

FLUORIDE-FREE WATER OPTIONS

A Proposal for Informed Choice
in Public Drinking Water

TERESA GOODIN
FLUORIDE FREE TARANAKI



PURPOSE

Request for the New Plymouth District Council
to provide residents with publicly accessible
free unfluoridated water sources

&

Explore practical solutions used by
other councils around New Zealand.



BACKGROUND

1970 - Fluoride (Hydrofluorosilicic Acid) introduced into the New Plymouth's public water supply.

1992 - NPDC proposed to extend fluoridation to Urenui, Inglewood and Okato. A referenda was held and all three communities voted against it, Inglewood voted 66.1% against fluoride, Urenui 67.9% and Okato 76.6%.

2001 - Fluoridation Tribunal. NPDC presented with a petition of 8,000 signatures against fluoridation. NPDC voted to continue fluoridation but agreed to revisit the issue in the future.

2011 - Fluoridation Tribunal. NPDC received 436 written submissions, 90% opposed to water fluoridation. 50 oral submissions at a two-day Tribunal Hearing. NPDC voted unanimously to cease fluoridating the water supplies in New Plymouth, Waitara, Urenui, and Lepperton.

2023 - Health (Fluoridation of Drinking Water) Amendment Act 2021 transferred the authority to mandate fluoridation from local councils to the Director-General of Health. Fluoride reintroduced into New Plymouth's public water supply.



PRESENT

Currently all communities receiving the District's primary water supply are fluoridated with Hydrofluorosilicic acid including New Plymouth, Omata, Bell Block, Waitara, Lepperton, Tikorangi, Onaero and Urenui.

Inglewood, Oakura and Okato are not fluoridated.



POPULATIONS MOST VULNERABLE TO THE NEGATIVE EFFECTS OF FLUORIDE:

Infants (especially formula-fed babies)

Pregnant women and their unborn children

Individuals with chemical sensitivities and allergies

Individuals with **thyroid disorders** and iodine deficiencies

Individuals with **kidney disease** or impaired renal function

Individuals with **high water consumption** (athletes, breastfeeding)



OTHER REASONS WHY PEOPLE CHOOSE TO AVOID FLUORIDE:

Fluoride has been linked to dental and skeletal Fluorosis, brain damage and Lowered IQ, cancer (Osteosarcoma), premature births, bone damage and hip fractures, Hyperthyroidism or Thyroid disease, Attention Deficit and Hyperactivity Disorder, lowered immune disease and severe allergic reactions and sensitivity. Mounting evidence continues to emerge highlighting its potential harms.



COURT RULING 2024

In September 2024, a U.S. federal court ruled that the practice of adding fluoride to public drinking water poses an **“unreasonable risk” to children’s health**. Relying on a large body of peer-reviewed research, including studies linking prenatal and early-life fluoride exposure to **lower IQ and other neurodevelopmental effects**, the judge found:

- There is credible scientific evidence that fluoride can **impair cognitive development**, especially during **pregnancy**. Millions of pregnant women and infants are exposed, making the potential **harm both widespread and significant**.
- The “optimal” U.S. fluoridation level of 0.7 mg/L provides **too small a margin of safety** compared with levels associated with harm (around 1.5 mg/L in many studies). Using conservative assumptions, the court estimated a **“safe” level might be as low as ~0.4 mg/L** for pregnant women and developing fetuses, nearly half of the current fluoridation level. (In NZ, water fluoridation is between 0.7 and 1.0 mg/L)
- The Toxic Substances Control Act requires the EPA to regulate any chemical use that presents such a risk and the ruling ordered the EPA to develop regulations **to reduce or eliminate fluoride exposure from community water fluoridation**.

<https://fluoridealert.org/key-topics/epa-lawsuit/>

<http://fluoridealert.org/wp-content/uploads/2024/09/Court-Ruling.pdf>



THE COST OF AVOIDING FLUORIDE

PURCHASING WATER:

Residents are spending on average \$40 a week purchasing fluoride free drinking water.
(\$2,080 per annum)

WATER FILTRATION:

Activated Aluminium or Bone Char filters
Reduces fluoride but does not remove it completely.
Around \$400 for installation and \$100 per annum.

