

# **IT'S RAINING 'FOREVER CHEMICALS' ACROSS THE GREAT LAKES**

## **WHY PFAS IS NOW A PUBLIC PRIORITY FOR ELIMINATION ACROSS CANADA**

**HOW TO REDUCE YOUR EXPOSURE TO THESE HAZARDOUS  
CHEMICALS AND INCREASE COMMUNITY RIGHT-TO-KNOW**



# INTRODUCTION

**PFAS, the ‘Forever Chemicals’ is not on the public radar in Canada. But it should be - research shows it’s raining ‘forever chemicals’ around the Great Lakes. And it’s not just the Great Lakes being impacted – it’s now a Canadian problem.**

Per- and Polyfluoroalkly Substances (PFAS) is a chemical class known as ‘forever chemicals’ because they will remain in the environment for hundreds, if not thousands, of years. With over 6,000 different types of PFAS in existence, these chemicals are a global pollution problem, even in the Arctic. Most Canadians are unaware that PFAS are widely used in household products and industrial applications, and are present in our bodies, and in our environment – particularly around airports and military bases that use firefighting foam containing these chemicals. This general lack of Canadian public awareness about PFAS contamination may be because Canada has never manufactured PFAS and we have had no scandals similar to the contamination of water by PFAS in West Virginia as portrayed in the film, Dark Waters. But Canadians are routinely exposed to PFAS through food, house dust, consumer products and food packaging, and some communities are at higher risk. Yet most Canadians are unaware of their exposure to PFAS or even if they live near a source of high PFAS contamination. Should we be concerned?

The fact that it’s now Raining ‘Forever Chemicals’ around the Great Lakes is a wakeup call. The Great Lakes – St. Lawrence River Ecosystem contains 20% of the world’s fresh surface water and it is home to half the population of Canada. Great Lakes Protection Initiatives acknowledge that PFAS are chemicals of emerging concern in this region, but in comparison to US states around the Great Lakes, Canadian citizens lack public access to local information about PFAS contamination. Although the Great Lakes Basin is the source of drinking water for 11.5 million Canadians, neither Ontario nor Quebec has even drafted regulations for PFAS in ground or drinking water.

But PFAS is not just a Great Lakes problem – these chemicals are found across Canada. It’s time for more transparency about how we are exposed and what all levels of government are doing to protect our health and the environment.

This Resource Guide aims to increase people’s understanding of these chemicals and the need for clear and easy access to information. The Guide replicates CBC research about the location of known PFAS hot spots around Canada and provides resources for citizens to take action.

## **The five sections below:**

1. summarize where PFAS is used and how we are exposed;
2. give an overview of the health impacts from PFAS, and what the federal and provincial governments are doing to protect Canadian health and the environment;
3. summarize the lack of easy public access to information about PFAS contamination and replicates the map of PFAS hotspots in Canada courtesy of CBC researchers;
4. give four examples of how a community discovered PFAS water contamination, and how local authorities responded; and
5. provide a link to more information and ways for people to take action.

# **1.**

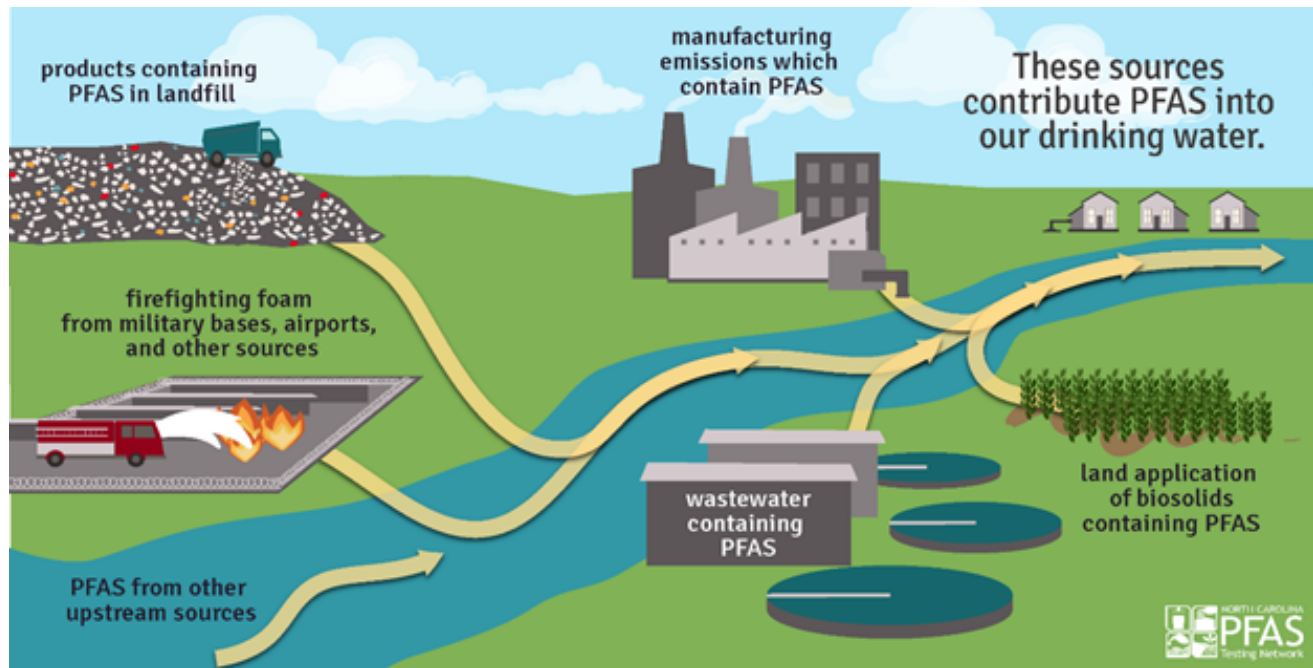
## **HOW IS PFAS USED AND HOW ARE WE EXPOSED?**

**PFAS has been used for decades and continues to be used – in firefighting foam, industrial applications and common household products – creating ongoing exposure to these ‘forever chemicals.’**

Per- and Polyfluoroalkyl Substances (PFAS) are known as the ‘forever chemicals’, because the fluorine-carbon molecular bond is the strongest ever invented and does not break down in the environment. This means these chemicals will persist for hundreds if not thousands of years in our environment.

