

Pretreatment Outlook – An Update from Washington

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North Carolina Pretreatment Consortium Conference
October 15, 2019

NACWA: A Clear Commitment to Our Nation's Waters

- National trade association for public wastewater & stormwater utilities
- Represent over 300 public utilities of all sizes from around the country (7 in North Carolina)
- Leader in legislative, regulatory and legal advocacy on the full spectrum of clean water issues



Regulatory Update



Dental Amalgam Rule

- Published 2017; goes into effect for existing dental offices July 14, 2020
- Requires dental amalgam separators in most dental offices
 - One-time compliance report required
 - Best management practices must be followed
- Responsibilities of POTW pretreatment programs still not clear



Water Reuse

- Water reuse is a priority for EPA Administrator Wheeler
- EPA released *Draft National Water Reuse Action Plan* in September 2019
 - Goal: accelerate reuse approaches and build on existing science, technology, and policy
 - 10 strategic themes, 46 action items
- Comments due December 16



Water Reuse

- Action 2.2.4: Enhance Wastewater Source Control through Local Pretreatment Programs to Support Water Reuse Opportunities for Municipal Wastewater

Develop best practices describing how local pretreatment programs can mitigate and reduce problematic pollutants discharged into publicly owned treatment works and enhance reuse opportunities for reclaimed wastewater. For example, this might involve convening pretreatment program coordinators to compile, share, and advance approaches and strategies for wastewater source control to support water reuse.



Hazardous Waste Pharmaceuticals Rule

- Final rule published on February 22, 2019
- Prohibits disposal of unused hazardous waste pharmaceuticals by flushing or pouring down the drain
 - Previously, the Resource Conservation & Recovery Act (RCRA) unintentionally encouraged flushing
 - Rule states: “EPA strongly recommends as a best management practice to not sewer any waste pharmaceutical (i.e., hazardous or non-hazardous) from any source or location.”
- Eliminates dual regulation as hazardous waste and DEA controlled substances

