Toxic PFAS chemicals detected at high levels in Blue Mountains, Sydney drinking water

Jenny Campbell
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Independent testing commissioned by the *Sydney Morning Herald* (SMH) this month has revealed that drinking water in the Blue Mountains, a major regional area to Sydney's west, contains toxic per- and poly-fluoroalkyl substances (PFAS) chemicals at up to 50 times the official guidelines of safe levels.

The testing was conducted by Ian Wright, a water scientist at the Western Sydney University. It is part of a broader investigation by the SMH into the presence of PFAS chemicals in New South Wales (NSW) water supplies, spurred in part by the statements and campaigning of environmental experts and community groups over the issue.

The result exposes a cover-up involving the official water authorities, as well as state and federal governments, going back decades.

The introduction of limited regulations in the United States, where it has now been admitted that there is no safe level of PFAS chemicals in water supplies, has further highlighted the longstanding issue in Australia.

Earlier this year, the SMH revealed that with changes to the US regulations, PFAS chemicals are allowed in Australian water supplies at up to 140 times more than the rate now officially permitted in America.

This article came after the journalists in May questioned Sydney Water, a state-owned water utility, about PFAS presence in drinking water. The response from Sydney Water was that there were "no PFAS hotspots" in the catchments necessitating regular testing of waterways or drinking water, the water treatment plant near Richmond Air Base being the sole exception.

PFAS chemicals are synthetically produced and used for their varying abilities including to repel fluids. They were previously used in Australia in fire-retardant foam and have been found worldwide in humans, animals, rain and the food chain. They are used domestically in cosmetics, cooking utensils, greaseproof paper and sunscreen.

These chemicals are known carcinogens which "bioaccumulate" in the body, meaning they accumulate faster than they can be expelled through urine, breastmilk or menses. Long term ingestion of PFAS can lead to liver, immune and thyroid dysregulation, reduced fertility and a range of cancers, particularly in the kidneys which are responsible for flushing toxins from the blood.

It is not definitively known if PFAS will ever break down in the environment or whether the human body can expel them completely, as they are extremely difficult to destroy except at temperatures of 1000 degrees Celsius.

The June article established that there has been no systematic testing by responsible agencies of drinking water across Australia since a University of Queensland study in 2011, which took water samples from 34 locations across Australia establishing widespread contamination with PFAS chemicals. That study laid bare the extent of contamination and raised the question of the true scale of the dangerous chemical in catchments.

After the June article came out, WaterNSW, which monitors water bodies and catchments, conducted its own testing, the results of which were published on their website. Their results were presented as "below the Australian Drinking Water Guidelines values of PFOS + PFHxS = 0.070 µg/L and PFOA = 0.56 µg/L."

The Australian Drinking Water Guidelines are currently 140 times higher than those of the US Environment Protection Agency, which in April brought in new, mandatory regulations to dramatically reduce PFAS in drinking water to 4 parts per trillion.

By contrast, Australia's drinking water guidelines are set at 70 parts per trillion of PFOS and 560 parts per trillion of PFOA.

The Australian guidelines set in 2018 by the National Health and Medical Research Council are, according to the federal government, "based on the best available scientific evidence" and are "non-mandatory." The non-mandatory nature of the guidelines suggests that it is not incumbent on agencies responsible for water quality to do anything about the quality of the water they are overseeing. This carte blanche attitude toward drinking water goes some way to explaining why there is no systematic testing being done.

It would take another two months before the contaminated Medlow Dam and Greaves Creek dam, which both feed into the Cascade Dam and treatment plant, would be tested and shut off from entering the Cascade Dam. The WaterNSW readings of PFAS in the Medlow Dam and Greaves Creek were above the recommended levels of PFAS, at 0.09 micrograms per litre, but significantly lower than the readings taken by Wright in early September, of 3.7 micrograms per litre at Adams Creek, which feeds into Medlow Dam. This figure represents 50 times the "safe guidelines" of PFAS presence in water.

The test results were described by Wright in the SMH investigation as "white hot." He pointed out that the official response in May by Sydney Water, that there were "no PFAS hotspots," was due to limited testing being carried out and that widespread testing needs to be carried out to establish where the hotspots are, or where they arise due to rain events.

The Cascade water treatment plant services over 41,000 people in the Blue Mountains with drinking water. Investigations are being conducted as to the source of the PFAS in the waterways. One of the likely sources is the use of PFAS in firefighting foam used in the 1990s to extinguish car and truck accident fires on the Great Western Highway.

Even though the use of PFAS firefighting foam was discontinued in 2007, Wright has speculated that the latent foam seeped into the water table under Medlow Bath and Blackheath and has been polluting the water for decades. State and federal governments have been well aware of the dangers of PFAS and its presence in water but have done nothing about it. As a result of the SMH article in June, NSW state government officials were forced to address the issue, which they did in that same month by assuring the public the water was safe to drink.

NSW Premier Chris Minns said that Sydney's water supply was "generally considered pretty good," with Health Minister Ryan Park going a step further, saying: "My kids drank water out of the tap in the Illawarra this morning… they'll be drinking it today at school, they'll be drinking it when they get home."

Those criminally light-minded comments point to the broader issues revealed in the PFAS contamination. It is clear that governments resisted testing the water supplies, because they already knew or strongly suspected what would be found. Any attempt to remediate and address PFAS chemicals would be costly and complex, involving government spending with no immediate return either for the authorities, or the corporate elite that they represent. The response, therefore, has simply been to bury the issue.

That recalls the response by the same governments and authorities to the worldwide COVID-19 pandemic. They have systematically dismantled necessary safety measures, which could have eliminated the virus, because of the impact that such policies could have on corporate profit-making activities.

This profit before health and lives program, in the COVID crisis which has claimed millions of lives, and in the PFAS pollution revelations here and internationally, underscores the need for a socialist movement of the working class, which rejects the subordination of the needs of society and of working people to the fortunes of the corporations and the ultra-wealthy.