PFAS properties make them heat-resistant, able to repel water, and close to indestructible. For decades they have been used in firefighting foam to smother fuel fires at airports and military bases, and these chemicals are a known point source of water contamination. In the United States it has been estimated that the drinking water of over 110 million Americans may be contaminated with PFAS, although new findings indicated that this might be an under-estimate. **In Canada we have no information about the number of Canadians impacted by PFAS-contaminated drinking water.**

## What are the Sources of PFAS in Drinking Water?



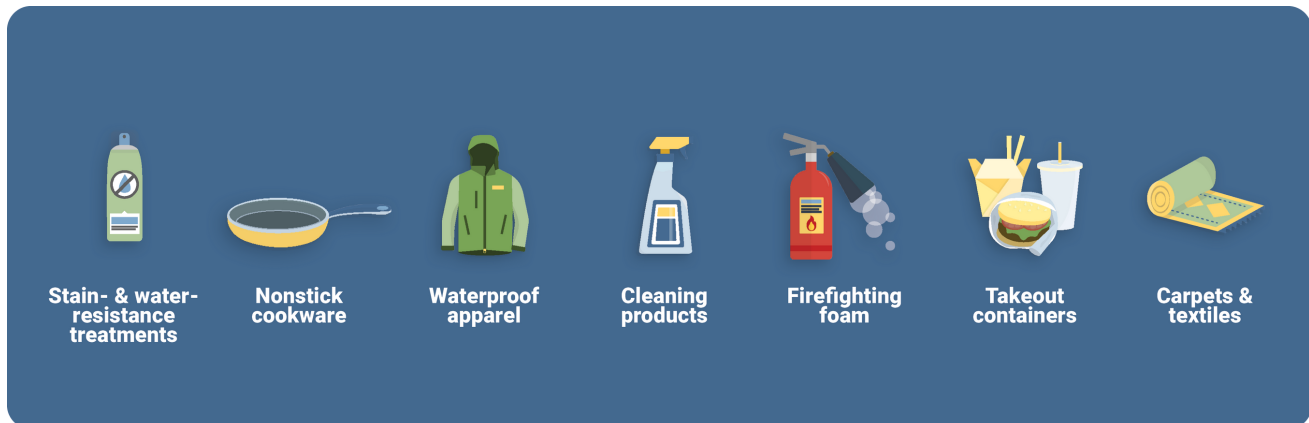
Credit: [North Carolina PFAS Testing Network](#)

PFAS is widely used in household products such as non-stick kitchen ware, cosmetics, food contact materials such as grease-proof wraps and take out containers, clothing and carpets treated for water and stain resistance, and a wide range of other common consumer products. The main routes of exposure to PFAS for adults is by ingestion of food, drinking water, and house dust. Health Canada notes that for infants, toddlers, and children their main exposure is hand-to-mouth contact with consumer products, such as carpets, clothing, and upholstery. But because there are no labeling requirements, consumers are not aware if PFAS is present in the products they buy.

**Many US states and countries have set guidance, health advisory and screening values for PFAS in drinking water and groundwater which are more stringent than the Canadian guidelines for PFOS and PFOA.**

When products that contain PFAS, such as food contact materials, rugs and textiles, are thrown into landfills, PFAS in the waste can move into air and water around these disposal sites. Even wastewater treatment plant effluent becomes a source of PFAS contamination into the environment.

## Some examples of consumer and industrial products that can contain PFAS



Used by permission from the [WA Dept. of Ecology](#).

**Although almost all Canadians have PFAS in our bodies, some populations are at increased risk. These include workers and firefighters directly exposed to these chemicals; children and infants exposed to PFAS in the home and through products; and communities living near PFAS contaminated sites. But a lack of reporting and product labeling make it difficult to know the extent of exposure or how to avoid it.**

Health Canada has monitored the amounts of two types of PFAS (PFOS and PFOA) in the blood and tissues of Canadians and they found that these chemicals are present in almost all Canadian populations sampled. These chemicals also bioaccumulate and build up in our bodies. There is no safe dose of PFAS and we do not know how many of the more than 6,000 different types of PFAS in use are present in our tissues or blood. What we do know is that all PFAS are highly persistent – and many are highly mobile in water – meaning they can spread widely in groundwater, rivers, lakes and streams. For example, the researchers who measured PFAS in rainwater around the Great Lakes found that the majority of PFAS they measured were the type that moved most easily throughout water.

Some locations and people are particularly vulnerable. Similar to most airports and military bases around the world, Canadian airports and military bases have used PFAS in firefighting foam to put out fuel-based fires for decades and continue to do so. Such use is a known point source of PFAS water contamination and a source of direct exposure to firefighters. PFAS is associated with a range of cancers, and firefighters are known to be at a significantly higher risk of being diagnosed with, and subsequently dying of cancer, compared to the general public due to their exposure to smoke and chemicals in smoke. Communities living near an airport or military base have no easy way to know if provincial regulators have monitored for PFAS in their drinking water because we lack publicly available access to information.

**Over 99% of all Canadians tested by Health Canada's biomonitoring surveys, have PFOA and PFOS in their blood and other organs - including communities in the far north.**

PFAS can also be used in industrial facilities such as metal plating, paper mills and textile coating, but neither workers nor communities have access to information about PFAS released into the air or surrounding

environment because there are no regulations requiring companies to report their use and emissions of these chemicals. Similarly, communities living near oil and gas fracking sites, metal plating, chemical manufacturing including plastics production, waste disposal sites, landfills or wastewater treatment plants lack information about the amount of PFAS being released into the air or through effluent. Recent information from the United States Environmental Protection Agency showed these sites to be significant sources of PFAS exposure to local communities.

Vulnerable populations living near waste disposal sites and manufacturing facilities and/or chemical refineries already face cumulative impacts from a host of hazardous chemicals. For example, Sarnia, Ontario is home to a range of petrochemical plants, and chemical intensive manufacturing. For many years, the Aamjiwnaang First Nations in the region have been exposed to multiple chemical exposures. The area is also the site of hazardous waste disposal facilities that import PFAS waste from the US.