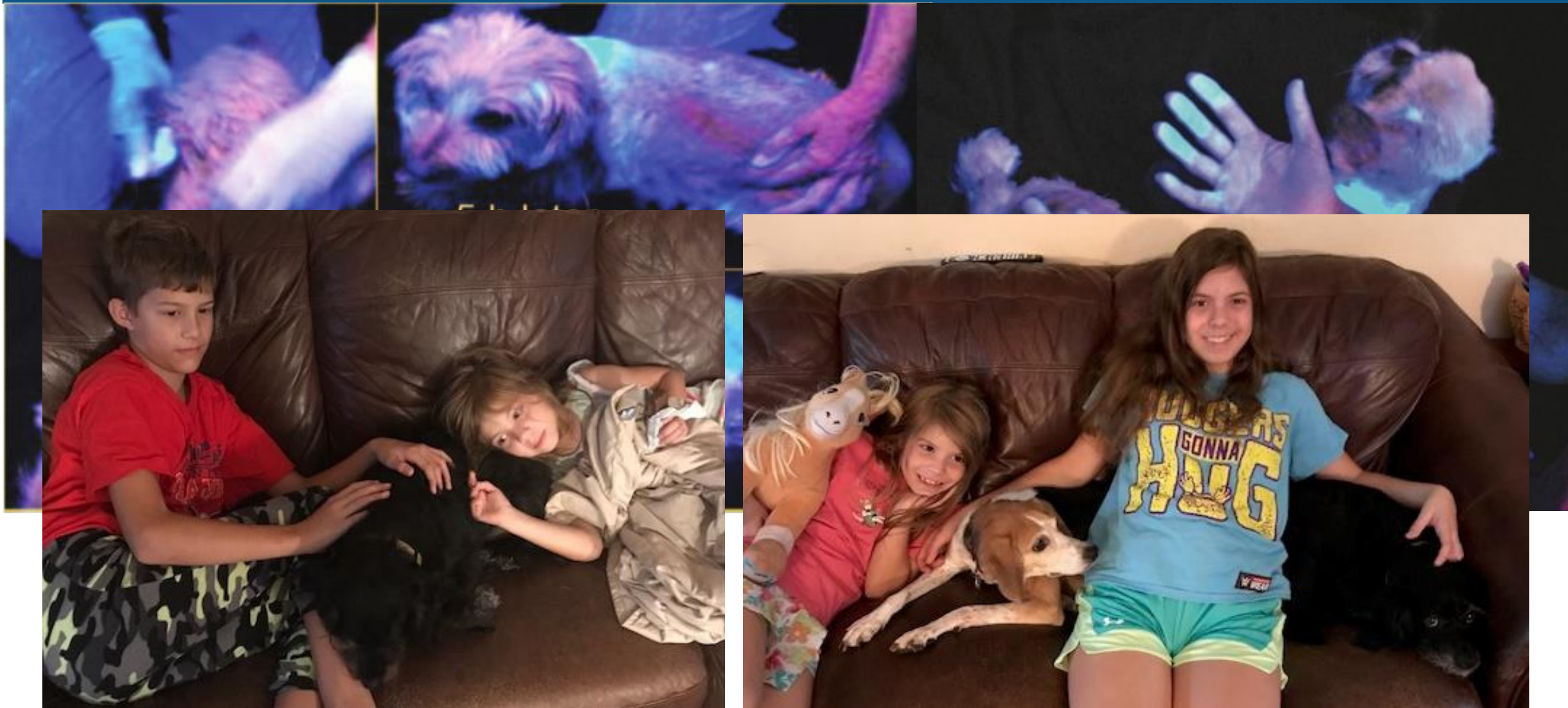


Pharmaceutical Take-Back Programs

- State legislation in New York, Washington, California, Oregon, Vermont, and Massachusetts
 - Manufacturers required to fund drug take-back programs
 - Medical sharps included in California
- Local ordinances helped lead to state legislation
- DEA changes to controlled substances rules in 2014 allow take-back at pharmacies



Pesticides – Fipronil Example



Pesticides – Fipronil Example



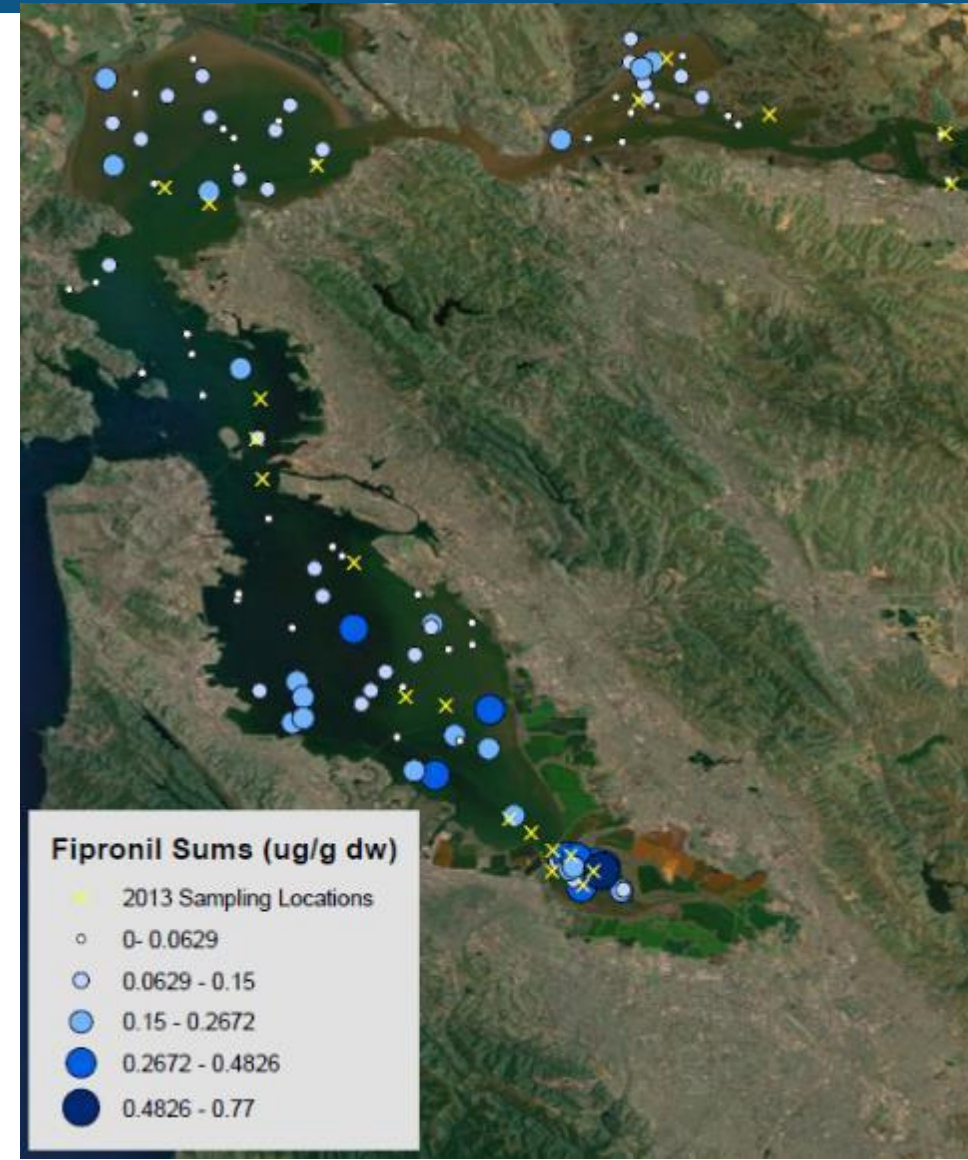
Pathways to Bay:

Stormwater

- Detected in **96%** of samples from 6 creeks
- **One-third** exceeded toxicity thresholds

Treated Wastewater

- Limited data suggest **treatment has little effect**
- **DATA NEEDED**



Pet Flea Control Product Use

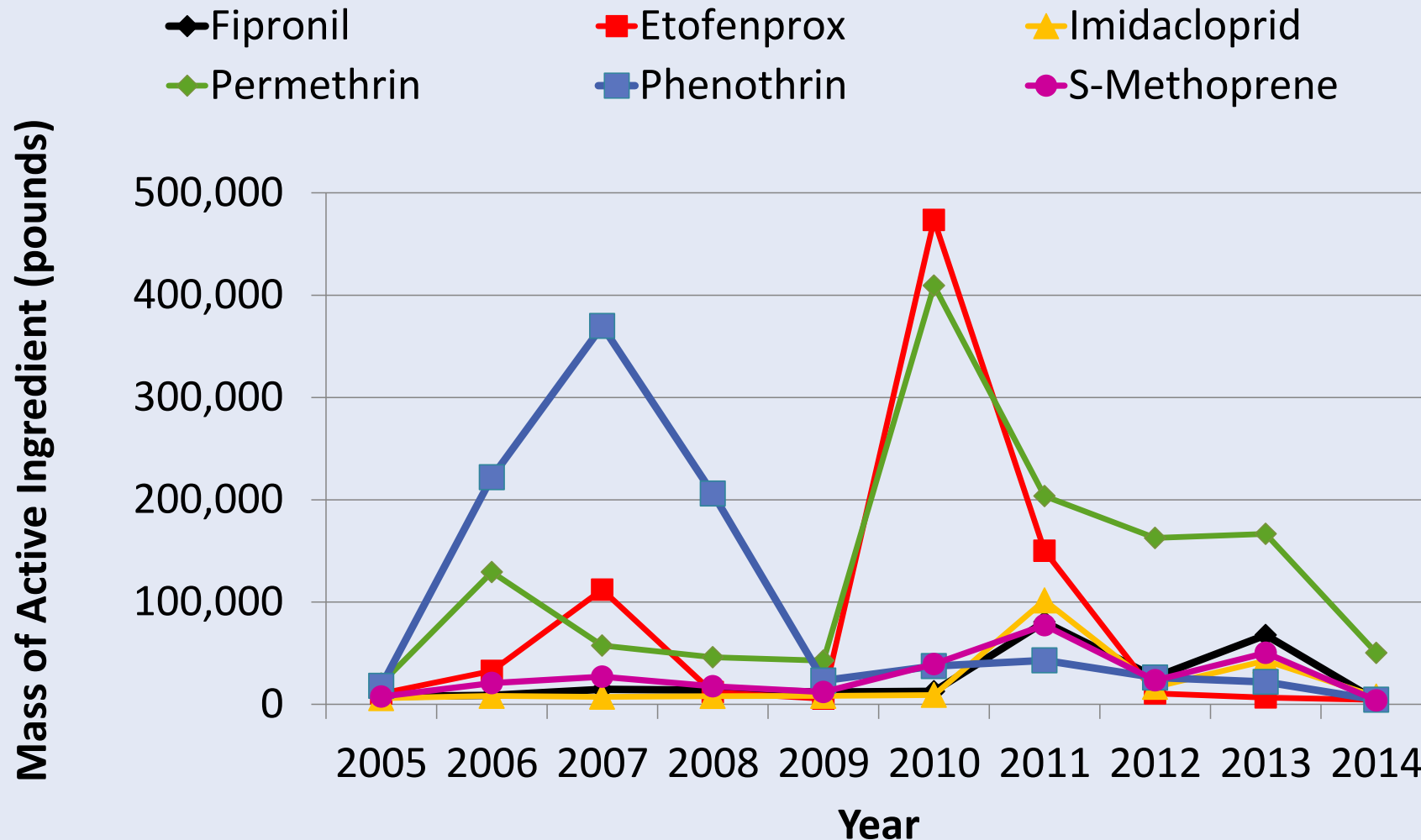


Figure 2. Mass of pet topical products sold by AI from 2005–2014.

Nutrient Study

EPA National Study of Nutrient Removal and Secondary Technologies

- Multi-phase study with goal of establishing nutrient removal baseline and characterizing methods for optimizing nutrient removal
- First phase: Survey to be distributed to every POTW later this month
