

NYSAC Webinar • November 14, 2019

PFAS & Your Local Landfill:

Managing Risk and Preparing for
Regulations



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NYSAC
NEW YORK STATE
ASSOCIATION OF COUNTIES

Introduction to PFAS

- PFAS
 - What are they?
 - Where are they found?
- Regulations
 - Federal
 - New York State
 - Other states

PFAS & Landfills

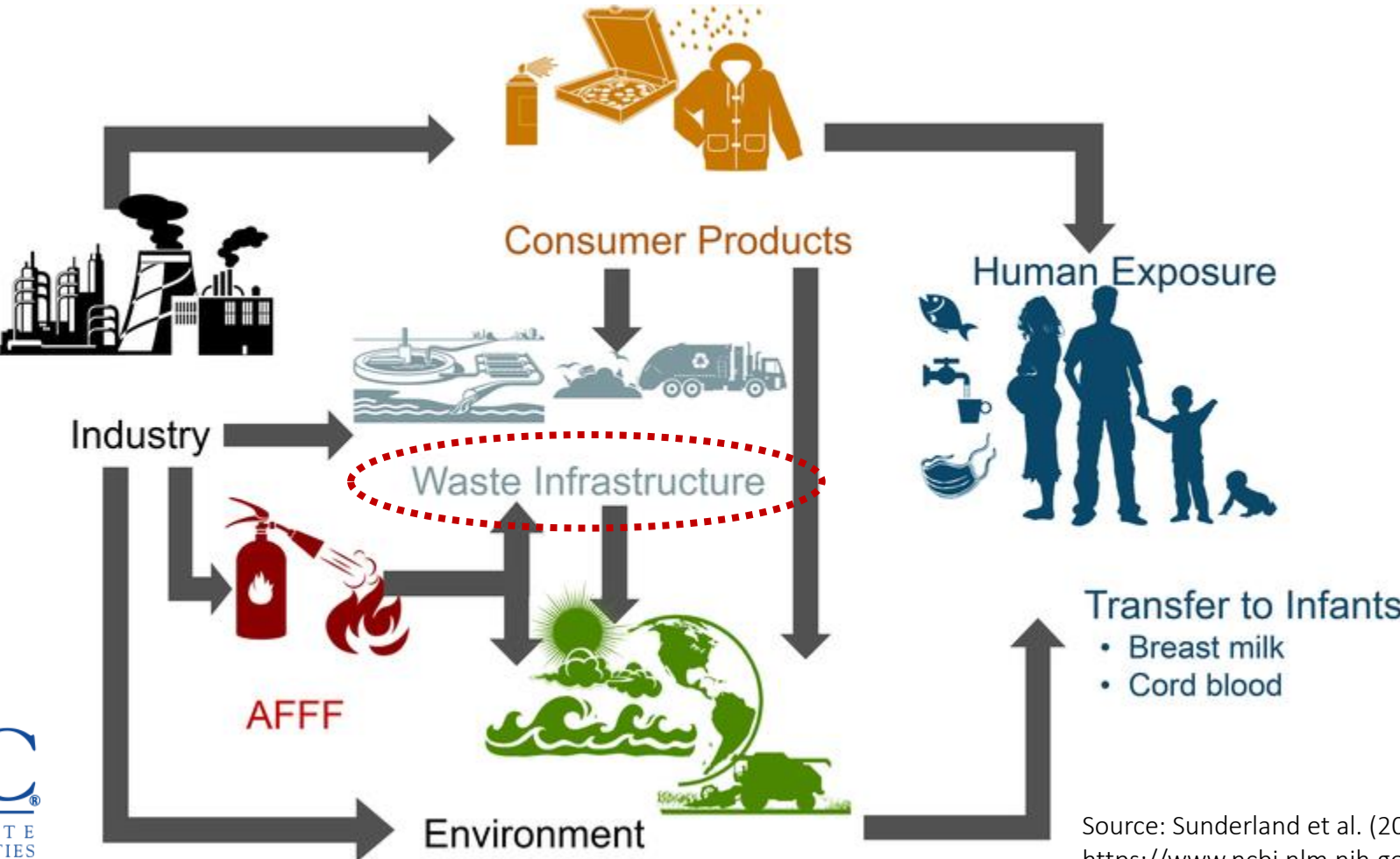
What are PFAS?

- Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that include PFOA and PFOS.
- Manufactured and used in a variety of U.S. and global industries since the 1940s.
- Do not break down and instead accumulate in the environment and body over time.
- Exposure to PFAS can lead to adverse human health effects.