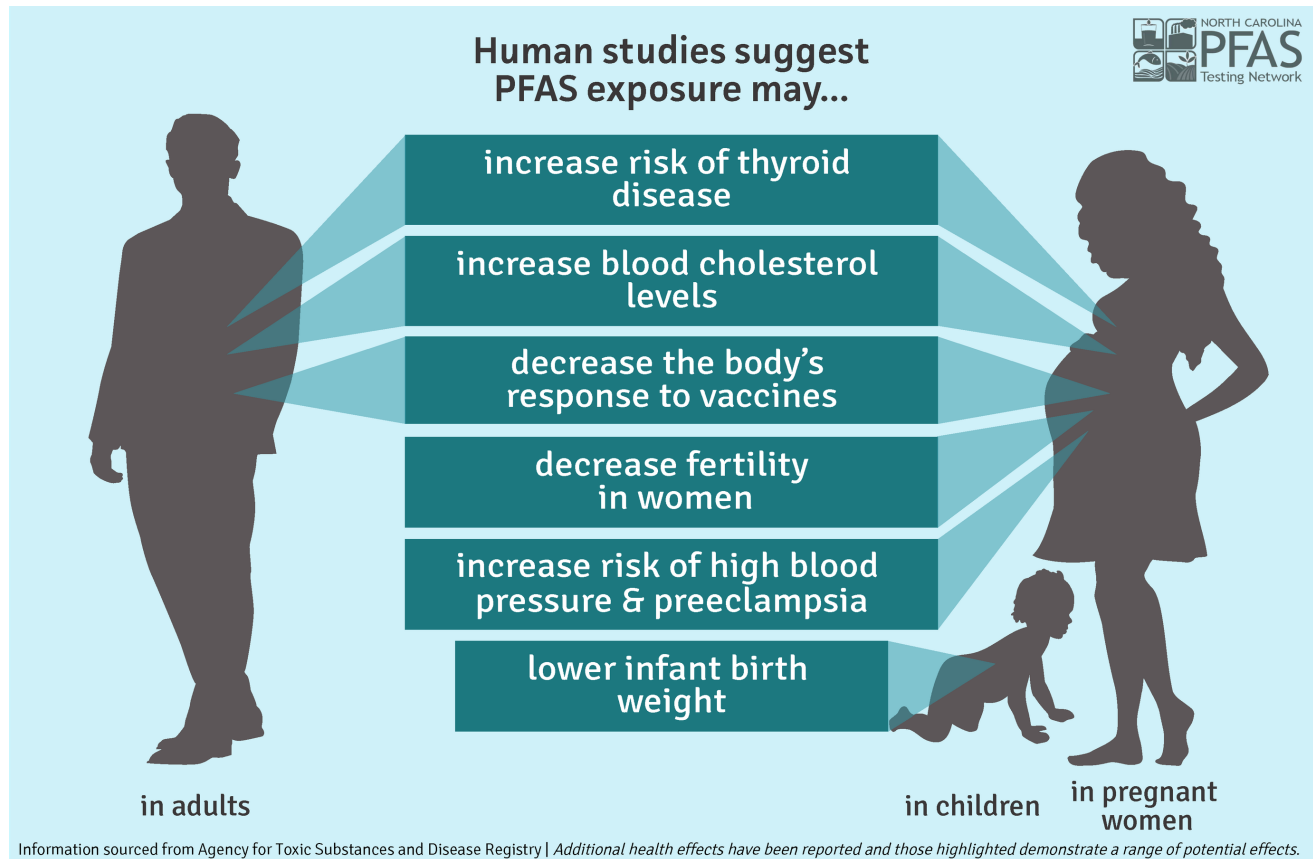
**In the absence of easily accessible information, we do not know the scale of the problem – but research has revealed the location of several known hotspots in Canada – mostly around airports - with many located in the Great Lakes-St Lawrence River Ecosystem.**

## **2. WHAT DO WE KNOW ABOUT HEALTH IMPACTS FROM PFAS AND WHAT ACTIONS ARE THE FEDERAL AND PROVINCIAL GOVERNMENTS TAKING?**

Even though over 6,000 different types of PFAS exist in commerce, there is surprisingly little data about their environmental and health impacts. What we do know about some of the PFAS that have been studied, is that exposure to PFAS can lead to adverse health outcomes in humans. As the Canadian government recently stated in April 2021:

PFAS are associated with a range of adverse effects on the environment and effects that may have implications for human health. Laboratory studies in animals show that exposures to certain PFAS are associated with reproductive, developmental, endocrine, liver, kidney, and immunological effects. Well-studied PFAS, such as PFOA and PFOS, have been shown to cause tumours in animals at high doses. In epidemiological studies, exposure to PFOA and PFOS in humans has been associated with a range of effects, including but not limited to, effects on the liver, birth weight, metabolism, and the immune system. The clinical significance of these findings, and new data, continues to be examined.

The US Agency for Toxic Substances and Disease Registry recently issued a [Statement on Potential Intersection between PFAS Exposure and COVID-19](#) acknowledging that **exposure to high levels of PFAS may impact the immune system and reduce the effectiveness of vaccines. This is particularly relevant as vaccine roll out against COVID-19 becomes a priority measure against current and future variants.**



### **What is the Federal Government doing to protect Canadians from PFAS in consumer products and in drinking water?**

PFAS in drinking water is poorly regulated in Canada – only one province, British Columbia, has set PFAS drinking water regulations. The federal government’s guidelines for two types of PFAS in drinking water are more lax than neighbouring US states and most other international bodies.

PFAS is now a global water contamination problem and many countries have established limits for different types of PFAS in drinking water and groundwater in order to protect public health. In Canada, the government established [guidelines](#) in 2019, that set the acceptable levels for two types of PFAS (PFOS and PFOA) in drinking water.

But the levels set by Health Canada are at a much higher level than that considered acceptable by many other countries, including the United States. Health Canada set maximum acceptable concentrations for PFOS of 0.600 ug/l (600 ppt) and PFOA at 0.200 ug/l (200 ppt) which is far less protective than the advisory lifetime exposure of 0.070 ug/l (70 ppt), set by the United States Environment Protection Agency (EPA). Many US states and countries have set guidance, health advisory and screening values for PFAS in drinking water and groundwater which are more stringent than the Canadian guidelines for PFOS and PFOA.

The level at which PFAS is deemed unsafe in water is important because this level will trigger whatever action is needed to clean up a community's drinking water. For example, monitoring done by the Ontario Ministry of the Environment, Conservation and Parks on PFAS in drinking waters in Ontario, published in 2020, note that in general PFAS does not pose a significant health risk to Ontarians through drinking water consumption but they add that communities known to be impacted by firefighting foam were not included in their study. As they state: 'the conclusions drawn are confined to this dataset and the facilities that participated in this monitoring program, which do not represent the total extent of drinking water monitoring data for the entire province, including sites known to be impacted by aqueous fire-fighting foam use and military operations.' Communities living near sites that are known to be impacted, are therefore none the wiser. Furthermore, the full report is behind a paywall and unavailable on the Ministry's website for free access by the public.

