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Tēnā koe J Wilson

Request for information relating to the chemical composition of New Zealand water

Thank you for your email dated 21 December 2023, requesting the following information, which we have considered under the Official Information Act 1982 (OIA):

“what chemicals can be found in New Zealand water -- in reservoirs, lakes, streams, rivers, the sea, drinking and washing water. Please detail the chemicals and metals, and their levels, found in New Zealand water over the last five years.

Are there metals in the water of any type or location, such as copper, mercury, lead, cadmium, aluminium, barium, iron, strontium, graphene? What are the levels of these or other metals in the water? Are they all removed from drinking water?

Are there any micro-plastics or nanoparticles found in the water of any type, and if so, what are they, and what are they levels of them? If so, where do these items come from?”

The scope of your request is quite broad. We attempted to clarify the scope with you on 11 and 29 January 2024, but have not had any response from you.

We have interpreted your request as follows:

- Where can I find more detail on chemical testing of different types of water in New Zealand, e.g. who is responsible for what?
- What chemicals (of any type) are required to be tested for in sources of drinking water and treated drinking water?
- What records do you have on chemicals (of any type) found in sources of human drinking water and treated drinking water including the last five years of historical records?
- Are microplastics or nanoparticles tested for in sources of drinking water and treated drinking water, and at what levels are they found?

Our response to your request is set out below.

Response

Background

1. Taumata Arowai—the Water Services Regulator is a Crown entity established on 1 March 2021 by the Taumata Arowai—the Water Services Regulator Act 2020. Our functions include monitoring and enforcing compliance with relevant drinking water legislation and standards, and other regulatory requirements for which we are responsible.
2. Taumata Arowai became the water services regulator on 15 November 2021 when the responsibility for regulating drinking water transferred from Manatū Hauora | Ministry of Health to us with the commencement of the Water Services Act 2021 (the Act).
3. The [Water Services \(Drinking Water Standards for New Zealand\) Regulations 2022](#) (the Standards) and the [Drinking Water Quality Assurance Rules](#) (the Rules) came into force on 14 November 2022, and replaced the [Drinking-water Standards for New Zealand 2005 \(Revised 2018\)](#) (the 2005 Standards).
4. The Standards established revised Maximum Acceptable Values (MAVs) for chemicals in drinking water. The Rules set minimum requirements for treating and monitoring drinking water, which drinking water suppliers must follow based on the supply type and the population they serve.

Responsibilities of drinking water regulation

5. Taumata Arowai is responsible for regulating drinking water suppliers.
6. Drinking water suppliers are responsible for monitoring their drinking water supplies, and responding when monitoring shows that a chemical has exceeded a MAV.
7. The Ministry for the Environment and regional councils are responsible for environmental regulation, including the protection of bodies of water.
8. If a supplier's drinking water does not comply with the Standards, such as a MAV being exceeded, the supplier must:
 - (a) take immediate action to ensure that public health is protected; the action that would be taken would be proportionate to the chemical and the level of the chemical detected in drinking water;
 - (b) notify Taumata Arowai of the non-compliance; this allows us to be aware of all MAV exceedances in registered drinking water supplies and follow up if necessary;
 - (c) investigate the source or cause of the non-compliance;
 - (d) take remedial action to rectify the situation;
 - (e) identify and implement measures required to ensure that the event does not reoccur; and
 - (f) take all practicable steps, to the satisfaction of Taumata Arowai, to advise affected consumers and drinking water suppliers that drinking water does not comply with the drinking water standards and what measures should be taken to protect public health (for example, issuing a consumer advisory).

Chemicals required to be tested for in drinking water

9. The Rules were published in July 2022 and require drinking water suppliers to sample their source water and drinking water for chemicals from 14 November 2022. These are the minimum requirements for testing that suppliers must undertake, but the supplier must also undertake additional monitoring if the supplier identifies that a chemical may pose a risk to their supply.
10. Below is a summary table of the Rules which require chemicals to be tested for by water type, the rule number, and the supply population.