- Survey is **voluntary**; can complete first part of survey without providing monitoring data
- NACWA will hold webinar about survey on October 30



Oil & Gas Extraction Wastewater Study

EPA Oil & Gas Extraction Wastewater Management Study

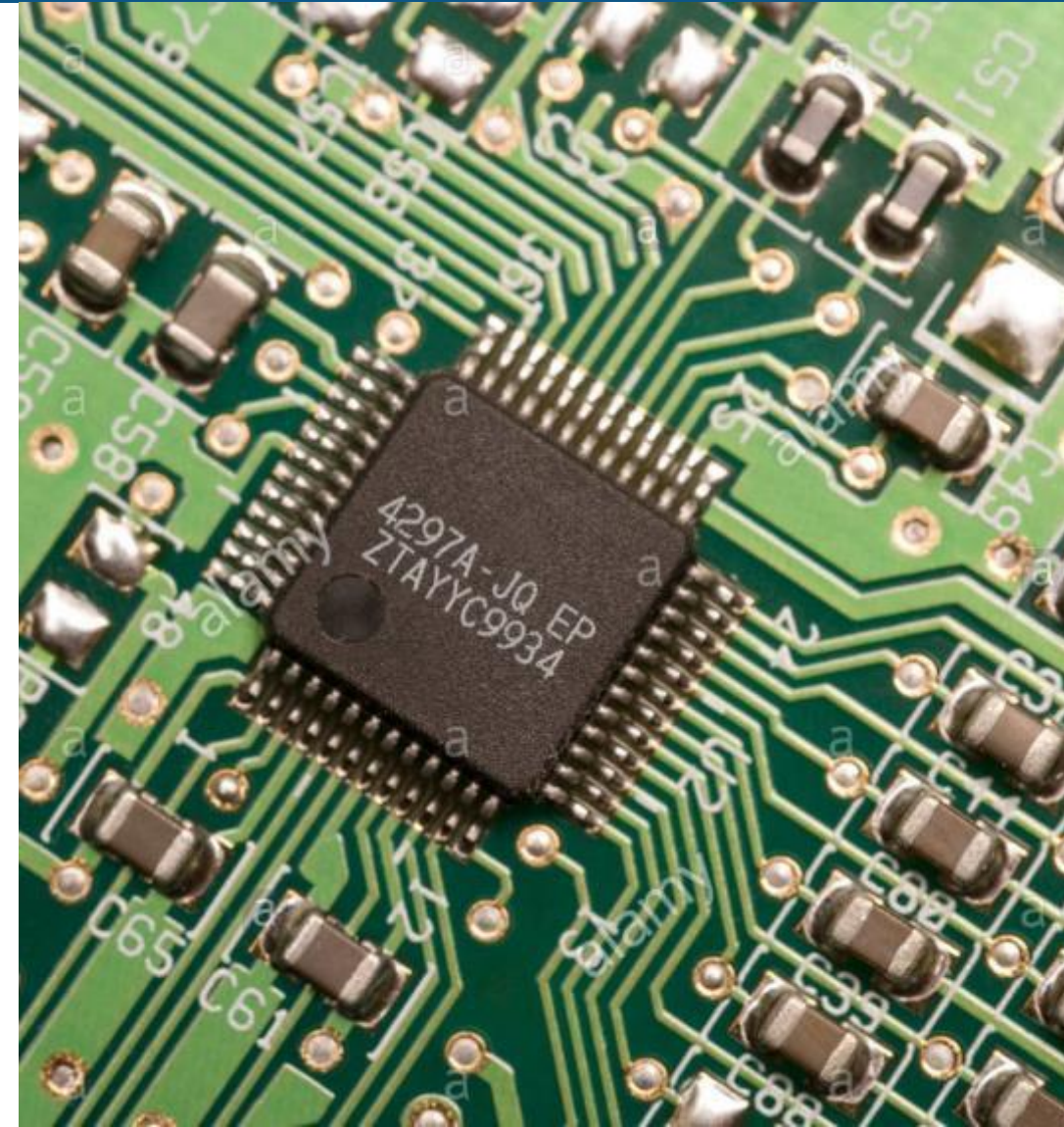
- Studying current regulations of wastewater from onshore conventional & unconventional (“fracking”) extraction
- Extraction wastewater usually disposed of with deep well injection
- Discharge of “fracking” wastewater to POTWs is currently prohibited
- NACWA supports discharge to POTWs if the facilities are specially designed to treat this type of waste