In Canada, drinking water regulations are a Provincial responsibility, and it is up to each Province to use these guidelines from Health Canada to set Provincial drinking water regulations for PFAS. Only British Columbia has set Provincial drinking water guidelines for some PFAS. In the Great Lakes basin, home of drinking water for 11.5 million Canadians, neither Ontario nor Quebec has drafted regulations for PFAS in ground or drinking water. Yet neighbouring states in the Great Lakes basin have all set guidelines or maximum concentration levels for different types of PFAS in drinking water and/or groundwater that either meet the 70 ppt US EPA guidance or are set even lower.

**The Canadian Environmental Law Association and other citizens have recently petitioned Health Canada to justify the reasoning behind the comparatively high acceptable lifetime exposure levels in its Guidelines for Canadian Drinking Water Quality for PFOS and PFOA.**

**Over the last few decades, the use of PFAS-containing firefighting foam at airports and military bases is acknowledged as a significant global source of water pollution.** This has promoted airports around the world, such as Heathrow in the UK and 90% of airports in Australia, to use fluorine-free (PFAS-free) firefighting foam products.



In 2019 Transport Canada announced they would allow all airport operators to use fluorine-free foam if they chose to do so, but did not make this a regulatory requirement and it is up to the individual airport to voluntarily choose to buy PFAS-free foam. We do not know which airports in Canada are using fluorine-free firefighting foam and which continue to use PFAS-based foams. Yet we know from the publicly available data supplied by the CBC, that the majority of PFAS contamination sites are in locations with airports.

### **Other exposure routes to PFAS are from consumer products, house dust and food – so how is the government protecting us?**

Since 2016, the manufacture, use, sale, offer for sale or import of a small number of PFAS

**We do not know which airports in Canada are using PFAS-free firefighting foam and which continue to use PFAS-based foams.**

(PFOS, PFOA, LC-PFCAs) and products that contain them have been prohibited in Canada, with a limited number of exemptions. These long-chain molecular forms of PFAS have been the most studied

which is why early regulations focused on these specific types of fluorinated chemicals. However, at the time, Health Canada determined that neither PFOS nor PFOA were deemed to be harmful to human health at the levels of exposure observed at the time of these assessments – although they did confirm that these chemicals are entering the Canadian environment at harmful levels. For example, herring gulls in the Great Lakes are known to be impacted from eating fish contaminated with PFAS and PFAS is also included in fish consumption advisories.

As PFAS contamination around the world continues to become a global issue, the European Union in October 2020 stated its intention to phase out the entire class of PFAS unless their use can be shown to be essential in certain cases. This prompted a reaction by the Canadian government.

In April 2021, the Government of Canada announced they would move forward with activities to address the broad class of PFAS. They acknowledge that ‘industry has shifted from using PFOS, PFOA and LC-PFCAs to using other PFAS as substitutes. The large majority of which... have not been assessed and are not being managed globally.’ They further note that ‘the large number of PFAS that are commercially available, combined with the lack of data on the hazards and properties of the individual substances, renders a traditional substance-by-substance assessment and management approach impractical.’ They conclude that ‘Considering PFAS as a class of chemicals would better address situations where exposure occurs to multiple PFAS at the same time. This will allow the Government of Canada to consider cumulative effects, and to prevent regrettable substitutions.’ Within the next two years, the Government of Canada will publish a State of PFAS Report, which will summarize relevant information on the class of PFAS, and they are looking for stakeholder input and involvement.

The government's recognition that action need to be taken for the entire class of PFAS and that 'stakeholder involvement' is necessary is a good sign. But this will require transparency and widespread public involvement to ensure that any proposed PFAS policy rollout does not become lengthy data collection with no actual implementation plan. Eliminating widespread PFAS use in consumer products in Canada and establishing protective drinking water regulations and contamination site cleanup across the country should be priorities in any comprehensive PFAS strategy.

### **3. HOW CAN CANADIAN COMMUNITIES FIND OUT IF THEY HAVE A PFAS CONTAMINATION PROBLEM? THE ANSWER IS - "IT'S DIFFICULT"**

Health Canada notes that 'water utilities should sample source water for PFAS, particularly if source waters are impacted by firefighting training areas, military bases, airports, manufacturing sites and/or waste disposal sites.' However, we do not know what monitoring for PFAS has occurred, because any location-specific monitoring results have not been made public or communicated directly to the community.

**If you live near an airport or military base that used firefighting foam over the years, or an industrial site that uses PFAS, it is difficult to find public information about possible PFAS contamination in your community and in your drinking water.** Here's why:

The [Federal Contamination Sites Inventory](#) provides a database of 22,000 contaminated or suspected contaminated sites in urban, rural and remote areas across Canada, but the site provides no information about PFAS specific information or PFAS contamination sites.

The [Canadian Department of National Defense](#) does not provide a public list of PFAS contaminated sites and remediation plans for clean-up. A search on their website for PFAS reveals very minimal information, notably that they will 'Develop a project plan, including costs, timelines, and alternative products to eliminate PFAS Class B foam at DND locations, by 2023.' Location specific details are not given online. **In comparison to the lack of disclosure from the Department of National Defense in Canada, the US Department of Defense does provide detailed information about PFAS.** The DoD website '[PFAS: A National Issue That Needs National Solutions](#)' provides detailed resources on contamination site location, clean-up plans, videos on the [impact of PFAS on Servicemembers](#), and more.

In 2017 [Transport Canada](#) announced they would be sampling for the presence of any offsite PFAS concentrations surrounding fire training areas at selected locations in order to share results with airport operators. In 2018 staff and visitors at the [La Ronge airport](#) in Saskatchewan were advised by town officials to stop drinking tap water at the facility roughly six months after tests came back positive for PFAS. **There is no publicly available national database of Transport Canada sampling results for PFAS or where there may be contamination.**

**In comparison to the lack of public information in Canada, many US states provide detailed PFAS information about sources of contamination, remediation actions and what citizens can do.** For example, in the Great Lakes-St Lawrence River basin, States such as [Michigan](#), [Minnesota](#), [Wisconsin](#), [New York](#), and [Maine](#) – have comprehensive PFAS action plans and citizen outreach information. On the west coast, the [state of Washington](#), and [Oregon](#), have equally informative public information. And anyone can access [State-based regulatory responses](#) for how individual states are taking action on PFAS in drinking water by setting drinking water standards, by passing bans on the use of PFAS in firefighting foam, food contact materials, household products, and more. The [US Department of Defense](#) has an extensive PFAS website featuring up to date information on PFAS clean up efforts, task force reports, video testimonies, and more.