PFAS & Landfills

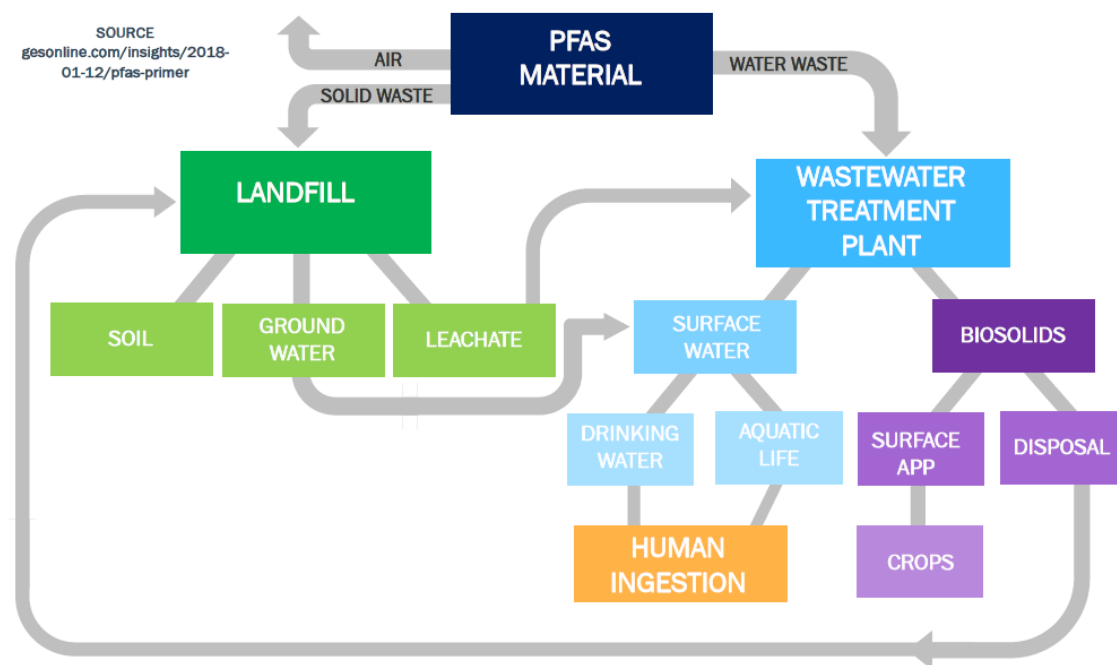
Potential PFAS Sources



PFAS & Landfills

Concerns for Landfills

- Landfills receive PFAS in wastes, and it is discharged in leachate.
- PFAS have been found in leachate at levels above drinking water standards/guidelines.
- PFAS have been found in groundwater monitoring wells located near landfills.
- Cost of sampling, analysis, and leachate management may go up.



PFAS Regulations: Federal

- No MCL for drinking water.
- Drinking water health advisories of 70 ppt.
- PFOS & PFOA are included on the Contaminant Candidate List (CCL 4).
- EPA awarded \$6M to NYSDOH to study landfills as sources of PFAS groundwater contamination in September 2019.

PFAS Regulations: New York State

- Jan-April 2016: First state to list PFOA as a hazardous substance, followed by regulation of PFOS.
- Dec 2018: Drinking Water Quality Counsel (DWQC) proposed MCLs of 10 ppt for PFOA and PFOS.
 - Seven-fold below current EPA Health Advisory.
 - MCLs are enforceable standards.
 - Require water suppliers to test and report results.
 - If MCL exceeded, supply must take steps to reduce concentration and notify consumers.
 - Public supplies will be required to begin monitoring within 60 days of publication of the final reg.

PFAS & Landfills

PFAS Regulations: Other States

New York

- Proposed MCLs: PFOA-10ppt; PFOS-10ppt.

New Jersey

- MCLs: PFOA-14 ppt (GW: 10 ppt); PFOS- 13 ppt (GW: 10 ppt); PFNA-13 ppt.

Vermont

- Drinking water health advisory level for the sum of 5 PFAS (PFOA, PFOS, PFHxS, PFHpA) shall not exceed 20 ppt.

New Hampshire

- MCLs and groundwater (GW) standards: PFOA-12 ppt; PFOS-15 ppt; PFHxS-18 ppt; PFNA-11 ppt.

Michigan

- Proposed MCLs: PFOA-8 ppt; PFOS-16 ppt; PFNA-6 ppt; PFHxA-400,000 ppt; PFHxS-51 ppt; PFBS-420 ppt; GenX-370 ppt.

Massachusetts

- Proposed GW standards: PFAS-20 ppt (includes PFDA, PFHpA, PFHxS, PFOS, PFOA).



Richard Bills

Environmental Project
Coordinator

Steuben County



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PFAS AND THE LANDFILL OPERATOR

Richard Bills, Steuben County Solid Waste
NYSASWM President

- ▶ Many names
 - ▶ Emerging Contaminants (current): PFAS (PFOA and PFOS, etc.), + 1,4-Dioxane are what we're referring to
- ▶ Where do they come from?
 - ▶ PFAS Manufactured by 3M, Dupont in the past. Manufacture phased out in US between 2010-2015, but still produced overseas
 - ▶ Have been used as ingredient in Teflon, Scotchgard, Gore-Tex
 - ▶ 1,4-Dioxane: Solvent stabilizer, used in some consumer products
- ▶ Why is it a problem now?
 - ▶ Have been linked with negative health effects (cancer), and levels of concern are presently being debated.
 - ▶ Levels of concern are in parts per trillion range – previously not detectable
 - ▶ These chemicals are extremely resistant to breakdown, so they persist in the environment – ‘Forever chemicals’

BASICS

THE DEVIL WE KNOW

Unraveling one of the biggest environmental scandals of our time, a group of citizens in West Virginia take on a powerful corporation after they discover it has knowingly been dumping a toxic chemical - now found in the blood of 99.7% of Americans - into the drinking water supply.



IT'S IN YOUR BLOOD

What Are PFAS?

Per and polyfluoroalkyl substances (PFAS)¹ are a group of manmade fluorinated compounds which are used for a variety of applications by both industry and residential households. PFAS have been in commercial use since the 1940's and are abundant in today's society. These chemicals are widely in use because of their exceptional resistance to heat, water, and oil.

PFAS are commonly found in every American household, and in products as diverse as non-stick cookware, stain resistant furniture and carpets, wrinkle free and water repellent clothing, cosmetics, lubricants, paint, pizza boxes, popcorn bags, and many other everyday products.