Reverse Osmosis (Gold Standard)
Removes all fluoride, but also all beneficial minerals.
3-4 litres wasted for every litre produced
Kitchen sink \$700 - \$1,800
Entire house \$5,000-\$8,000



NATIONAL PRECEDENTS

Under this Health (Fluoridation of Drinking Water) Amendment Act 2021 the directive allows a water supplier to have one or more taps to which fluoride has not been added.

Currently 10 councils around the country provide publicly accessible fluoride free water for their fluoridated communities including:

Kawerau, Tauranga, Hamilton, Hastings, Rotorua,
Palmerston North, Kapiti, Hutt City, Masterton and Whangarei.



RATIONALE

Fluoridation is a public health intervention that not everyone consents to, and to respect individual rights they provide a fluoride-free option.

Councils have also cited vulnerable populations (e.g infants, pregnant women, elderly, those with thyroid conditions or kidney disease) who are most vulnerable to the negative effects of fluoride.

Councils have recognised that mandatory fluoridation creates a duty of care, if someone objects or suffers perceived negative effects, the council can be liable.



HASTINGS

Hastings District Council provides fluoride free water stations in three locations.

Civic Square. The drinking water filling station supplies chlorine and fluoride free water. Next to bore, cartridge filtration and UV treatment.

Whakatū and **Haumoana** have Chlorine-removed water taps with no fluoride added. Small communities supplies with no fluoride.



Water stations at Civic Square

HAMILTON

Hamilton City Council provides two public sources of non-fluoridated water:

The Claudelands Events Centre water station uses Reverse Osmosis (RO) to remove the fluoride. The outlet has two taps at different heights as well as a drinking fountain. The lower tap has a hose connection suitable for connecting ordinary flexible garden hoses, for easy filling of large containers that are too heavy to lift.

Taitua Arboretum bore has also been endorsed as a suitable source of public non-fluoridated water. This bore water that is treated by cartridge filters and UV light. There is a single tap supplied at this site.



Water station at Claudelands Event Centre



Water tap at Taitua Arboretum with resident filling their water bottles



KAWERAU

Kawerau District Council provides two water stations supplying fluoride and chlorine free water.

Kawerau New World Carpark - The water is filtered to remove both fluoride and chlorine.

River Road - Two taps supply water that has been taken from a spring which is treated with UV light.



Water tap at Kawerau New World carpark.



Water taps at River Road treatment plant.

TAURANGA

Tauranga City Council has provided access to a non-fluoridated water source, with two more sources proposed.

Alice Johnson Oval in Pāpāmoa. The community can collect water using their own containers. This bore water is treated by cartridge filters and UV light.

Waipuna Park (Welcome Bay). An un-fluoridated water station is scheduled to open in February 2026.

Wharepai Domain. Un-fluoridated water station is planned for the future.



Water tap at Alice Johnson Oval in Papamoa

WHANGAREI

Whangarei District Council have installed a non-fluoridated drinking water tap in the carpark at the **Maungatapere Community Centre**. This is a 'push-tap' that can be used to fill drink bottles or small drinking water containers.

An second fluoride free tap has been approved by council at **Maungakamea**.



ROTORUA

Rotorua Lakes Council provides unfluoridated water to residents at two locations.

Caledonia Street, Ngongotahā - A tap is located on the road berm near an existing water filling station.

Puarenga Park - Non-fluoridated water is also available via a water tank. Tankers transport water to fill the tank.

Both sites are highly utilised. 35 cubic metres per month at each site, 70 cubic meters per month in total.



Water tap at Caledonia Street, Ngongotahā



Water tank and tap at Puarenga Park

PALMERSTON NORTH

Palmerston North City Council provides un-fluoridated water to residents at one location.

Papaioea Park - A water tap draws water from the park's bore for residents who prefer to drink water without added fluoride or chlorine.



Water tap at Papaioea Park

KAPITI COAST

Kapiti Coast District Council provides non-fluoridated water to residents at two locations.

Paekākāriki Town Centre - A water tap draws water from the public water supply that is non-fluoridated.

Ōtaki Visitor Centre - A water tap draws water from the public water supply that is non-fluoridated.



Non-fluoridated water tap at Paekākāriki Town Centre.

HUTT CITY

Hutt Council provides non-fluoridated water to residents at two locations.

Petone - Water fountain located on Buick Street delivers fluoride free water from the Waiwhetu aquifer.

Dowse Museum, Lower Hutt - A tap provides the same non-fluoridated, un-chlorinated water source.

Both taps have small UV units treating the water before it comes out of the tap.