**The CBC's investigation of PFAS in Canada resulted in the first user-friendly map of PFAS hotspots and surface water contamination for Canadian public use.**

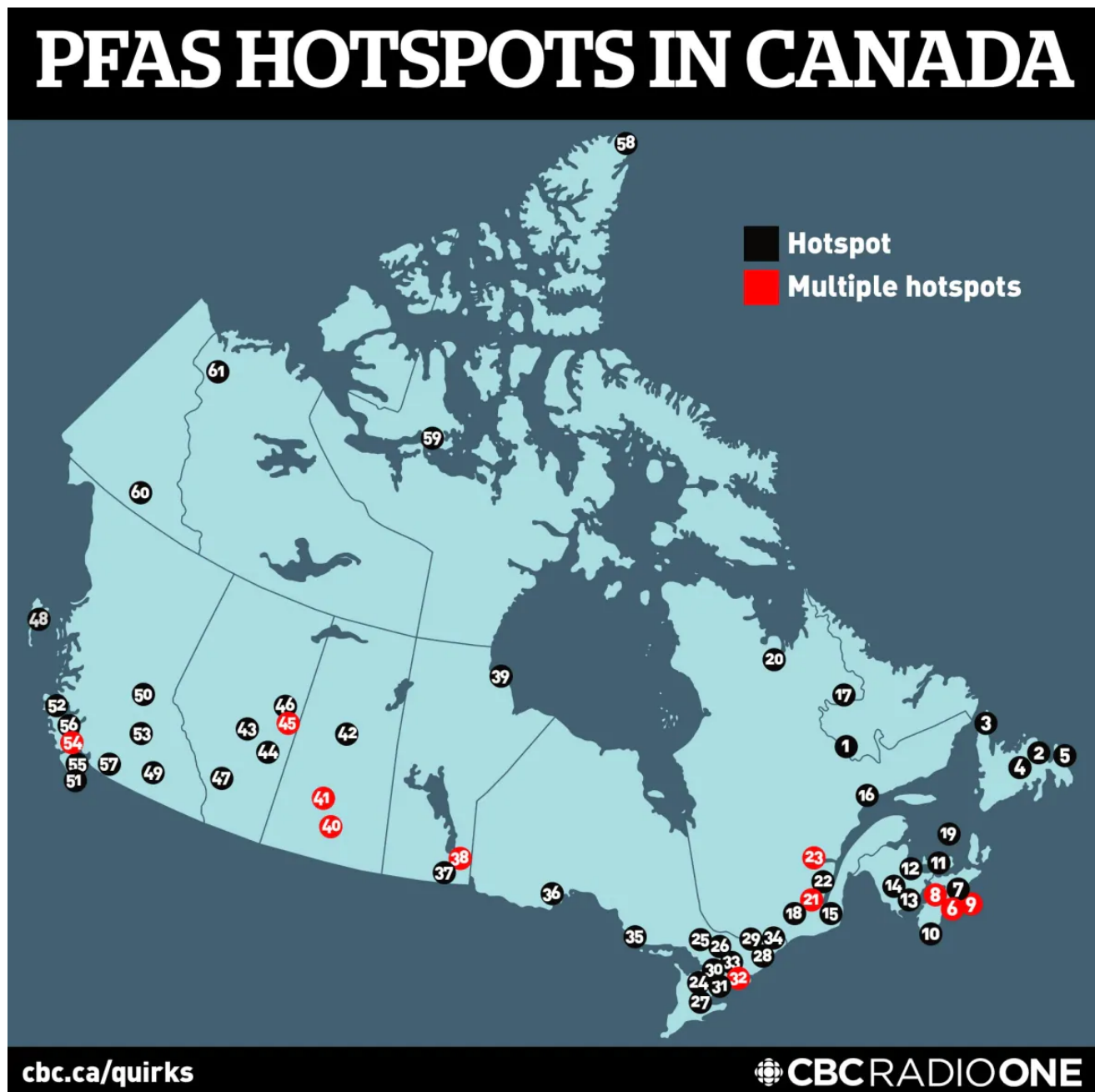
In October and November 2020, the CBC Radio show and podcast Quirks & Quarks produced [a three-part series on PFAS in Canada](#), including Canada's [first map of compiled PFAS hotspots and surface water contamination](#) which is replicated below with permission.

CBC's research reveals:

there could be as many as 152 to 420 contaminated airports around Canada, according to a [2018 study](#). On top of those, military bases are also known to be sources of PFAS contamination. The Canadian Department of National Defence says there are 26 different military properties across the country where PFAS contamination is either suspected or confirmed.

The mapping of these hotspots confirms how firefighting foam used at airports, military bases and training facilities have created contamination sites. This map may be an underestimate and not include possible contamination around oil and gas fracking sites, metal plating, chemical refineries, landfills, and mining, to reflect [recent information from the US Environmental Protection Agency](#) which lists such sites as significant sources of PFAS contamination. What is not clear is if this information is being communicated to local communities. Is Transport Canada, the Ministry of Defense, Ministry of Environment, Health Canada or local public health authorities disseminating information to surrounding communities about any monitoring or cleanup activities?

It is important to note that the Surface Water map of PFAS detection levels provided by the CBC does not provide information about possible point sources of PFAS. Are there industrial facilities nearby that use PFAS? Is wastewater treatment plant effluent a major contributor? Are local landfills a contributor? Such information is made available on many US state PFAS websites, and now by the US federal government. But we have no such easily accessible public information available in Canada.



