

# Protect the Memphremagog Watershed: H.652

CANADA  
UNITED STATES

LINDSAY BEACH

Newport

Casella Waste Systems  
Recently viewed

**Legislative Authority**  
**Public Health & Safety**  
**Environmental Protection**  
**Environmental Justice**  
**Economic Impacts**

## H.652:

The bill proposes to prohibit the discharge of leachate from a landfill or a solid waste management facility into the watershed of Lake Memphremagog regardless of whether the leachate has been treated or is untreated.

- Landfill leachate, even after the current “treatment”, can contain numerous PFAS chemicals which have no safe level of exposure.
- Dangerous PFAS contaminants accumulate and persist for decades and longer in the environment and in the bodies of humans and animals exposed to them.

# Why H.652 and Why Now?

➤ **2019 Act 250 Moratorium on leachate disposal in the Memphremagog Watershed is due to expire.**

➤ **Email correspondence from a public records request to the state reveals plans to:**

**A) discharge “treated” leachate into the Black River;**

*Sent: Thursday, April 16, 2020, 10:28 AM*

*CEC is reviewing the reasonableness of **Casella’s proposed alternative to discharge treated leachate directly to the Black River** in Coventry.*

**B) import leachate from other landfills to be “treated “ at Coventry;**

*Date: Wednesday, February 26, 2020, 1:23:00 PM*

*Here is an idea to consider passing up the chain. Consider a WWTF to directly treat the landfill leachate from Coventry... It would reduce PFAS at the WWTFs taking leachate now. **Maybe they can take leachate from the other closed LFs in Vermont as additional revenue.** Then our LF leachate contaminants all end up in the same sludge.*

*Sent: Tuesday, June 23, 2020, 1:29 PM*

*Subject: ? Om (sic) on site treatment*

*Quick question... **if Casella treated on-site would their permit allow them to import leachate from other LF’s to treat? (possible revenue stream).***

# Legislative Authority:

“VT Title 10, Chap. 56, Section 1673 provides the **legislative authority to protect public water sources.**”

“Article IV of the 1909 Boundary Waters Treaty **prohibits the US and Canada from polluting boundary waters...** to an extent that causes injury to health or property in the other country.”

“The Stockholm Convention on Persistent Organic Pollutants is a global, legally binding treaty aimed at protecting human health and the environment from toxic chemicals.” – The treaty is managed by the UN and has been updated over time to include new pollutants, such as certain **PFAS chemicals, which are increasingly threatening drinking water supplies.**