Water taps at Buick Street in Petone



Water taps at Dowse Museum in Lower Hutt

MASTERTON

Masterton District Council provides fluoride-free water from a dedicated tap installed outside the **Manuka Reserve** in Manuka Street, Masterton.

The water comes from the **Otaki water scheme** which sources water from two sources from aquifers bore and well. Filtered and UV treatment.



Water tap at Manuka Reserve

NAPIER

Napier City Council has provided the community with two de-chlorinated water stations. Fluoride is not added to Napier's public water supply.

Anderson Park & Marine Parade (next to the National Aquarium of New Zealand)



Water station at Marine Parade



Water station at Anderson Park

CHRISTCHURCH

Christchurch City Council provides access to water without chlorine at two community drinking water stations.

Burnside Park & Keyes Road - The taps flow for 30 seconds once the button is pushed. Artesian water is filtered and UV-treated to comply with New Zealand drinking water laws. Fluoride is not added to Christchurch's public water supply.



Water station at Burnside Park



Water station at Keyes Road

BLENHIEM

Marlborough District Council provides three chlorine free water stations.

Rifle Range carpark (in Forest Park Drive), **Lansdowne Park** and **A and P Park** (Alabama Road).



DUNEDIN

Speight's Brewery - Non-chlorinated and non-fluoridated water from an aquifer is provided free for residents.

The tap is contactless and controlled by a foot pedal and pumps out about a million litres a year to locals.



Water tap at Speight's Brewery

ROLLESTON

Rolleston have water stations throughout the square for residents to fill there bottles with chlorine free water. It also includes a dog bowl.



Water station at Rolleston Square

SUMMARY

Councils around the country are providing fluoride free and/or chlorine free water stations for their residents.

A variety of water sources are used:

UV treated and filtered aquifer or bore water

Non-fluoridated public water supplies (with chlorine removed)

Reverse osmosis filtration of fluoridated water supplies

Water stations range from simple taps on concrete pads to well designed ergonomic and visually appealing water stations.



WHY CHOICE MATTERS?

- Protects vulnerable populations
- Precautionary approach to public health
- Supports personal autonomy and informed choice
- Reduces reliance on bottled water and reduces waste
- Improves equity and inclusion for those on low incomes
- Cost effective compared to household solutions
- Reflects best practice in public utilities
- Choice builds public trust and goodwill



REQUEST

New Plymouth District Council provide water stations with unfluoridated and unchlorinated water to the residents

In New Plymouth city and townships including Waitara, Bell Block, Urenui, Onearo and Tikorangi

Intermediate solution until central water stations are provided:
Establish a water station in Oakura either with a chlorine filter or at the source with filtration and U.V treatment.



Estimated Population Potentially Adversely Affected by Water Fluoridation in the New Plymouth District.

Based on 2023 census figures the combined population of New Plymouth, Waitara, Bell Block, Urenui, Onearo and Tikorangi is **66,615** people.

Populaton Group/Condition	Prevalence	Estimated number of people
Infants (0–under 1 year)	1.15%	765
Pregnant women (any trimester)	Based on 9-month pregnancy duration & local birth rate	540–560
Breastfeeding mothers	Initiating breastfeeding	310–460
	Breastfeeding at 6 weeks	200–295
	Breastfeeding at 3 months	120–240
	Breastfeeding at 6 months	80–150
Thyroid dysfunction (all types)	3%	2,000–2,100
Chronic kidney disease / renal dysfunction (all adults)	10–13%	7,400–9,700
Chemical sensitivities	Self-reported 20–26%	13,300–17,300
	Medically diagnosed MCS 3–7%	2,000–4,660
	Total	26,715 - 36,230 (40% - 54%)

Taking into account overlap between these groups, it is estimated that at least 25,000 people in the New Plymouth District are affected by at least one condition for which fluoride exposure is contraindicated. This represents approximately 37% of the total population, indicating a substantial proportion of the community.

1. Prenatal Exposure To Fluoride

Of all age groups, the fetus is the most impacted by fluoride’s neurotoxicity. In a series of ‘Mother-Offspring studies’ we have learned that high levels of urinary fluoride in a pregnant woman has the potential to lower her offspring’s IQ. These studies tested the urinary fluoride levels of the pregnant woman and then paired those findings with the cognitive tests of her offspring. **The higher the level of fluoride in the urine, the lower the IQ in the offspring.** In each of these studies, the IQ of the offspring from women living in fluoridated communities was lower than women living in non-fluoridated communities.