Electrical & Electronic Components Study

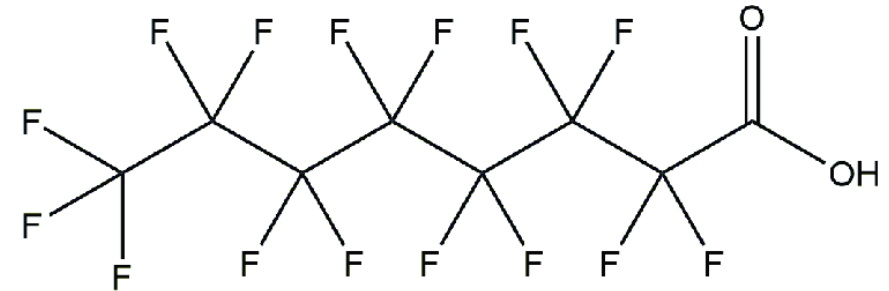
EPA Electrical & Electronic Components (E&EC) Study

- Original regulation promulgated in 1983
- Covers semiconductor, electronic crystal, cathode ray tube, and luminescent material facilities
- Questions to answer include:
 - Have waste stream compositions and treatment systems changed since 1983?
 - Are there industries not present in 1983 that should be included in this category?

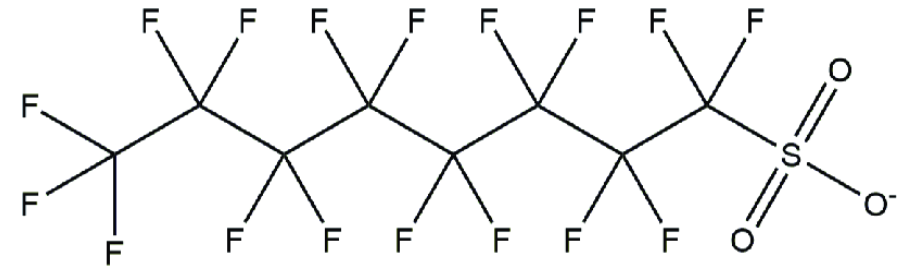


Per- and Polyfluoroalkyl Substances (PFAS)

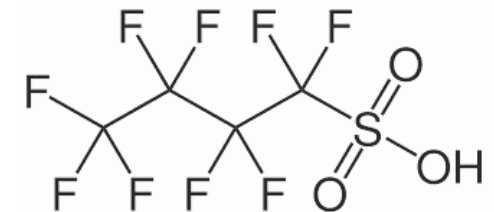
- A family of synthetic organic substances containing one or more carbon (C) atoms where all the hydrogen (H) atoms have been replaced by fluorine (F) atoms
- Over 3,000 different chemical varieties
 - Significant interest in the two “long-chain” perfluoroalkyl acids: PFOA and PFOS
 - Alternatives to perfluoroalkyl acids are the polyfluoroalkyl substances or “short-chain,” e.g., GenX and PFBS
- Water soluble, persistent, and bioaccumulative
- Hydrophobic, oleophobic, and lipophobic



Perfluorooctanoic acid (PFOA)