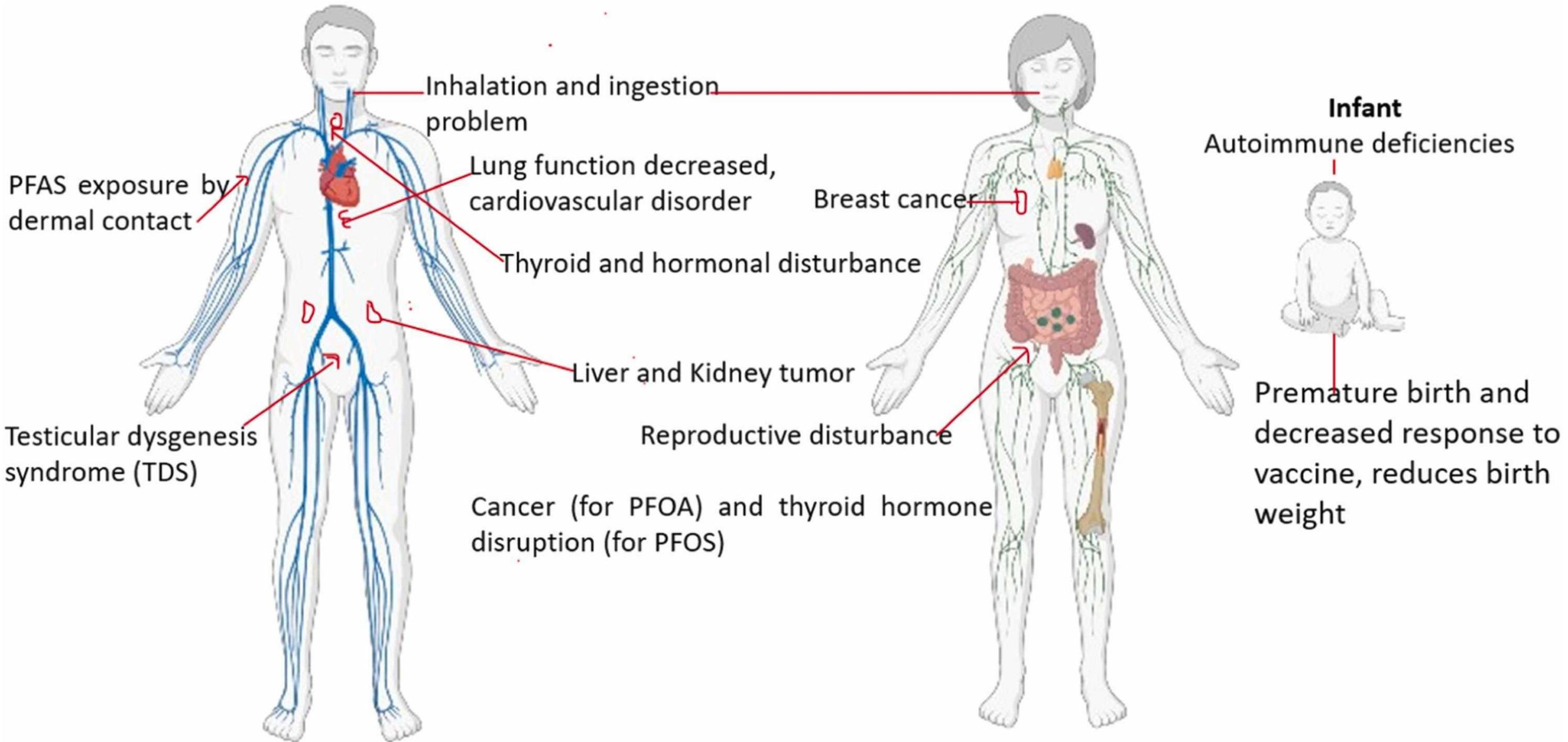
**Motion Unanime de l'Assemblée Nationale du Québec (2021)-** “That the National Assembly request the Government of Quebec to officially take a position in favor of the **permanent prohibition of the discharge of treated leachate into the Lake Memphremagog watershed** and to advocate for this position with the Government of Vermont”

**North flowing Lake Memphremagog is the drinking water reservoir for over 185,000 Quebec citizens.**

Ingestion of PFAS contaminated water and food are the primary sources of PFAS exposure in people.

# PFAS are proven to cause Harmful Health Effects,

including negative developmental and behavioral consequences in children.



# Environmental Protection:

- PFAS chemicals have been reported in groundwater wells surrounding the landfill for years and in all sectors of Memphremagog's surface waters.
- From 2010 to 2019 over 40 million gallons of leachate were discharged into the lake through the Newport WWTF.
- Hazardous PFOS are proven to be bioaccumulating in the tissue of the lake's fish.
- SAFF systems can separate long-chain PFAS with a 70 - 99% success rate, but short-chain are more likely to escape, with removal efficiencies below 30%. <https://epocenviro.com/>

***"Of course, there is no suggestion that the treated landfill leachate should be used directly as potable water or allowed to discharge or otherwise migrate into receiving waters reserved for drinking water use."*** *David Burns, Lead Research Scientist, SAFF Leachate Treatment Technology*



