	0	0	0	0
29-Jan-25					
Bore # 1	0	0	0	2	2
Bore # 2	0	0	0	0	0
Bore # 6	4	9	0	8	17
Currandooly - raw	0	0	0	0	0
Post aeration	0	3	0	3	6
Gibraltar Street - retic	0	3	0	3	6
Simms Drive - retic	0	0	0	0	0

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Operationally, bore # 3 has been isolated from the network as of October 2024 and the mode of operation since then has been to utilise bores 1, 2 & 6 concurrently to better make use of the benefits of dilution.

NSW Health, NSW EPA and NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) have been consulted regularly regarding the results. It has been agreed to continue with monthly testing.

Additional to the testing of the water supply network, samples were taken on 17 December 2024 from a series of aquifer monitoring bores which Council utilises as part of its ongoing groundwater management plan. The location of the monitoring bores is shown in Figure 1 and Table 2 summarises the results of the monitoring bore samples.

It is important to note that these monitoring bores are not part of the town water production system but are bores sunk within the supply aquifer for the purposes of periodic level and quality sampling.

The results highlighted red exceed the current ADWG guideline values and those highlighted orange exceed the proposed NHMRC guideline values. The results 'PMD-D' and 'PMB-X' are from the same site; the sample for 'PMB-X' was taken as a duplicate for quality control purposes.

The monitoring bores which exceed current and proposed guideline values are located 'up gradient' from the town production bores so there is a question whether there is potentially a plume of PFAS compounds which could migrate towards bores 1, 3, and 6.

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There is also a concern that private 'Basic Landholder Right' bores may exist in the vicinity of the monitoring bores which have returned exceedances. DCCEEW is the licencing authority for all bores (including private bores) and it has been agreed that that Department will manage any direct messaging in relation to these recent developments with affected customers.

NSW Health have provided links to existing government advice as to the use of private water supplies (including bores) for human consumption and these have been incorporated into Council's dedicated PFAS web page at that Department's request.



Figure 1 – bore locations

Table 2 – monitoring	bore results
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	PFBS (ppt)	PFHxS (ppt)	PFOA (ppt)	PFOS (ppt)	PFOS + PFHxS (ppt)
ADWG limit	NA	NA	560	NA	70
Proposed NHMRC limit	1000	30	200	4	NA
PMB-AS	0.7	0	2.3	0	0
PMB-AD	0	0	0.9	0	0
PMB-BS	1.7	0	0	0	0
PMB-BD	0	0	0	0	0

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PMD-D	21.3	294	14.7	450	744
PMB-E	2.7	13.2	1.5	24.8	38
PMB-M	1	1.6	0.5	0.9	2.5
PMB-X	21.8	275	14.4	463	738

Concurrent with the regular sampling and liaison with NSW government agencies, high level investigations have commenced to ascertain where the PFAS contamination may have originated.

The NSW EPA Contaminated Site register identifies two sites in the catchment which have been subject to contaminated site notifications. One is associated with lead contamination in and adjacent to the rail corridor but is not associated with PFAS contamination. The other site is the former Koppers Australia site in a block bounded by Forster, Butmaroo, Majara and King Streets. This site was subject to a clean up order in 1995 which was subsequently declared invalid.

This site was owned and operated by Koppers Australia from 1971 to 1984 and used as a treatment facility to preserve timber using a solution of copper, chromium and arsenic. An investigation of the site in 1994 confirmed that residual CCA chemicals were present but none of the chemicals are identified as PFAS.

Anecdotal evidence suggests that the area known as Frogs Hollow may have been used historically as a firefighting training area and that these activities may have used foam based products; products now known to have historically contained PFAS substances. In such an eventuality this could certainly be one source.

The fact that the monitoring bore test results have also shown high level readings further up gradient perhaps suggests another source and in speaking with the regulators it was postulated that this could have come about as a result of historical highway related motor vehicle accident responses that incorporated the use of firefighting foam. At this stage though, both of these prospects are speculative.

The RFS Lake George District Office have been requested to review any records they may have in relation to any such training and whether PFAS containing materials were (or may have been) used. The request has been referred to the RFS's state PFAS team and a response is pending. Similar enquiries are pending in relation to the prospects of any nearby historical motor vehicle incidents that may potentially have been a source.

A review of Council's approvals for Discharge of Liquid Trade Waste to the Sewerage System has been conducted to provide an indication of the types of chemicals used and discharged from local businesses. This review has not revealed any current business which may produce or dispose of significant quantities of PFAS.

Sydney Water has detected PFAS in wastewater treatment biosolids, some of which have been used as soil conditioner applied to designated farmland. To Council's knowledge, no farms in the Bungendore catchment have accepted Sydney Water biosolids. The biosolids from the Bungendore wastewater treatment plant are stored on site until sufficient volumes are aggregated and then disposed of outside the catchment area.

To date, there is no definitive answer to where the PFAS detected has originated.

In conjunction with NSW government agencies, monthly testing will be maintained and results monitored. Results of the regular testing will continue to be published on QPRC's website.

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Attachments

Nil