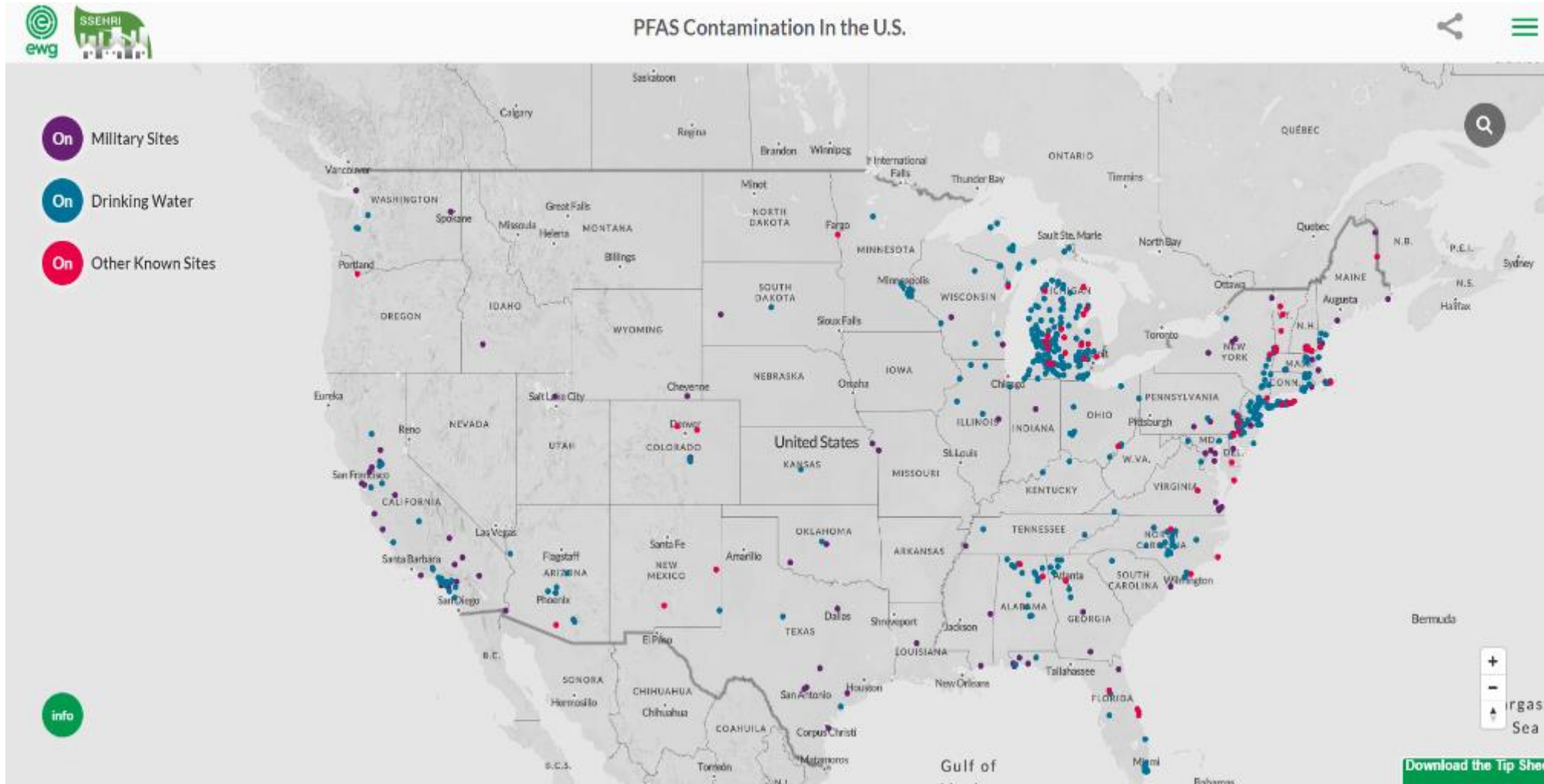


Perfluorooctane sulfonate (PFOS)



Perfluorobutanesulfonic acid (PFBS)

Sites with PFAS Contamination



Source: The Environmental Working Group, PFAS Contamination in the U.S. Interactive Map (May 2019); *available at* https://www.ewg.org/interactive-maps/2019_pfas_contamination/map/?_ga=2.3104880.1722076490.1559671670-2143889573.1556282088

PFAS Sources



PFAS Sources – Industrial Users

SIU Sampling Source Identification (Jan 2019)