# Are the Fish Safe to Eat?

## Average **PFOS** Contamination of Lake Memphremagog Fish – 2021

**Brown Bullhead** – 1.199 ug/kg  
=ppb or 1,199 ppt



**Yellow Perch** – 1.251 ug/kg  
=ppb or 1,251 ppt



**Rock Bass** – 1.080 ug/kg  
= ppb or 1,080 ppt



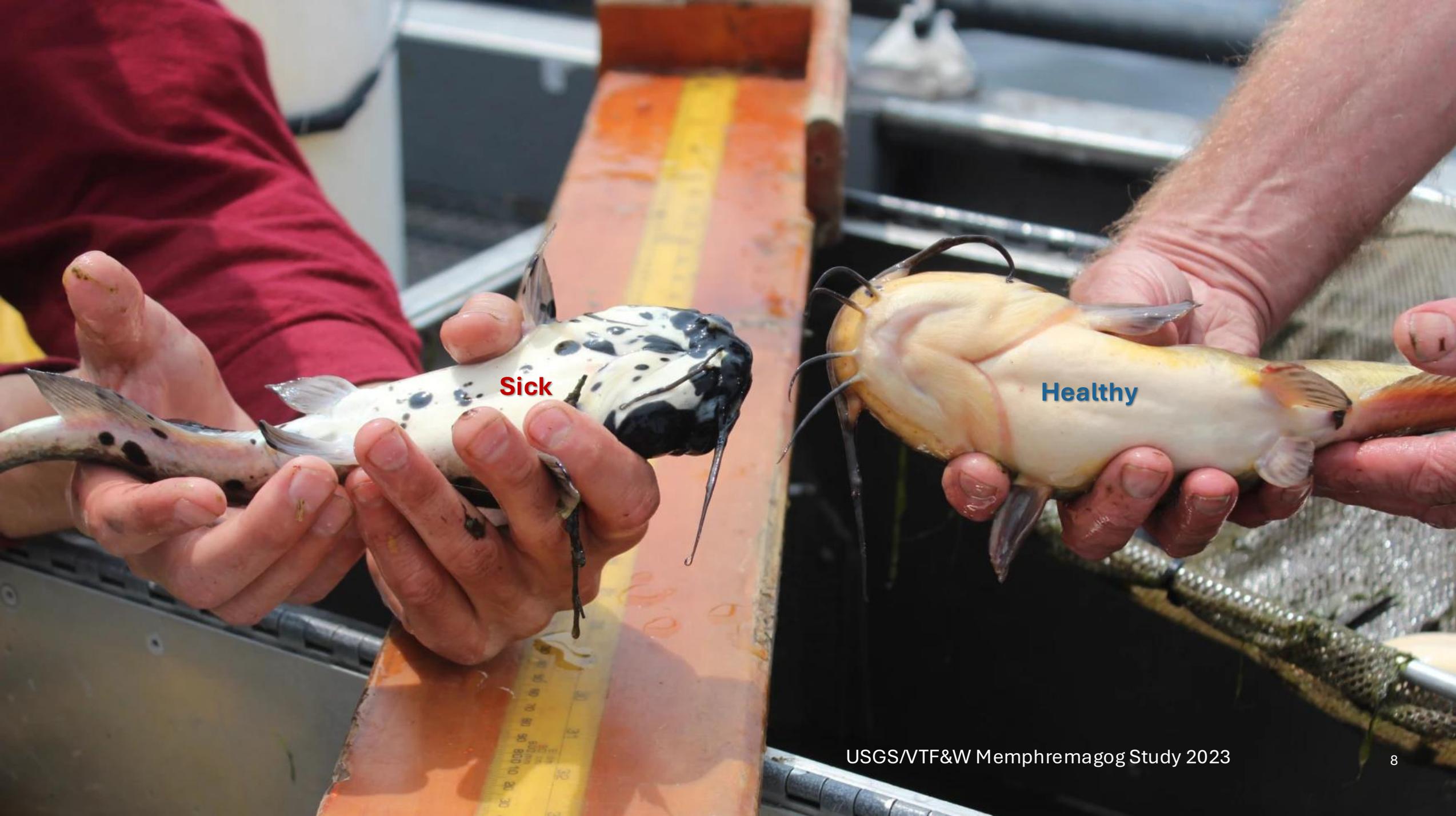
**Largemouth Bass** – 2.010 ug/kg  
=ppb or 2,010 ppt



For **PFOA** and **PFOS**, the EPA has set a non-enforceable health-based goal of zero. The Maximum Contaminant Level (MCL) is 4 ppt for drinking water = 0.004 ppb.

Mid-lake Memphremagog Surface Water measured **PFOS** at 2.8 ppt, 70% of the MCL.