A recent meta-analysis published in *Annual Review of Public Health* finding that fluoride exposure may harm pregnant women, fetuses, and infants, with studies linking higher fluoride levels to reduced IQ and cognitive impairment in children. Led by researcher Philippe Grandjean, the analysis concludes that **fluoride can negatively affect neurodevelopment, thyroid function, and bone health**, even at levels commonly added to drinking water. While fluoride is widely credited with reducing tooth decay, the article highlights concerns that exposure during pregnancy and infancy carries risks without clear benefits, prompting some experts to recommend that **pregnant women limit fluoride intake.**

“I would advise them (pregnant women) to drink bottled water or filtered water...”

- Dimitri Christakis, MD, MPH, JAMA Pediatrics Editor in Chief

2. Infant Exposure To Fluoride

Infants are highly vulnerable to fluoride due to their small size: they receive up to **400% more fluoride per pound** than adults drinking the same water. Infants have **impaired fluoride excretion**: can only eliminate 15–20% of ingested fluoride vs. >50% in healthy adults. This leads to **greater fluoride accumulation**, contributing to **higher rates of dental fluorosis** in formula-fed infants using fluoridated water.

Fluoride exposure in infancy affects more than teeth. Babies' **blood-brain barrier is immature**, allowing fluoride (a neurotoxin) greater access to the brain. Over 30 studies link elevated fluoride exposure in children to **neurological impairment**, potentially via thyroid disruption.

Due to risks and lack of benefits from pre-eruptive fluoride, infants should **not be exposed to fluoride**. According to scientific consensus and the precautionary principle infants under six months should receive no fluoride supplementation and fluoridated water should not be used to make infant formula. Some U.S. municipalities and states (New Hampshire, Milwaukee, Vermont) **require or recommend warnings** to parents about the risk of infant fluorosis.

“When formula concentrations need to be diluted, it is recommended parents **use bottled water that is fluoride-free or low in fluoride** or tap water from a reverse osmosis home water filtration system, which removes most of the fluoride.” ~ Academy of General Dentistry “Monitor Infant’s Fluoride Intake”

“**A major effort should be made to avoid use of fluoridated water for dilution of formula powders.** In addition, when economically feasible, young infants fed formulas prepared from concentrated liquids should have these these formulas made up with non-fluoridated water.” ~ Ekstrand J. (1996). Fluoride Intake. In: Fejerskov O, Ekstrand J, Burt B, Eds. Fluoride in Dentistry, 2nd Edition. Munksgaard, Denmark. Pages 40-52.

“When infants are formula-fed, parents should be advised to reconstitute or dilute infant formula with deionised water (reverse osmosis, distilled, or low-fluoride bottled water) in order to **reduce the amount of systemically ingested fluoride.**” ~ Brothwell D, Limeback H. (2003). Breastfeeding is protective against dental fluorosis in a non-fluoridated rural area of Ontario, Canada. Journal of Human Lactation 19: 386-90.

“All health professionals should understand the risks of preparing infant formulas with optimally fluoridated water and give precise recommendations to their patients. Additionally, **this information should be emphasised in public health policies.**” ~ Buzalaf M, et al. (2004). Risk of Fluorosis Associated With Infant Formulas Prepared With Bottled Water. Journal of Dentistry for Children 71:110-113.

“**I am most deeply concerned for poor families who have babies: if they cannot afford unfluoridated water for their babies milk formula, do their babies not count?**” ~ Andrew Young, Atlanta’s former mayor, who served as Ambassador to the U.N. during the Clinton Administration.

3. Fluoride as an Anti-Thyroid Agent

Fluoride is well known for its anti-thyroid effect and historically it was used to treat overactive thyroid (hyperthyroidism). Low doses (2–5 mg/day) can **suppress thyroid function**—similar to doses in fluoridated water today. Fluoride is linked to increased TSH and altered thyroid hormones and **fluoridated water areas show higher hypothyroidism rates**. Fluoride exposure can contribute to **subclinical or clinical hypothyroidism** (fatigue, depression, weight gain, cognitive issues). Fluoride worsens effects of low iodine, increasing risk of cognitive deficits in children. Even

“optimal” fluoridation levels (0.7–1.2 ppm) may harm iodine-deficient populations. Iodine deficiency remains a concern in New Zealand, especially among women of childbearing age.