Industry	# of SIUs	# Significant Source	# Not Significant Source
Petroleum Refining	1	1	--
Electroplating & Metal Finishing	83	18	65
Centralized Waste Treatment	8	7	1
Tank Cleaning	1	1	--
Chemical	3	--	3
Leather Processing	2	1	1
Airfields	2	2	--
Landfills	8	8	--
Iron & Steel	3	--	3
Laundry	3	2	1
Paint Formulating	1	1	--
Hospital	1	--	1
Other	18	5	13
Total w/Data	134	46	88

Biosolids Management



Land Application



Landfill



Incineration

PFAS & POTWs in the News

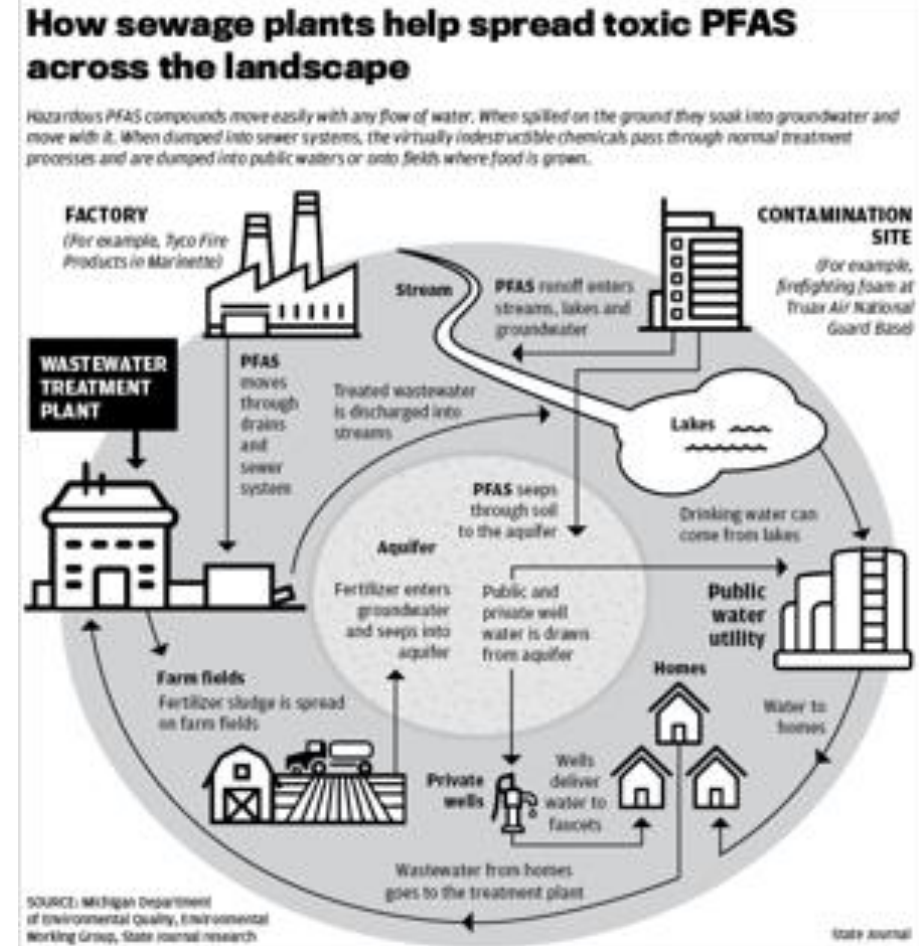
WISCONSIN
STATE JOURNAL

BREAKING TOPICAL TOP STORY

Wisconsin case shows how sewage plants spread unregulated toxins across landscape

STEVEN VERBURG sverborg@madison.com Jan 27, 2019

“As Wisconsin discovers more PFAS contamination it will decide whether to follow the lead of Michigan and investigate the role of wastewater treatment plants in spreading the indestructible, toxic compounds across the landscape.”



Maine

Portland Press Herald

Public health experts aim to stop spreading of sludge

Fred Stone says he can't sell milk from his herd because of exposure to PFAS, chemicals linked to cancer that were found in the sludge he spread on his fields for decades.

BY [KEVIN MILLER](#) STAFF WRITER



Fred Stone holds Lida Rose, one of his brown Swiss cows, on his Arundel dairy farm before a news conference Tuesday that was held to raise awareness about PFAS chemical contamination in his fields and cows resulting from municipal sludge he had spread from 1983 to 2004. Lingering contamination in his herd is forcing him to dump the milk his cows produce. *Gregory Rec/Staff Photographer*

Maine

Portland Press Herald

State says sludge must be tested for 'forever chemicals' before it's used as fertilizer

The new requirement comes as a farmer in Arundel blames municipal sludge containing PFAS for contaminating his land and dairy herd.