**There is NO safe level of exposure to **PFOS**.** National Primary Drinking Water Regulation (NPDWR)

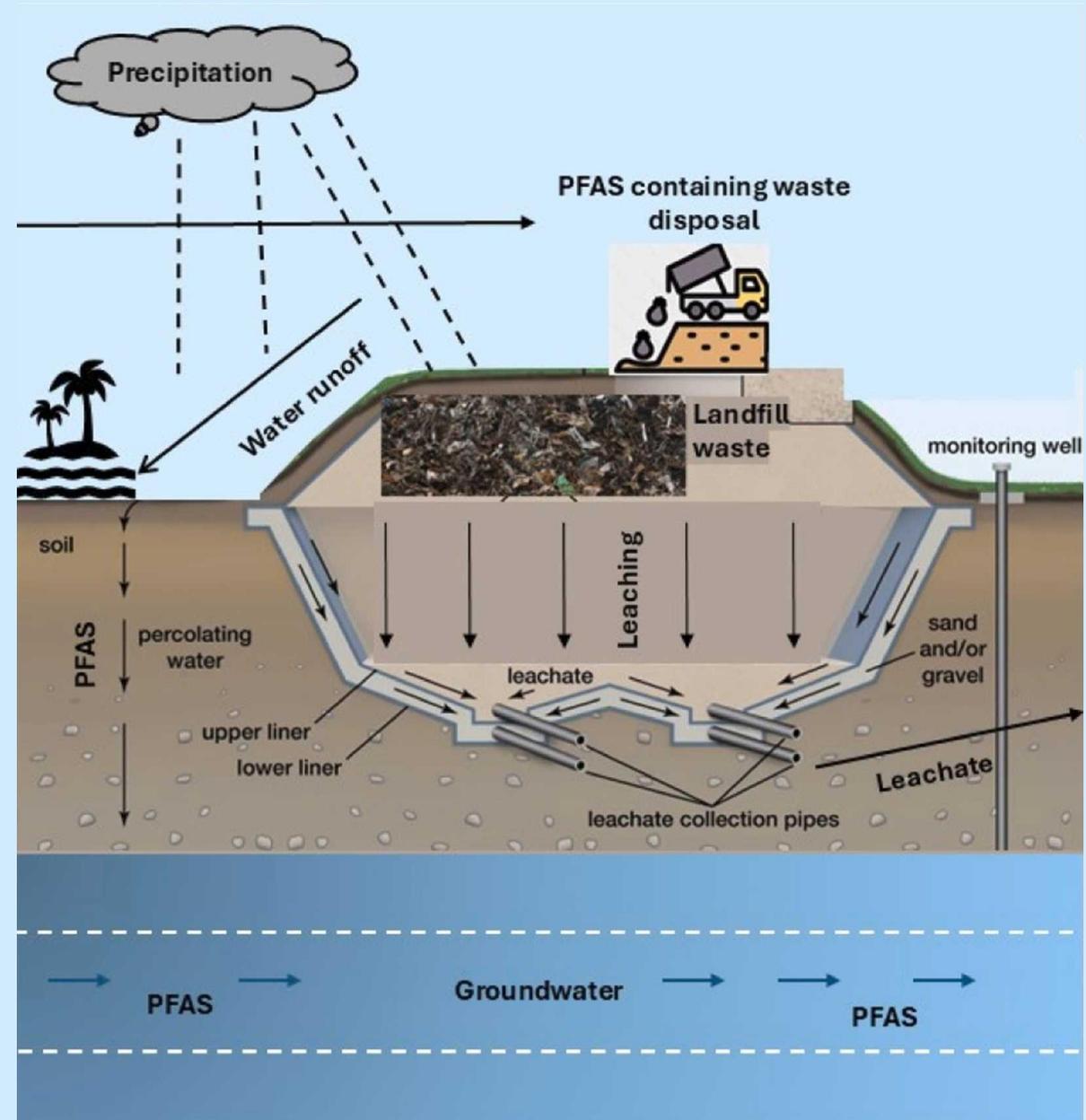


**Sick**

**Healthy**

# Environmental Justice:

- Landfills worldwide are among the top four industrial environmental polluters. Vermont's only landfill is no exception.
- The Lake Memphremagog communities are economically disadvantaged, further burdened by the environmental injustice of landfill siting.
- Only 7% of waste disposed in our landfill comes from the NEK. The remainder comes from the rest of VT and out of state.
- Environmental Justice requires that landfill leachate be returned to the regions contributing the highest percentage of waste.