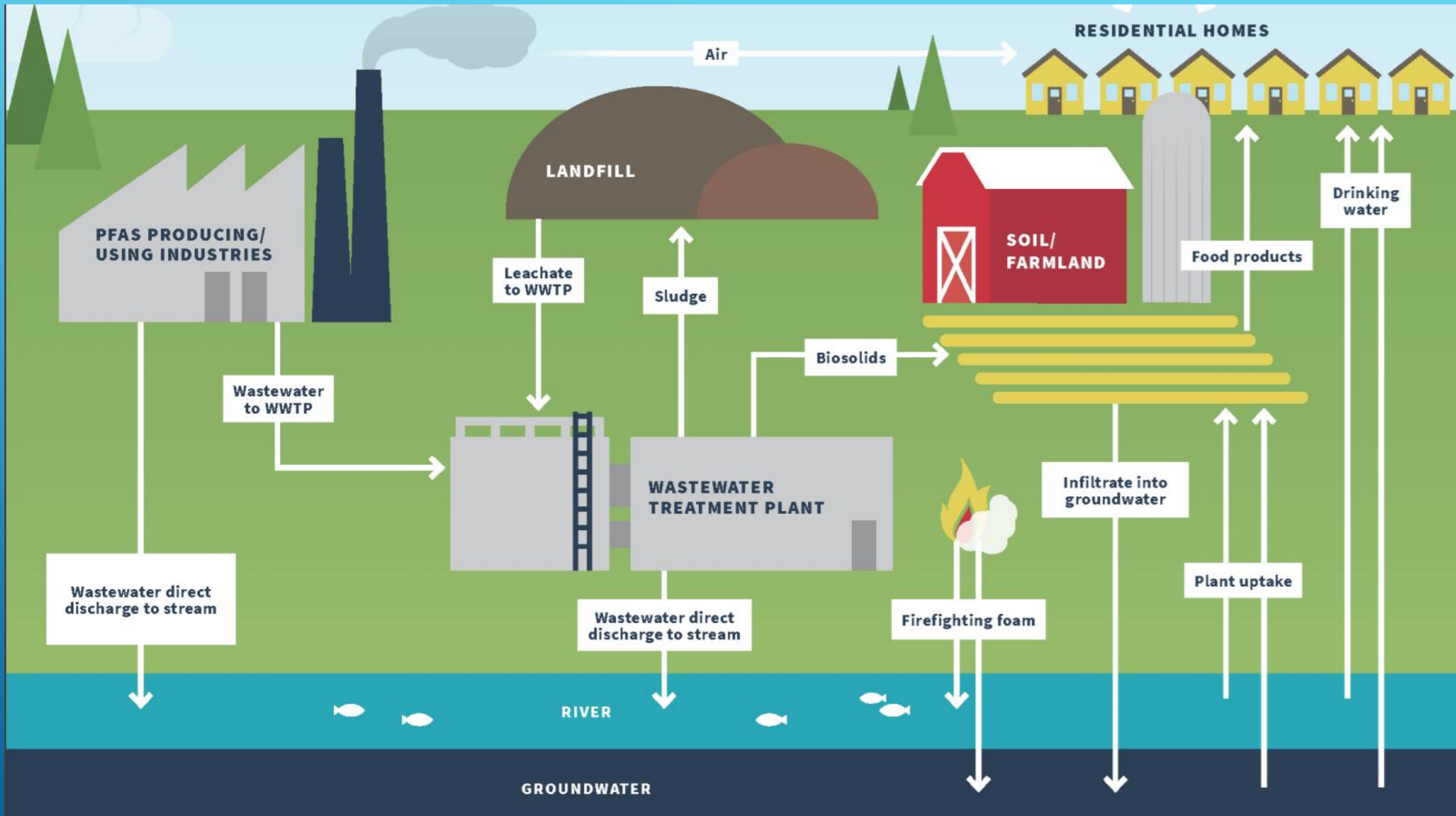
Two of the most common types (PFOS and PFOA) were phased out of production in the United States (US) in 2002 and 2015 respectively, but are still present in some imported products. PFOA and PFOS are found in every American person's blood stream in the parts per billion range, though those concentrations have decreased by 70% for PFOA and 84% for PFOS between 1999 and 2014, which coincides with the end of the production and phase out of PFOA and PFOS in the US².



► Occurrence

- 1,4-Dioxane is an “emerging contaminant” that is found in drinking water supplies throughout the United States. It is a human carcinogen, and it may also cause kidney and liver damage with long-term exposure. The physical and chemical properties and behavior of 1,4-Dioxane create challenges for its treatment. It is highly soluble in water, and is not readily biodegradable. The EPA has determined that the drinking water concentration representing a 1×10^{-6} cancer risk level for 1,4-Dioxane is 0.35 $\mu\text{g}/\text{L}$.
- Because 1,4-Dioxane is used to stabilize chlorinated solvents, it is often associated with solvent contaminant plumes in groundwater. 1,4-Dioxane is also found in numerous products. *It is used in the manufacture of paint strippers, greases, waxes, dyes, varnishes, and consumer products (deodorant, shampoos, and cosmetics), and is present in antifreeze and aircraft deicing fluids. Due to its high solubility, it tends to be found at the leading edge of plumes in advance of other contaminants.*

1,4-DIOXANE




“Every New Yorker has a fundamental right to clean and safe drinking water,” - **Governor Cuomo.**

- ▶ 2016 Governor Cuomo Launches Statewide Drinking Water Quality Initiatives
- ▶ ECL Article 27, Title 12
- ▶ Goal is to identify and prioritize solid waste sites impacting drinking water sources.
- ▶ Solid Waste Sites/ Inactive Hazardous Waste Sites/ Operational Landfills



Find your Senator and share your views on important issues.