Sources: Transport Canada, Department of National Defence, Federal Contaminated Sites Inventory, Environment and Climate Change Canada Report, Environmental Science & Technology, American Chemical Society 2017, Society of Contaminated Sites Approved Professionals of British Columbia, North Bay Parry Sound District Health Unit, CBC News, Canadian Underwriter, La Ronge Now, City of Williams Lake. (Ben Shannon/CBC)

## NEWFOUNDLAND

- 1 Wabush Airport
- 2 Gander Airport
- 3 St. Anthony Airport
- 4 CFB Gander / 9 Wing Royal Canadian Air Force
- 5 St. John's Airport

## NOVA SCOTIA

- 6 CFB Halifax
- 7 Halifax Airport
- 8 CFB Greenwood / 14 Wing Royal Canadian Air Force
- 9 CFB Shearwater / 12 Wing Shearwater
- 10 Canadian Forces Station Barrington

## PEI

- 11 Charlottetown Airport

## NEW BRUNSWICK

- 12 Moncton Airport
- 13 Saint John Airport
- 14 Fredericton Airport

## QUEBEC

- 15 Firefighting activity
- 16 Sept-Îles Airport
- 17 Schefferville Airport
- 18 Montreal Mirabel Airport
- 19 Îles-de-la-Madeleine Airport
- 20 Kuujuaq Airport
- 21 Munitions Experimental Test Centre
- 22 CFB Valcartier
- 23 CFB Bagotville / 3 Wing Royal Canadian Air Force

## ONTARIO

- 24 Toronto Pearson Airport
- 25 North Bay Airport
- 26 22 Wing Royal Canadian Air Force
- 27 Hamilton Airport
- 28 Firefighting activity
- 29 National Research Council's National Fire Laboratory
- 30 CFB Borden
- 31 Bear Creek, Nottawasaga River, Pine River
- 32 CFB Trenton / 8 Wing Royal Canadian Air Force

- 33 London Airport
- 34 Ottawa Airport
- 35 Sault Ste Marie Airport
- 36 Thunder Bay Airport

## MANITOBA

- 37 Winnipeg Airport
- 38 17 Wing Royal Canadian Air Force
- 39 Churchill Airport

## SASKATCHEWAN

- 40 15 Wing Royal Canadian Air Force
- 41 15 Wing Detachment Royal Canadian Air Force
- 42 La Ronge Airport

## ALBERTA

- 43 CFB Edmonton
- 44 CFB Wainwright
- 45 4 Wing Royal Canadian Air Force
- 46 Crash site
- 47 Calgary Airport

## BRITISH COLUMBIA

- 48 Sandspit Airport
- 49 Penticton Airport
- 50 Prince George Airport
- 51 Victoria Airport
- 52 Port Hardy Airport
- 53 Williams Lake Airport
- 54 CFB Comox / 19 Wing Royal Canadian Air Force
- 55 CFB Esquimalt
- 56 Campbell River Airport
- 57 Abbotsford Airport

## NUNAVUT

- 58 Canadian Forces Station Alert
- 59 Cambridge Bay Airport

## YUKON

- 60 Watson Lake Airport

## NORTHWEST TERRITORIES

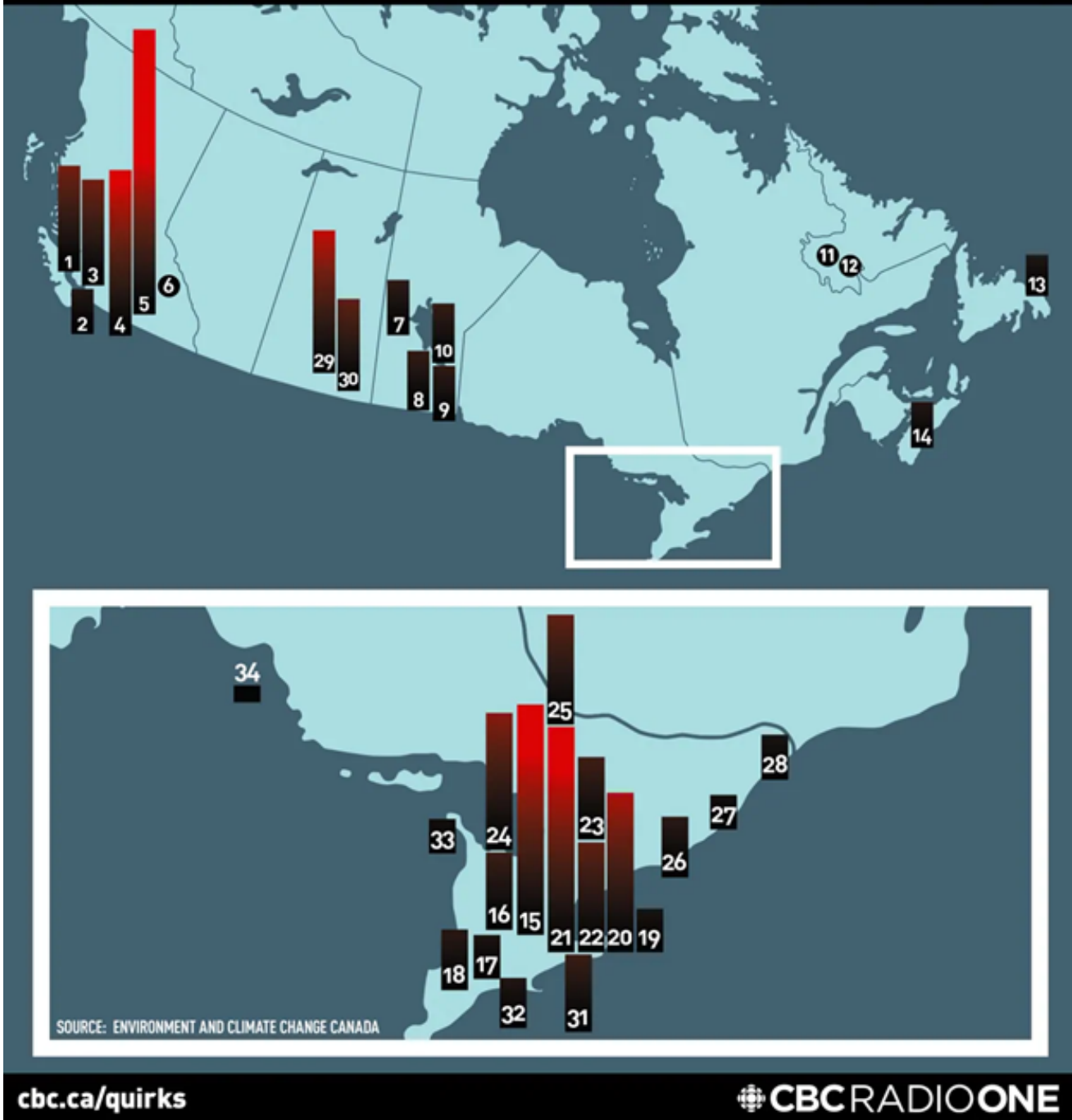
- 61 Inuvik Airport

[cbc.ca/quirks](http://cbc.ca/quirks)