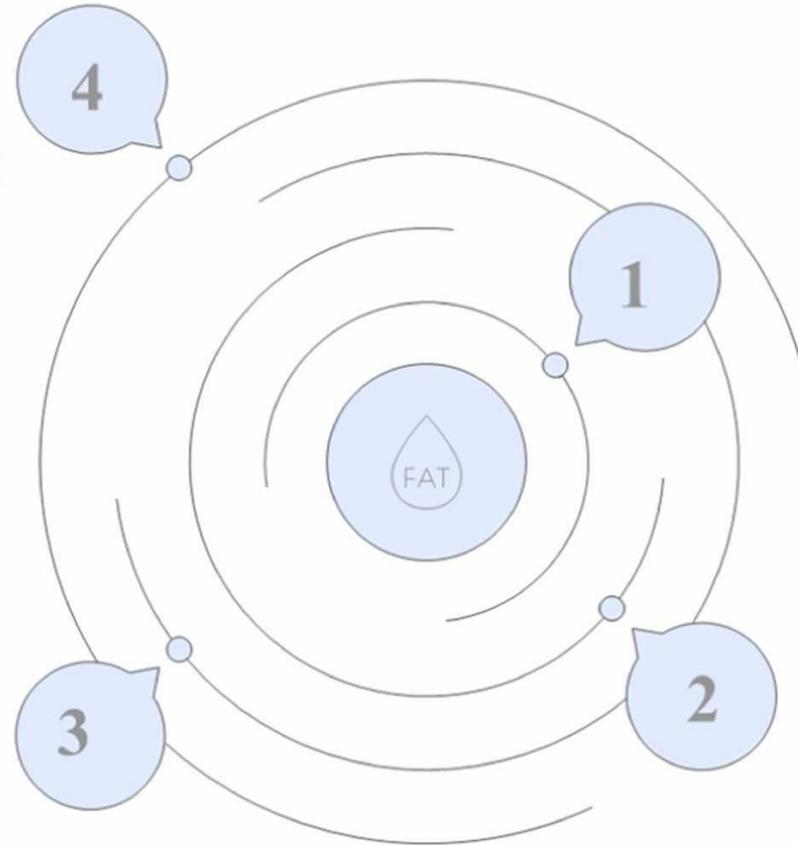
# PFAS Emissions from Landfills

## PFAS in Leachate

PFAS have been found in leachate from both operating and closed landfills.