 FIND YOUR SENATOR

Section 27-1203

Mitigation and remediation of solid waste sites

Environmental Conservation (ENV)

SHARE



1. The solid waste site priority in this state is to mitigate and remediate any solid waste site causing or substantially contributing to impairments of drinking water quality which may impact public health.
2. The department shall, in conjunction with the department of health, develop a system to select and prioritize sites for mitigation and remediation, considering the effects on the health of the state.
3. Beginning July first, two thousand nineteen and annually thereafter, the department shall prepare and submit to the governor and the legislature a comprehensive plan designed to mitigate and remediate solid waste sites. This plan shall establish a solid waste site mitigation and remediation priority list.
4. The department is authorized to conduct preliminary investigations to determine if a solid waste site is causing or substantially contributing to

SOLID WASTE SITES

- ▶ **“Dumps”/ Inactive closed landfills – ~1,800 in the State**
- ▶ **Illegal disposal sites**
- ▶ **Inactive solid waste management facility with no active monitoring or current program is impacting drinking water**
- ▶ **Does not include remedial facilities regulated under Division of Environmental Remediation (DER)**

INACTIVE LANDFILL INITIATIVE – SOLID WASTE SITES

- ▶ DEC Division of Materials Management handling along with NYSDOH – shared responsibility to prioritize Solid Waste Sites
- ▶ Typical process –
 - ▶ DEC project manager will contact owner for permission to conduct an inspection
 - ▶ Statutory authority provided under Title 12 Article 27 of the ECL
 - ▶ DEC (or consultant) will perform Site inspection
 - ▶ Inspection form has a numerical ranking system
 - ▶ 60 points or higher (Parsons inspections Form) initiates further investigation
 - ▶ Further investigation may include sampling of leachate, groundwater, surface water, and surrounding drinking water supply wells for ECs
 - ▶ Priority list of Solid Waste Sites facilities that are contributing to drinking water supplies to be compiled by July 2019, and annually thereafter.

Proposed Statewide Inactive Landfill Ranking Criteria
 Inactive Landfill Initiative Program
 New York State Department of Environmental Conservation
 Division of Materials Management

Proximity to Potential Receptors (as measured from perimeter)

1. Proximity to nearest receptors (homes, businesses, etc.). *This has a weighting factor of 3. This criterion accounts for situations where residences have been built over, or near, a landfill. Also accounts for exposure pathways in addition to groundwater (e.g., vapor intrusion).*

Score	Answer
0	> 0.50 miles
3	> 0.25 to < 0.5 miles
6	< 0.25 miles
9	Within waste limits

2. Distance to public supply wells. *This criterion has a weighting factor of 3. Accounts for scenarios where residents are obtaining water from a community /public supply well near a landfill.*

Score	Answer
0	> 1.0 mile
3	0.5 to 1 mile
6	> 0.25 to < 0.5 miles
9	< 0.25 miles

3. Distance to residential areas without public water supply available. *This has a weighting factor of 3. All three regional ranking systems included this criterion, using similar distance options.*

Score	Answer
0	> 1.0 mile
3	0.5 to 1 mile
6	0.25 to < 0.5 miles
9	< 0.25 miles

4. Distance to nearest residence with public water supply available. *This has a weighting factor of 1. This criterion accounts for unique cases where residents may still be using wells even when public water supply is available (for instance, where a resident has chosen to not connect to municipal water systems). All three regional ranking systems included this criterion, using similar distance options.*

Score	Answer
0	> 1.0 mile
1	0.5 to 1 mile
2	0.25 to < 0.5 miles
3	< 0.25 miles

PARSONS

▶ Used to rank potential impacts to drinking water supplies

▶ Landfill characteristics

▶ Proximity to receptors

▶ Geologic setting

▶ Current conditions

▶ Additional criteria, incl.

▶ Future use, history, etc.

▶ Score determines if further investigation is warranted

SCORECARD

Inactive Hazardous Waste Landfills

- ▶ NYSDEC Division of Environmental Remediation (and NYSDOH)
- ▶ Sites that are under remedial program – All remedial Sites in the State to sample for ECs
- ▶ Typical process
 - ▶ They request a monitoring work plan be completed for DEC review and approval
 - ▶ Work plans require systematic approach for monitoring location selection, proper sample methodology, analytical performed by a qualified laboratory, data validation and final summary report.
 - ▶ Owner to complete approved work plan and pay for all aspects
- ▶ If results include exceedances of current proposed MCLs, further action may be required.
- ▶ Depending on the DEC Region, the next phase may vary. Examples include:
 - ▶ Perform ½ mile drinking water supply survey
 - ▶ Perform re-sampling of exceeded locations
 - ▶ Perform additional sampling (on-site and off-site)

Operational Landfills

- ▶ NYSDEC Division of Materials Management
- ▶ Sampling completed by NYSDEC and allowed Owners to collect split samples.
- ▶ Sampled landfill leachates from Operational landfills in NYS as a data gathering mission
- ▶ Analyzed for PFAS + 1,4-Dioxane
- ▶ Sampled leachate from older portion of the landfill, newer portion of the landfill and a mixed (effluent) site leachate location.
- ▶ Results provided by DEC upon request


DEC TESTING IN 2018 – ACTIVE SITES

Operational Landfills

- ▶ 6 NYCRR Part 363 (November 2017) included ECs within the expanded parameter list.
- ▶ Recent requests have sought to amend EMP's (environmental monitoring plans) to include trigger values for emerging contaminants (PFAS+ 1,4-Dioxane) for Site groundwater monitoring network.
- ▶ Idea is to establish pre-operational groundwater quality database before landfill construction

ACTIVE LANDFILLS EXPANDED
PARAMETERS

EC – ADDITIONAL COSTS

- ▶ Pricy - ~\$330/sample – just analytical
 - ▶ Sampling costs higher as well, due to procedure required (next slide)
 - ▶ Unexpected hit to budgets – some facilities experiencing ~doubling of monitoring budget
 - ▶ Related to number of closed sites, active sites, stage within the process of the investigation
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against the blue background.

Sampling Protocol

Take notice of the things samplers must avoid.