Water type	Rule	Required Monitoring*	Supply population range
Source Water: Groundwater and Surface Water	S1.1 and S2.1	<u>Arsenic, Boron, Iron, Manganese, Nitrate</u>	26-500 people
Source Water: Roofwater	S1.2 and S2.2	<u>Benzo[a]pyrene, Cadmium, Copper, Lead, Zinc</u>	26-500 people
Source Water: If cyanobacteria risk is medium or high	S2.6	Cyanobacteria and <u>Cyanotoxins</u>	>101 people
Source Water of Large Supplies	S3.3 and S3.6	Alkalinity, <u>antimony, arsenic, barium, cadmium, calcium, chloride, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, nitrate, sodium, sulphate</u> Also, any additional chemicals which have been identified in the supply's Source Water Risk Management Plan as presenting a potential risk to the drinking water supply	>500 people
Source Water: Additional Groundwater monitoring	S3.4	<u>Radioactivity, potassium</u>	>500 people
Drinking Water: Monitoring at the treatment plant	T2.1, T3.92, T3.93, T3.96	<u>Chlorate</u> <u>Chlorine</u> <u>Fluoride</u> (only if added to the supply). Also any other chemicals which may be added or formed during the treatment process.	>101 people
Drinking Water: Monitoring in the distribution network	D2.1, D3.18, D3.19, D3.20, D3.22	<u>Chlorine, antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc</u>	>100 people

*Health related chemicals with MAVs are underlined. Other chemicals not underlined can influence aesthetics of the water.

11. The results of the chemical testing from the Rules in the table above are also required to be reported to Taumata Arowai annually. These suppliers must provide their first annual compliance report on the Rules this year. Once Taumata Arowai receives the required data sets from suppliers across the country, we will assess the data.

Compliance data yet to be collected

12. Taumata Arowai currently holds a growing set of raw data from suppliers which have reported ahead of the annual deadline. We expect this data set to continue growing into a very large, complex data set in the coming weeks. This complex data set will require substantial collation in order to provide this data for your request.
13. We intend to present data related to the Rules publicly as we continue to integrate new data into our systems. Some information will be available in our Drinking Water Regulation Report for 2023, which is due to be published by 1 July 2024. We are also required to report source water quality monitoring to regional councils annually. We expect to do this within a year of receiving the data.
14. Therefore, the Rules data set identified for this part of your request is refused under section 18(f) of the OIA, on the basis that the information requested cannot be made available without substantial collation or research.
15. We do not consider that the need to withhold for these reasons is outweighed by other considerations which make it desirable, in the public interest, to make the information available.
16. You are welcome to contact Taumata Arowai to clarify the scope of your original request via info@taumataarowai.govt.nz. This clarification will be treated as a new request.
17. Suppliers are the owners of this data and are required to hold these records by the Act. Suppliers also have a responsibility to communicate with their consumers about the quality of their drinking water.
18. If you are interested in a specific registered drinking water supply, you may consider contacting the owner or operator of that supply.
19. Our Public Register of Drinking Water Supplies includes some information that registered drinking water suppliers provide to us about their supplies. You can search and find the drinking water suppliers for each geographical area in the register located on our website: [Public Register of Drinking Water Supplies](#).

Records held on chemicals found in drinking water

20. Since 15 November 2021 we have been recording when laboratories and suppliers notify us of chemical test results which exceed a MAV.
21. We also hold water quality data that was submitted by suppliers voluntarily to the Ministry of Health prior to 15 November 2021.
22. We are able to provide you with the following records of chemicals in drinking water:
 - a) Notifications of water supplies exceeding the MAV of a chemical in the Standards since 15 November 2021 when Taumata Arowai took over regulation of drinking water from the Ministry of Health. These results are attached to this response as Appendix One.
 - b) Historical data prior to 15 November 2021 provided to us by the Ministry of Health on water suppliers exceeding the MAV for a chemical. This data is attached to this response as Appendix Two.
23. In regard to Appendix Two, Taumata Arowai cannot provide any quality assurance on this data.

Withholding address information

24. Where indicated, some street addresses have been withheld from Appendix Two as it is necessary to protect the privacy of natural persons, including that of deceased natural persons under section 9(2)(a) of the OIA.

25. We do not consider that the need to withhold for these reasons is outweighed by other considerations which make it desirable, in the public interest, to make the information available.

Microplastics and nanoparticles

26. Taumata Arowai does not hold data on microplastics or nanoparticles found in New Zealand drinking water.

27. As noted in our email to you on 29 January 2024, we have transferred this part of your request under section 14 of the OIA to the Ministry for the Environment, as they are the best agency to respond.

Finding specific information on your water supply

28. We recommend contacting your local council if you are after information on your specific water supply. You can check who your drinking water supplier is on the Public Register. If you have concerns about your drinking water supplier, we recommend you firstly contact your supplier. More information is available here: [Are you concerned about your drinking water? | Taumata Arowai](#).

Right to complain

You have the right by way of complaint to the Ombudsman under section 28(3) of the OIA to seek an investigation and review of this response. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Ngā mihi



Steve Taylor
Head of Regulatory