## PFAS Diffusion

PFAS can diffuse through some Landfill liners, posing a contamination risk.



## Leachate Plumes

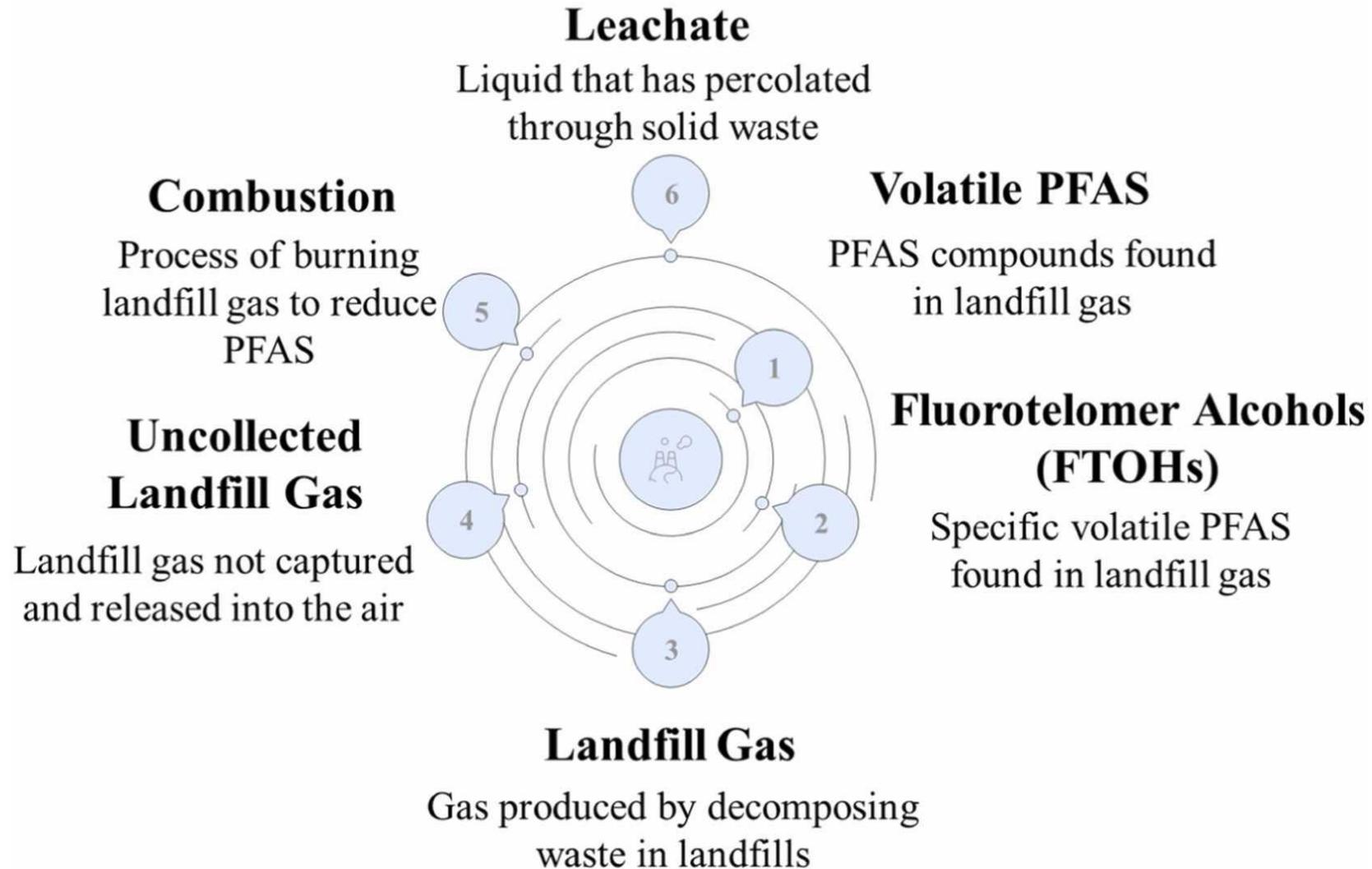
Leachate plumes can extend over 1 km, affecting groundwater quality.