- Fabric softener
- Waterproof clothing
- Food packaging
- Sunscreen

PFAS SAMPLING PROTOCOL (effective January 1, 2019)

Before You Go:

- Schedule PFAS sampling at the beginning of the work day, to avoid possible contamination sources
- Clothing for the day must have been previously washed a minimum of 5 times (i.e. no new clothing)
 - **NO** fabric softener
 - **NO** waterproof, water-repellent, fire-repellant or stain-resistant clothing or footwear
- Day of sampling
 - Shower only with PFAS-free soap and shampoo
 - Brush your teeth that morning with fluoride-free toothpaste only; **NO** mouthwash or dental floss
 - **NO** use of lotions, moisturizers, deodorant cosmetics, makeup sunscreen or insect repellents

Prior to Sampling:

- Do not handle any packaged food or drinks, aluminum foil, adhesive labels, etc. at or around sampling site
- Bottles must be pre-labeled before arrival at the sampling site; mark labels with a ball-point pen only, **NO** markers
- **NO** waterproof logbooks or plastic clipboards; untreated paper and aluminum clipboards only

Sampling and Sample Handling (per sampling point):

- Remove the aerator from the sample point (if applicable) and flush the sample tap for 3-5 minutes prior to sampling, or until the water temperature stabilizes
- Don disposable, coating-free coveralls then wash hands thoroughly with PFAS-free water and soap
- Put on disposable, nitrile gloves; take extra caution not to touch any surface prior to sample collection
- Sample directly into the provided preserved, HDPE bottle, seal and bag immediately; store and transport PFAS sample bottles and blanks in a clean, dedicated cooler between bags of PFAS-free, fresh, bagged ice; **NO** chemical ice packs
- Sample field blank concurrent with sample collection - pour preserved, PFAS-free water into empty HDPE bottle, pre-labeled as a field blank; transfer to cooler as with the sample
- If other sampling is to be performed, **ALWAYS** collect PFAS samples first



JULY 8, 2019 | Albany, NY

Governor Cuomo Announces Availability of \$350 Million for Water System Upgrades Statewide and Directs Health Department to Begin Adopting Maximum Contaminant Levels for PFOA, PFOS and 1,4-Dioxane

INFRASTRUCTURE

HEALTH

ENVIRONMENT

SHARE

2019 Governor directs NYSDOH to begin adopting MCLs (Maximum Contaminant Levels) for PFOA, PFOS, 1,4-Dioxane

ADOPTING STRICTEST STANDARDS IN NATION

- ▶ **"We're proposing the most protective levels in the nation for three emerging contaminants to ensure we are regularly testing and fixing water systems** before they ever rise to a public health risk in any part of the state," **Governor Cuomo said.** "New York State will continue to lead in the absence of federal action by ensuring all residents have access to clean drinking water and by investing in critical projects to assist municipalities in treating these emerging contaminants."
- ▶ **The state's recommended levels for PFOA and PFOS are significantly lower than the federal EPA's current guidance levels of 70 parts per trillion. Any potential health effects of concern for these contaminants primarily results after a lifetime of exposure to 70 ppt,** not exposure over short periods of time. While **the EPA does not have guidance on 1,4-dioxane, in accepting the Drinking Water Quality Council's recommendations, DOH used the best available science to determine a similarly protective level of 1 part per billion.** Establishing such highly protective maximum contaminant levels (MCLs) and requiring every public water system to regularly test and monitor, regardless of their size, will ensure that contaminant levels never rise to the point of causing a public health risk.
- ▶ PFOS/ PFAS - EPA – 70 ppt/ NYS 10 ppt
- ▶ 1,4 – Dioxane – EPA – 35 ppb/ NYS 1 ppb

**NYS PROPOSED MCLS SIGNIFICANTLY
LOWER THAN FEDERAL EPA CURRENT
GUIDANCE**

PFAS TOXICITY LEVELS

Recommended MCL PFOS or PFOA = **10 ppt each** (recommendation of NYS Drinking Water Quality Council)

What is a Part Per Trillion (ppt)?

- ▶ One grain of sand in an Olympic Sized Swimming Pool
- ▶ 1/10th Cent of \$1 Billion
- ▶ Less than 1 second of a 78 year life span
- ▶ If a person drank 64 oz water per day for 78 years and the water contained PFAS at 10 ppt, the person would have drunk less than a drop of PFAS.

Wastewater Treatment Facilities

On the radar for similar investigations

Will need to respond quickly once testing is done, as they are final discharge back into waterways

- ▶ What will their response be to point sources that are known to be high?
 - ▶ Raise prices?
 - ▶ Reject leachates and other SIU wastewaters?
- ▶ Treatment technologies (RO, GAC (Granular Activated Carbon) are really separation technologies. They pull the PFAS out but then where do you put them? Back to landfill?
- ▶ Potential issues with sludges concentrating



Lowell water treatment plant to stop accepting toxic water from N.H. landfill

By [David Abel](#) and [Maria Lovato](#) Globe Correspondent and Globe Staff, November 7, 2019, 8:43 p.m.



- ▶ “Earlier this week, the Globe reported that environmental regulators approved the permit even though the company’s tests showed that the amount of PFAS, known as “forever chemicals” because they never fully degrade, was more than 100 times higher than federal and state guidelines. Exposure to the chemicals has been linked to kidney cancer, low infant birth weights, and other health issues.”
- ▶ “PFAS already pose a serious health risk to residents across Massachusetts,” they wrote in a letter to Andrew Wheeler, EPA administrator. “Efforts to address existing contamination will likely be both lengthy and expensive. Our state does not need additional PFAS pollution to contend with as we work to clean up legacy contamination in our air, soil, and water.”