Based on fluoride’s anti-thyroid effects in hyperthyroid patients, concerns have arisen about whether current **fluoride exposures could be contributing to the increased prevalence of under-active thyroid** (clinical and/or subclinical hypothyroidism) in the fluoridated communities. In February 2015, British scientists reported that fluoridated water in Britain is associated with elevated rates of hypothyroidism: “We found that **higher levels of fluoride in drinking water provide a useful contribution for predicting prevalence of hypothyroidism**. We found that practices located in the West Midlands (a wholly fluoridated area) are nearly twice as likely to report high hypothyroidism prevalence in comparison to Greater Manchester (non-fluoridated area).” (Peckham 2015)

3. Increased Risk of Fluoride Toxicity with Kidney Disease

“A fairly substantial body of research indicates that patients with chronic renal insufficiency are at an increased risk of chronic fluoride toxicity. These patients may develop skeletal fluorosis even at 1 ppm fluoride in the drinking water.” ~ Dr. Helmut Schiff, 2008

The kidneys help prevent the build-up of toxic fluoride levels in the body by excreting fluoride through the urine. When kidney function declines (due to age or disease), the risk of fluoride toxicity increases. Individuals with advanced kidney disease are known to have a very high susceptibility to **fluoride toxicity** since their bones and other tissues accumulate fluoride at levels far higher than healthy individuals.

This fluoride build-up places kidney patients at a sharply **elevated risk for skeletal fluorosis**, a painful bone disease caused by excessive fluoride intake. Fluoride intake can also contribute to and exacerbate the complex bone disease **renal osteodystrophy**, as well as the tooth staining and disfigurements that many people with advanced kidney disease suffer. These risks exist at current levels of exposure in communities with fluoridated drinking water.

Because the kidney is exposed to higher concentrations of fluoride than all other soft tissues (with the possible exception of the bladder and pineal gland), there is concern that excess fluoride exposure may **contribute to kidney disease**, initiating a “vicious cycle” where the damaged kidneys increase the accumulation of fluoride, causing in turn further damage to the kidney, bone, and other organs.

This possibility is supported by both animal and human studies. In animals, kidney damage has been reported at levels as low as 1 ppm if the animals consume the water for long periods of time. In humans, elevated rates of kidney damage are frequently encountered among populations with skeletal fluorosis. In addition, several case reports suggest that some individuals with kidney disease can **experience significant recovery in their clinical signs and symptoms following the provision of fluoride-free water**.

4. Fluoride Hypersensitivity

Some individuals are hypersensitive to fluoride. Hypersensitive reactions have been reported for both topical fluorides (e.g., toothpaste) and systemic fluorides (e.g., fluoride supplements and fluoridated water).

In the 1950s, the renowned allergist George Waldbott discovered that **some individuals are hypersensitive to ingested fluoride**. In a series of case reports and double-blind studies, Waldbott and other doctors found that relatively small doses of ingested fluoride, including the consumption of fluoridated water, could induce side effects that would quickly reverse after ceasing fluoride exposure. Consistent with Waldbott’s research, the largest ever government-funded clinical

trial of fluoride supplements reported that one percent of the children taking the 1 mg fluoride tablets exhibited hypersensitive reactions.

More recently, a Finnish study found that the rate of skin rashes in a city population decreased significantly within months of the city terminating its water fluoridation program. Although the authors were generally skeptical that fluoridated water could cause harm, they noted that: “the significant decrease in the number of other skin rashes leaves room for speculation, seeming to favour the view that a small segment of the population may have some kind of intolerance to fluoride. This group of people should be studied further. The most frequently reported symptoms that disappeared from the time of actual to known discontinuation of fluoridation seemed to be itching and dryness of the skin.” ~ Lamberg M, et al. (1997). Symptoms experienced during periods of actual and supposed water fluoridation. *Community Dentistry & Oral Epidemiology* 25(4):291-5.

Studies have documented **adverse skin reactions** from the use of topical fluoride products, including toothpaste. These skin reactions include **perioral dermatitis, stomatitis, and urticaria**. Many dermatologists now consider fluoride toothpaste to be a common cause of perioral dermatitis. The possibility that topical fluorides can provoke inflammatory skin disorders gains is supported by carefully controlled studies on animals. When topical fluoride has been applied to the skin of rabbits or rats, **inflammation** has been repeatedly noted when the skin is cut or damaged prior to the application.

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