## Groundwater Protection Systems

Modern landfills have systems, but long-term reliability is uncertain.

**Even after H.652 becomes law, PFAS chemicals will continue to contaminate our region.**

# PFAS Emissions from Landfills Cont'd



**PFAS that escape through air emissions are comparable to or exceed PFAS in leachate.**

# Economic Impact:

Lake Memphremagog is the foundation of the regional economy.

It is the economic driver on both sides of the border.

Environmental Contamination directly threatens our economies.

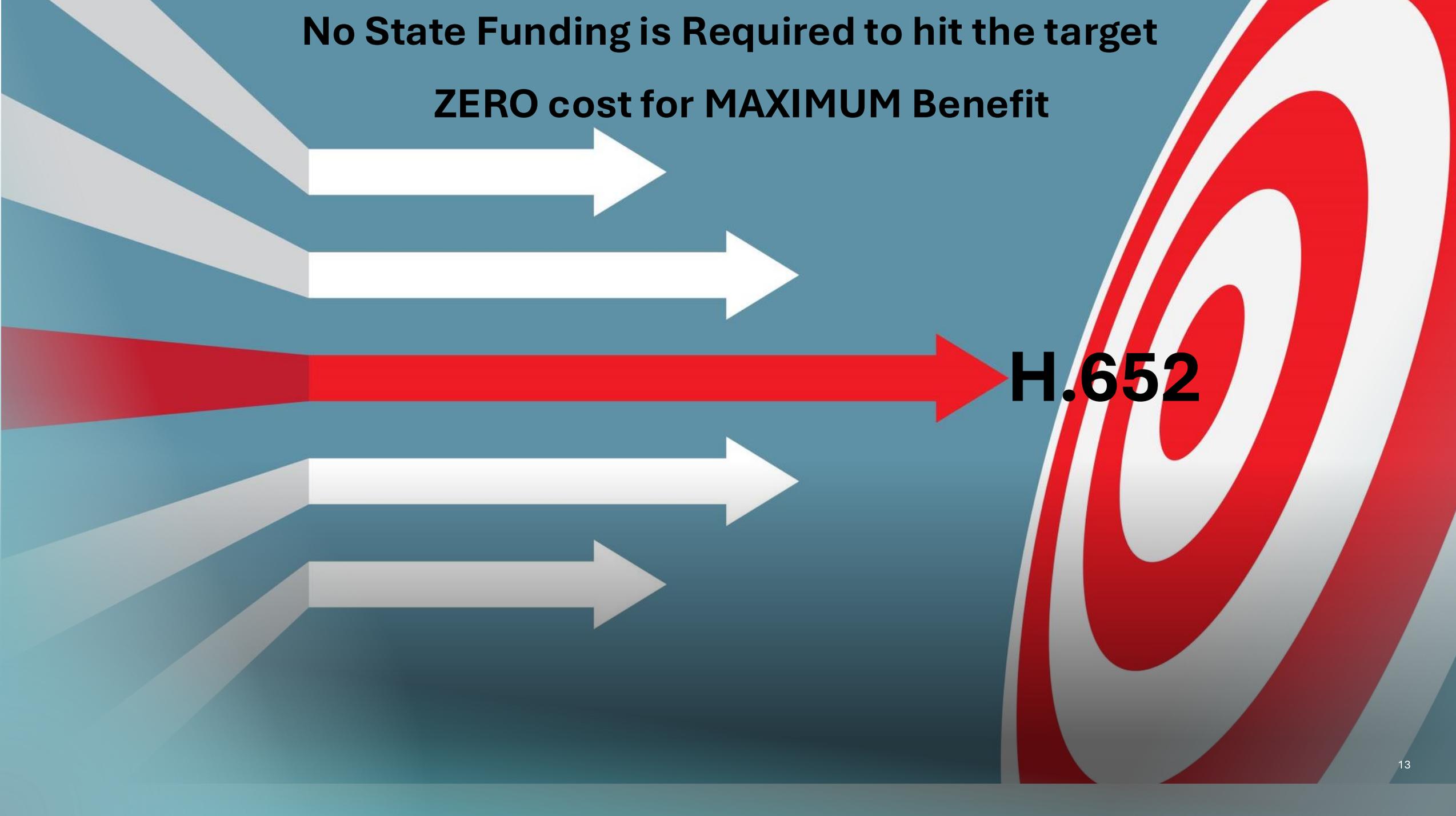
H.652 would show respect and support for our Canadian neighbors, and

may help to restore accustomed cross-border economic and social connections.