 **CBCRADIOONE**

# PFAS CONCENTRATIONS IN CANADIAN SURFACE WATER

SUMMARY OF THE CONCENTRATIONS OF 5 PFAS IN CANADIAN SURFACE WATER BETWEEN 2015 AND 2019



Mapping PFAS concentrations in Canadian surface water. Source: Environment and Climate Change Canada (Ben Shannon/CBC)

SiteName	Median sum of five PFAS (ng/L)	SiteName	Median sum of five PFAS (ng/L)
1 Still Creek	23	18 Thames River at Kilworth	11
2 Brunette River at Canfor Avenue	9.8	19 Niagara-on-the-lake lighthouse	7.8
3 Still Creek upstream	23	20 Dick's Creek - St. Catharines	29
4 Mill Creek (lower)	36	21 Hamilton Harbour-914	41
5 Mill Creek (middle)	62	22 Hamilton Harbour-926	20
6 Mill Creek (reference)	*	23 Highland Creek	15
7 Red River-Selkirk	12	24 Mimico Creek	25
8 Red River-Selkirk (down)	13	25 Taylor Creek	20
9 Red River-Winnipeg: At Chief Peguis Bridge	12	26 St. Lawrence River (south Channel)	11
10 Red River-Emerson	13	27 St. Lawrence River, Lavaltrie's water filtration plant	6.2
11 Saint John River upstream	*	28 St. Lawrence River, Lévis's water filtration plant	8.2
12 Saint John River downstream	*	29 Wascana Creek (down)	31
13 Waterford River	8.9	30 Wascana Creek (up)	20
14 Little Sackville River	9.9	31 Lake Ontario	14
15 Grand River at Bridgeport bridge	42	32 Lake Erie	9.1
16 Grand River at Fountain Street	14	33 Lake Huron/Georgian Bay	6.2
17 Thames River at Highland	8	34 Lake Superior	3.1

**THE CONCENTRATIONS ARE THE MEDIAN (50TH PERCENTILE) ACROSS ALL SAMPLING PERIODS  
THE PFAS INCLUDED IN THE SUM ARE: PFBA, PFHXA, PFOA, PFNA, AND PFOS  
\* INDICATES THAT THE MEDIAN VALUE WAS BELOW THE LABORATORY DETECTION LIMIT**

[cbc.ca/quirks](http://cbc.ca/quirks)

 **CBCRADIOONE**

## 4. HOW DID SOME CANADIAN COMMUNITIES DISCOVER THEY HAD A PFAS WATER CONTAMINATION PROBLEM?

The CBC-generated maps show contamination levels in surface water, such as creeks, lakes, wetlands, and rivers. Contaminated surface water does not necessarily mean that drinking water is contaminated - although wildlife will be at risk. But citizens need to know where their drinking water is sourced and if it is being impacted. Some homes rely on well water which can be at risk if groundwater is contaminated with PFAS. So how can communities find out if monitoring for PFAS has been done?

The media stories below reveal that information about PFAS contamination in water and monitoring was prompted by crisis or accidents. These four Ontario communities serve as examples.

- **Monitoring by regulatory authorities was not done until a citizen demanded action**

Contamination in Hamilton, Ontario was discovered by a citizen/biologist who surmised there was a problem with PFAS due to the proximity to the local airport and conducted independent testing. The citizen filed a letter to Hamilton town officials revealing that levels of PFOS in sediment immediately downstream of the City-owned Hamilton Airport was exceptionally high. Public Health responded that they would test nearby wells and in 2013 the city announced it was waiting for the Ministry of Environment to approve a draft plan to clean up contaminated lands around the Hamilton airport.

In September 2019 the city reported it would have a ‘fix in place to stop troubling contaminants from leaking into the water and soil around the Hamilton airport by the end of the month.’ The contamination had come from firefighting foam used at a 1980s firefighter training pad.

- **The Department of Defense notified the North Bay Ontario Health Unit about PFAS contamination but citizen request for monitoring data continues to meet a long delay**

In June 2017 the Department of National Defense (DND) notified the North Bay Ontario Health Unit that two private drinking water wells in the vicinity of the Canadian Forces Base had levels of PFAS that exceeded Health Canada's drinking water screening values. Affected homeowners were notified and advised not to drink or use the water for cooking purposes. As a result the Department of National Defence (DND) supplied water to the affected residents.

In December 2019 the DND released a statement that they were ‘committed to keeping North Bay residents informed about our work to address the presence of per- and polyfluoroalkylated substances (PFAS) near 22 Wing/Canadian Forces Base (CFB) North Bay’ and described sampling and other investigations that had been underway between 2017 and 2019. A commitment to keeping residents informed was reiterated in April 2021. A local resident requested these reports and monitoring results and was advised to make the request through the Access to Information process. DND then responded that an extension of 300 days would be required to provide the materials. DND subsequently communicated that additional time would be required due to COVID. As of September 2021 a response had not yet been received.

On July 9, 2021 it was reported that the City of North Bay and the Department of National Defence had struck an agreement on a \$20 million cleanup of water and soil.

- **The community received no information about PFAS contamination for over 2 years – though contamination was assumed to occur twenty years ago.**

In November 2020 the Ottawa Citizen reported that Health Canada knew about contaminated water for 2 years before Mississippi Mills residents were informed. Documents obtained under the Access to Information Act, show that other federal, provincial and municipal agencies also knew about the possible contamination for more than two years, while none of them told residents. National Research Council’s (NRC) national fire lab, which does research on firefighting learned in late 2013, that their firefighting chemicals had contaminated their property’s groundwater, probably in the late 1900s, but homeowners near the lab were not informed. The Ottawa Citizen reported that families had begun a class action against NRC.



- **Homeowners noticed tap water was contaminated after PFAS in firefighting foam was used in a local fire.**

In 2016, PFAS in firefighting foam was used to douse the flames in a nearby flea market in Smith Falls, Ontario. When the flames were finally doused, nearby residents began noticing foam in their water and a chemical smell. The province's Environment Ministry took water samples for testing, and the results showed ‘contaminants associated with firewater and firefighting foam were present.’ The Environment Ministry supplied homeowners with bottled water. Two years later, PFAS had moved through the groundwater and appeared in the well water of homes half a kilometre away.