LEACHATE

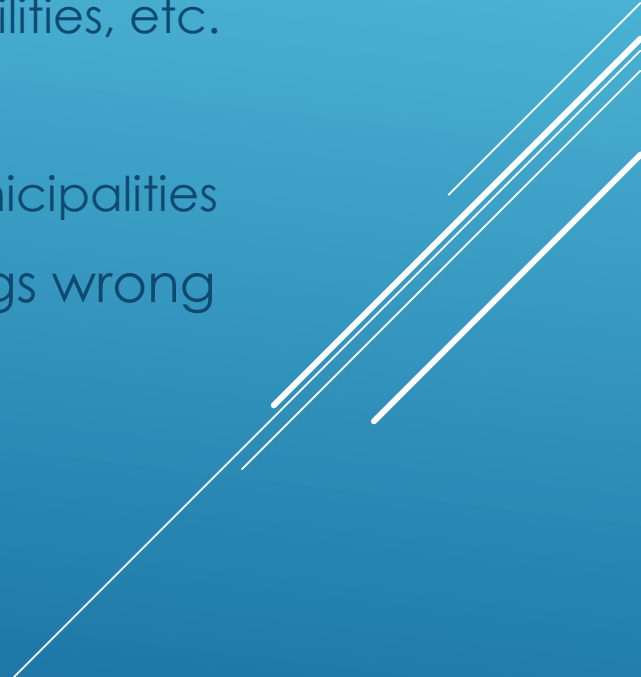
Nov 5, 2019 Boston Globe article

- ▶ Julia Blatt, executive director of the Massachusetts Rivers Alliance, said the landfill controversy showed that regulators have been “inexcusably slow” to protect the public from PFAS.
- ▶ “In case anyone has been wondering if environmental advocates, whistle-blowers, the media, and other watchdogs outside government have an important role in protecting public health and the environment, the Lowell case should provide a clear example of why the answer is yes,” she said.

PUBLIC PERCEPTION ISSUE

Nov 5, 2019 Boston Globe article

WHAT NOW?

- ▶ Stop the flow first:
 - ▶ Work to educate consumers and advocate for elimination of these compounds to stop the flow into our landfills, landspread operations, compost facilities, etc.
 - ▶ Potential for significant grant money to help municipalities
 - ▶ Grants provide only partial funding, so investments required from municipalities
 - ▶ Landfill operators and post-closure caretakers have not done things wrong
 - ▶ No one was aware. Should not feel like the bad guys
 - ▶ We need to be upfront and work toward solutions
 - ▶ Water quality is important and we are in unique position to help
- 



Paul J. Napoli

Of Counsel

Napoli Shkolnik



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PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) & LANDFILLS



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WORKING TO FIGHT

WATER CONTAMINATION

NAPOLI SHKOLNIK PLLC

PFOA AND PFOS WATER CONTAMINATION
& COST RECOVERY PROGRAM





PFOA/PFOS Contamination

Where did it come from?



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PFOA and PFOS Water Contamination & Cost Recovery Program

Attorney/Client Communication, Do Not Disclose

PFCs Contamination

Where did it come from?

PFOA/PFOS Manufacturers

PFOA was produced by eight major U.S. companies, including:

- Arkema
- Asahi
- Ciba
- Clariant
- Daikin
- DuPont
- 3M/Dyneon (primary producer)
- Solvay Solexis

PFOS was solely produced by one company in the United States:

- 3M*



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PFOA and PFOS Water Contamination & Cost Recovery Program

AFFF Manufacturers

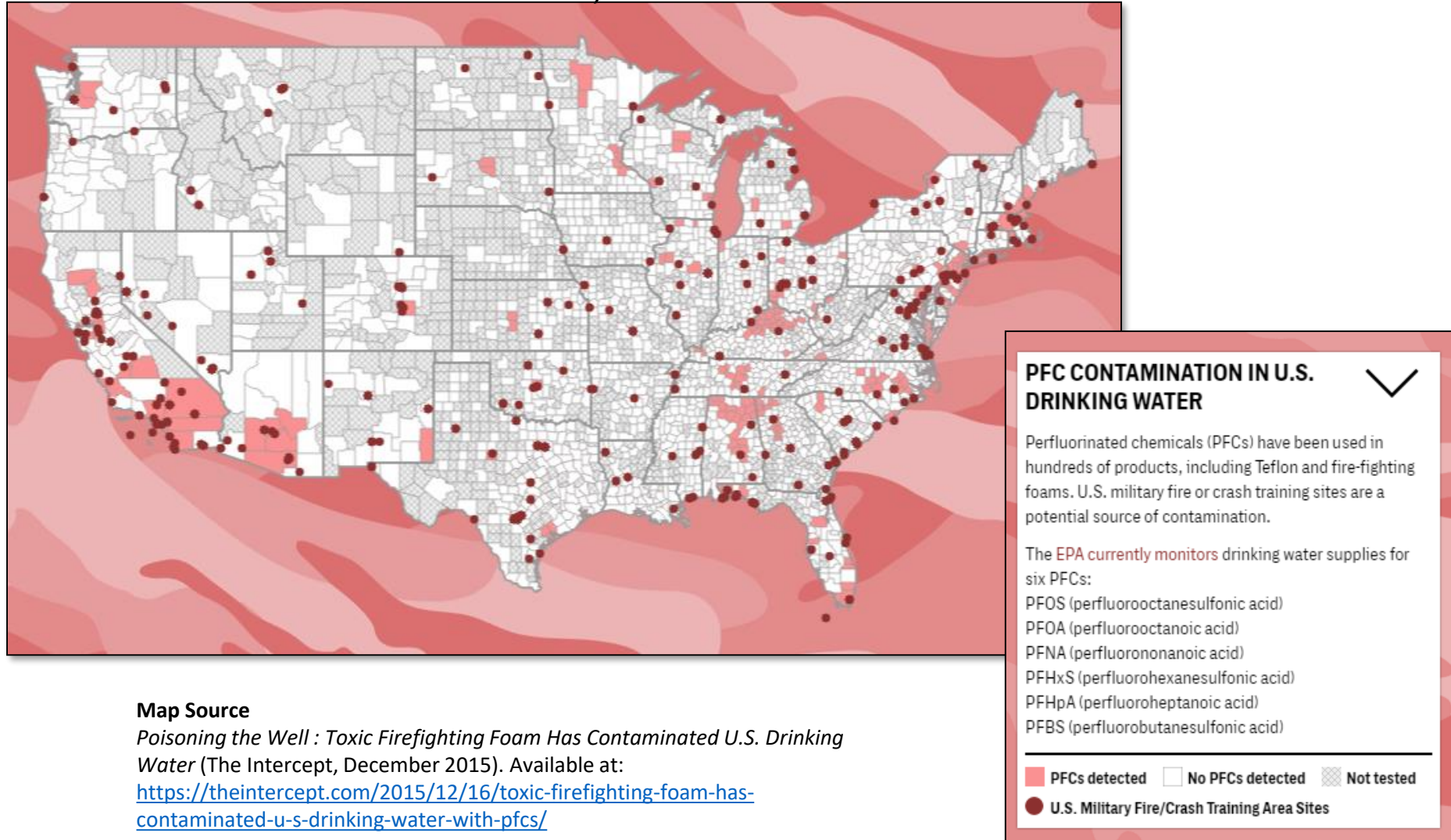
PFOS-based aqueous film-forming foam (**AFFF**) was produced by six manufacturing companies, including:

- Ansul
- Chemguard
- DuPont
- Dynax
- Kidde
- Solberg

Together, these companies have formed the Fire Fighting Foam Coalition (FFFC) to represent the industry's interests on issues related to the environment.

Where was AFFF used?

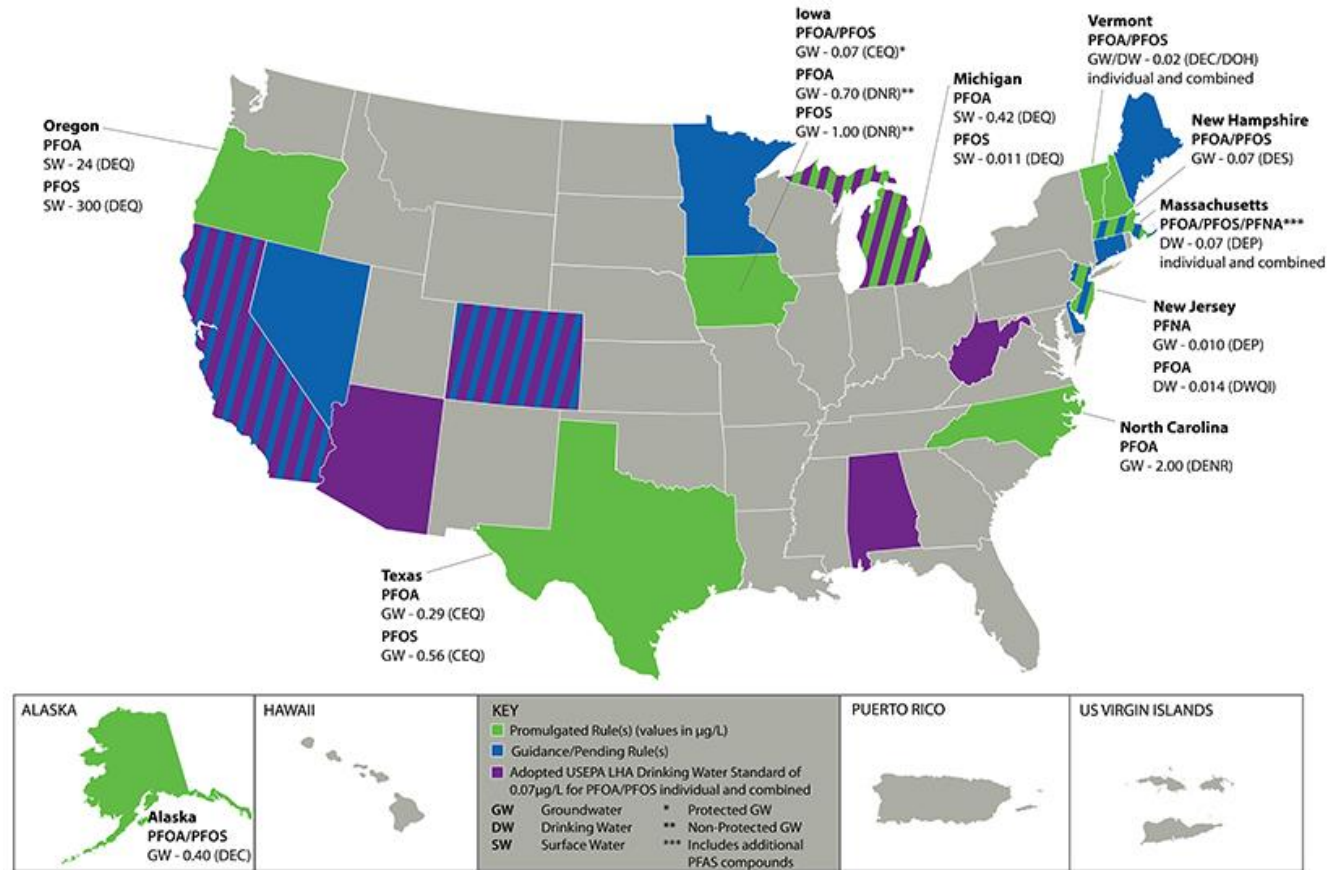
PFC Contamination Sites Across the Country



Map Source

Poisoning the Well : Toxic Firefighting Foam Has Contaminated U.S. Drinking Water (The Intercept, December 2015). Available at: <https://theintercept.com/2015/12/16/toxic-firefighting-foam-has-contaminated-u-s-drinking-water-with-pfcs/>

States with numerical PFAS Limits



Suits and Regulations

*Federal, State and Local
Litigation and Legislation*



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PFAS: The Rapidly Changing Regulatory Landscape

➤ Wastewater Treatment Plants:

MI DEQ has issued letters to POTWs rolling out the expectation that all landfill leachate being disposed to POTWs may be/probably will be analyzed BY THE POTW for PFAS

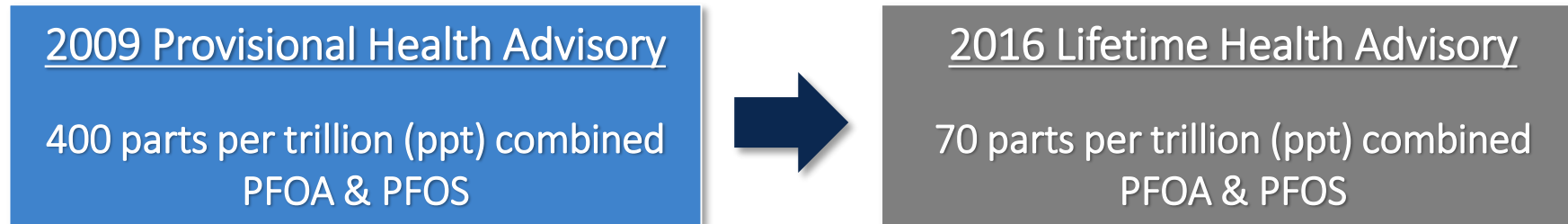
➤ New Hampshire has required all landfill groundwater monitoring programs to analyze for PFAS

➤ NYSDEC environmental sites sampling for PFAS, PFOA and PFOS are now on the hazardous substance list, and fire fighting foams that contain PFOA or PFOS are prohibited

Colonie Landfill (Colonie, NY) is applying for expansion permit. A group opposed to the expansion collected samples: PFOA was detected by in stormwater (68 ppt), in seeps near the Mohawk River (519 ppt), and in samples from the River (1-3 ppt)

Suits and Regulations

EPA Regulations



*“If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should **promptly notify their State drinking water safety agency** and consult with the relevant agency on the best approach to conduct additional sampling.”*

*“Drinking water systems and public health officials should also **promptly provide consumers with information** about the levels of PFOA and PFOS in their drinking water.”*

Suits and Regulations

State of NY's Suit Against AFFF Manufacturers

- **The State of New York filed a complaint against manufacturers of AFFF on June 19, 2018**
- The complaint details the groundwater contaminations in Newburgh and New Windsor and Suffolk County, as well as additional contaminations in Plattsburgh and Rome, New York
- Concentrations of PFOA and PFOS combined in groundwater as high as 1,045,000 ppt in Plattsburgh, New York and the source of the contamination is believed to be Plattsburgh Air Base
- Concentrations of PFOA and PFOS combined in groundwater as high as 61,233 ppt in Rome, New York and the source of the contamination is believed to be the Griffis Air Base

Suits and Regulations

New York's Proposed Regulations

- On July 3, 2018, New York environmental advocacy groups drafted a letter to the New York Department of Health and the Drinking Water Quality Council urging them to establish MCLs of PFOA and PFOS at 4 ppt
- The letter cites the reasoning behind a 4ppt MCL - a study by the National Resources Defense Council which observed and examined the effects of PFOA and PFOS on New York's most vulnerable populations, including pregnant women and children
- The letter also cites a toxicological profile generated by the Agency for Toxic Substances and Disease Registry, which states that exposure to PFOA at more than 11 ppt and PFOS at 7 ppt could be dangerous for vulnerable populations, including infants and breastfeeding mothers

How We Can Help

The hazards of PFOA and PFOS contamination are coming to light, and thanks to Napoli Shkolnik's nationwide resources, we can speak out for your municipalities and contamination victims across the country.



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How We Can Help

1. Free Evaluation For Your District
2. Investigate the Source of the Contamination
3. Sue Chemical Manufacturers
 - Products liability for defective design of AFFF
 - Failure to warn about the health effects of AFFF
4. **We can help you recover capital costs associated with the installation of treatment systems at NO COST to your municipality**
 - We charge solely on a contingency basis, pay all costs, and only take a fee if we are successful
 - 25% Retainer

How We Can Help

5. Chemistry
6. Hydrogeology
7. Water filtration
8. Document review
9. Working with the EPA
10. Risk Assessment
11. Expert testimony

How We Can Help

Filtration Systems

- According to a study conducted by the Water Research Foundation, GAC and Ion Exchange were most effective at removing long-chain PFAs, such as PFOA and PFOS
- **Granular Activated Carbon (GAC):**
 - Tests show successful removal of PFOA , as well as PFBA, PFPA, PFFH, and PFDA, in groundwater via GAC filtration systems
 - Requires incineration of PFC waste to completely destroy PFOA/PFOS
- **Ion Exchange:**
 - Ion exchange resins have high adsorption capacities, long operation days, and high PFOS recovery percentages, suggesting that anion exchange resins are suitable materials for removal of PFOS' in aqueous solutions
 - Removal of around 10-90% of PFOA and >90% of PFOS for Ion Exchange



Working
Together

The Napoli Shkolnik Difference

Our lawyers regularly appear in Federal and State Courts across the country.

Our commitment to individual service along with our preparedness to take on the most formidable opponents in the pursuit of justice have earned us a reputation for excellence that we endeavor to live up to every single day.



PFOA and PFOS Water Contamination & Cost Recovery Program

Attorney/Client Communication, Do Not Disclose

The Napoli Shkolnik Difference

Our Investment in PFOA and PFOS Costs Recovery Program

- The Napoli Shkolnik investment into the **PFOA and PFOS Costs Recovery Program** is a risk we take because we care and believe that we can be successful
- Most firms cannot invest what is required to be successful in similar litigation
- Many firms do not have the resources to properly calculate your damages, and that can be disastrous if your municipality does not get a full return on the damages rightfully owed
- Napoli Shkolnik is committed to utilizing every resource in order to achieve a win for your community

About Napoli Shkolnik

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