**No State Funding is Required to hit the target**

**ZERO cost for MAXIMUM Benefit**



**H.652**

# Timeline of Protective Actions by DUMP and MCI

**DUMP collaborates with MCI to stop landfill expansion; Fall/2018**

Fall/2018

Fall/2018

**DUMP/MCI Mediation agreement - moratorium on leachate discharge into lake; Fall/2019**

Fall/2018

Fall/2018

Fall/2019

Fall/2019

**Unanimous Motion by the Nat'l Assembly of Quebec to prohibit leachate discharge into the lake; Summer/2021**

Summer/2021

Summer/2021

Spring/2022

Spring/2022

**Work with legislators on lake pollution begins; Spring/2022**

**Environmental Court requires Act 250 permit for permanent SAFF; Winter/2026**

Spring/2025

Spring/2025

Winter/2026

Winter/2026

**DUMP provides testimony for Lake in Crisis; Spring/2025**

**Introduce H.652 – Prohibit landfill leachate disposal into watershed, treated or not; Winter/2026**

Winter/2026

Winter/2026

**MCI circulates new Quebec Resolution to prohibit discharge of landfill leachate in lake; Winter/2026**

**DUMP files suit to stop NEWSVT Expansion to 129 acres; Fall/2018**

# Quebec's Protective Actions:

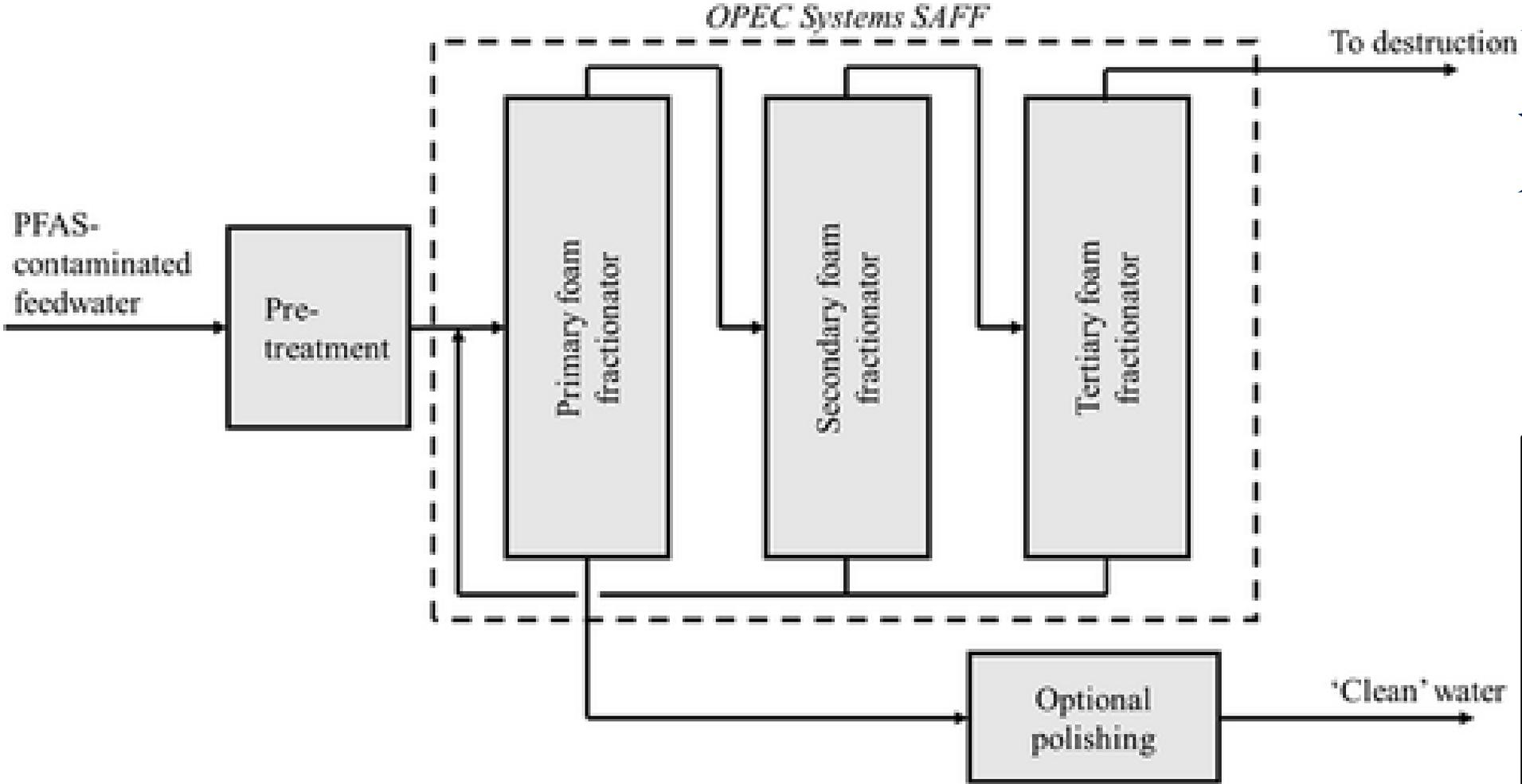
Initiated by MCI , the Quebec gov't – MRC Memphremagog – obtained a *5-year moratorium for disposal of leachate in the Memphremagog Watershed; from 2005 to 2009, landfill leachate was not sent to the Newport WWTF.*

MCI continued to press for protection for their drinking water source. In 2010 the Bestan landfill in Magog, QC was closed. Ever since, their landfill leachate is trucked away from the watershed.

What will Vermont do to protect the lake and the people who depend on it?

**H.652 is the just and environmentally responsible action step to prevent further contamination of our lake.**

**IF THE SHOE WERE ON THE OTHER FOOT, WHAT WOULD VERMONTERS EXPECT?**



**Residuals Destruction**

“...when an anionic **exchange** (AIX) resin “polisher” was installed downstream of SAFF, all trace detectable PFAS species were removed.”  
<https://onlinelibrary.wiley.com/doi/full/10.1002/rem.21694>

**“Removal efficiencies for long-chain PFAS typically approach >90%, whereas short-chain PFAS may only achieve removal efficiencies on the order of 5–50% due to their lower affinity for the air–water interface.”**

<https://pubs.rsc.org/en/content/articlehtml/2025/>

Note: Short-chain PFAS are generally considered as hazardous as long-chain PFAS and are more easily absorbed by plants and animals.