## **5. HOW CAN YOU GET MORE INFORMATION AND TAKE ACTION TO REDUCE YOUR EXPOSURE TO PFAS?**

The purpose of this resource kit is to inform Canadians about PFAS and highlight the need for transparency around the presence of these ‘forever chemicals’. CELA has researched and reported on PFAS for over two years and has compiled numerous factsheets, webinars and reports for download at [this link](#).

This is a crucial time for citizens to get involved. Over the next two years the government will be drawing up a State of PFAS Report. This plan needs to go beyond more monitoring and actually promote PFAS-free products on the market, ensure contamination site cleanup, provide good public access to information and actively invite communities into the decision making process.

### **Here are ways you can take action now:**

**1.** If you rely on **groundwater** and live near a hotspot, find out if your groundwater or well water has been monitored for PFAS by your local Public Health authority and ask for site specific results. If monitoring has not happened, ask for it to be done. Send a copy of your request to your Member of Provincial Parliament.

For example in Ontario:

- [Public Health Units and Locations](#)
- [Public Health Ontario lab testing facilities](#)
- See the Ministry of the Environment, Conservation and Parks list of licensed laboratories to find a private lab near you or call 1-800-565-4923 or 416-325-4000
- [List of MPPs in Ontario](#)

**2.** Find out if your **local airport** uses firefighting foam containing PFAS. Ask them if they intend to switch to fluorine-free alternatives. Contact Transport Canada to ask when they will enact regulatory requirements to restrict PFAS in firefighting foam and how they will promote the use of fluorine-free alternatives across all airports in Canada.

Contact:

Nicholas Robinson, Director General, Civil Aviation for Transport Canada  
Phone: 613-990-1322  
Email: nicholas.robinson@tc.gc.ca  
330 Sparks Street  
Ottawa, ON K1A 0N5

**3. If you live near a military base**, contact The Honourable Anita Anand and copy your local MP to find out if your community is contaminated by PFAS and if they have a cleanup plan.

Contact:

The Honourable Anita Anand  
Minister of National Defence  
Phone: 613-996-3100  
Email: DND\_MND@forces.gc.ca  
101 Colonel By Drive  
Ottawa, ON K1A 0K2

List of MPs

**4.** Contact your Provincial Ministry of Environment and ask when they will be regulating **PFAS in drinking water**. To date only British Columbia has established guidelines for some PFAS in drinking water. Ask your Provincial Ministry of Environment to make their monitoring data for PFAS freely available and easily accessible to the public.

5. If you live near oil and gas fracking sites, or mining excavation contact the Honourable Jonathan Wilkinson and copy your local MP to find out if your community is contaminated by PFAS and if they have a cleanup plan.

Contact:

The Honourable Jonathan Wilkinson  
Minister of Natural Resources  
Phone: 343-292-6837  
Email: Minister.Ministre@NRCan-RNCan.gc.ca  
580 Booth Street, 21st Floor, Room E1-2  
Ottawa, ON K1A 0K2

6. Ask Health Canada to **strengthen their drinking water guideline for PFAS**. See the [petition](#) on PFAS for more details.

Contact:

The Honourable Jean-Yves Duclos  
Minister of Health  
Phone: 613-992-8865  
Email: hcminister.ministresc@hc-sc.gc.ca  
Health Canada  
Address Locator: 0900C2  
Ottawa, ON K1A 0K9  
Copy to: hc.water-eau.sc@canada.ca

Water and Air Quality Bureau  
Safe Environments Directorate  
Healthy Environments and Consumer Safety Branch  
Health Canada  
Phone: 1-833-223-1014  
Email: hc.water-eau.sc@canada.ca  
269 Laurier Avenue West  
Address Locator: 4903D  
Ottawa, ON K1A 0K9

7. If you live near a **Waste Water Treatment Site**, particularly in an urban location, ask the site operator if monitoring for PFAS in surrounding air and effluent has been done. If monitoring has not happened, ask for it to be done with the results made freely accessible.

8. **Contact the brand manufacturer or retailer** of your cookware, carpets, furnishings, flooring, and takeout containers to find out if they use PFAS chemicals and if so, when they intend to use safer substitutes. For information on PFAS-free consumer products here are some external resources:

- [Green Science Policy Institute](#) and their [PFAS Central](#) website lists PFAS-free product
- [The Center for Environmental Health](#) has information on PFAS-free food packaging
- [The Mind the Store](#) Campaign pressures retailers to phase out PFAS. See how retailers are responding by searching for 'PFAS' on their website
- [Toxic Free Future](#) and the [Environmental Working Group](#) give tips on how to reduce your exposure to PFAS

**9. Contact Health Canada and Environment and Climate Change Canada to find out when they intend to restrict all **PFAS in consumer goods sold in Canada.****

Contact:

The Honourable Jean-Yves Duclos  
 Minister of Health  
 Phone: 613-992-8865  
 Email: [hcminister.ministresc@hc-sc.gc.ca](mailto:hcminister.ministresc@hc-sc.gc.ca)  
 Health Canada  
 Address Locator: 0900C2  
 Ottawa, ON K1A 0K9

Roger Charland, Director General  
 Consumer and Hazardous Products Safety Directorate within Health Canada  
 Phone: 613-957-1422  
 Email: [roger.charland@hc-sc.gc.ca](mailto:roger.charland@hc-sc.gc.ca)  
 269 Laurier Avenue West, 7th Floor  
 Ottawa, ON K1K 0K9

The Honourable Steven Guilbeault  
 Minister of Environment and Climate Change Canada  
 Phone: 819-938-3813  
 Email: [ec.ministre-minister.ec@canada.ca](mailto:ec.ministre-minister.ec@canada.ca)  
 Fontaine Building, 2nd Floor  
 200 Sacré-Coeur Boulevard  
 Gatineau, QC K1A 0H3

- For a comparison of how US states are taking legislative action on PFAS in products visit the [Safer States website](#).

**Visit CELA's website for more [PFAS Resources](#)**

---

Acknowledgement: This resource guide was prepared by Beverley Thorpe with contributions from Brennain Lloyd for the Canadian Environmental Law Association and the Toxics-Free Great Lakes Binational Network. Thank you to CBC for use of their graphics. Funding for this project was from CELA's Healthy Great Lakes Program.