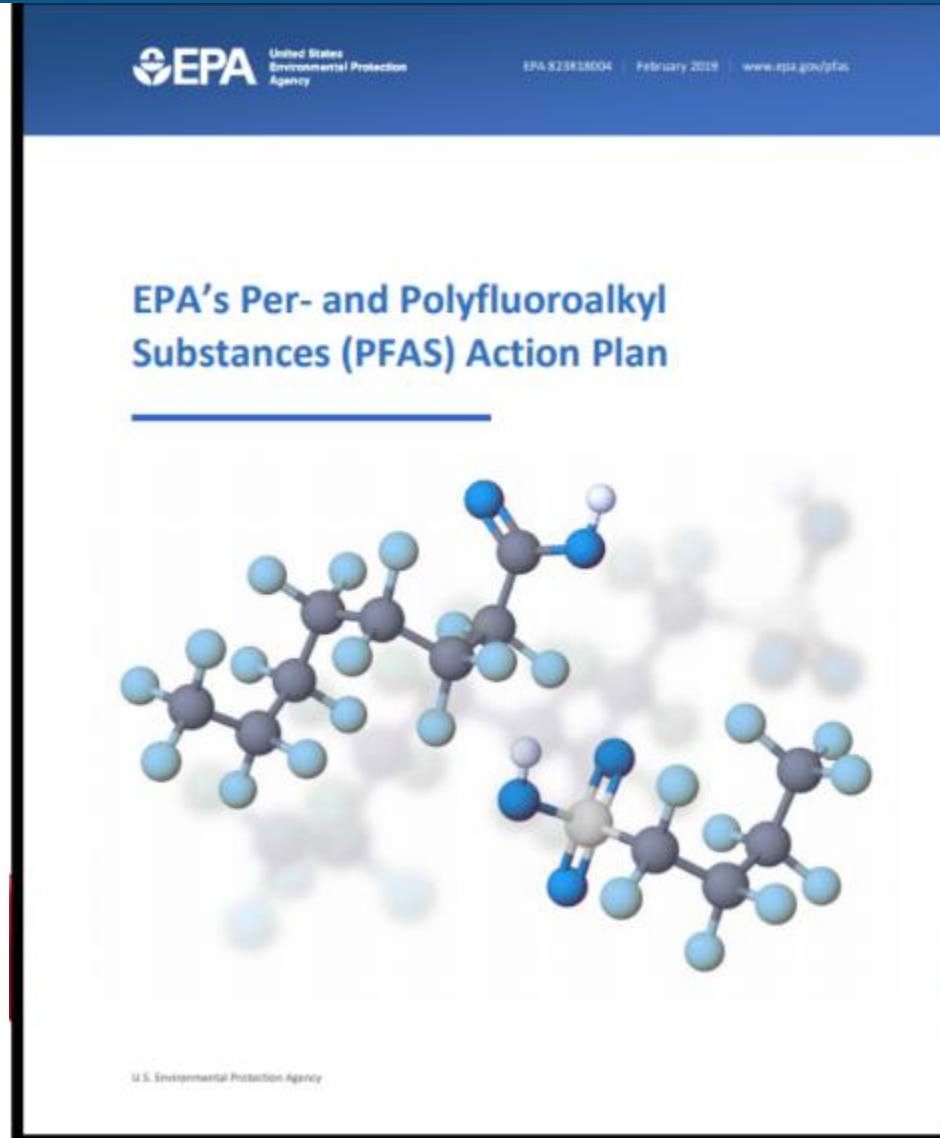
BY [KEVIN MILLER](#) STAFF WRITER



The soil, grass and Fred Stone's cows and the milk they produce have high levels of PFAS chemicals because of sewage sludge that Stone spread on the fields from 1983 to 2004. *Gregory Rec/Staff Photographer*

EPA PFAS Action Plan

- Published on February 14, 2019
- Actions include:
 - Initiate rulemaking for developing MCLs for PFOA/PFOS
 - Designate PFOA/PFOS as CERCLA hazardous substances
 - Expand analytical test methods for PFAS
 - Complete PFAS effluent guidelines study
 - Develop groundwater cleanup recommendations for PFOA/PFOS



Dealing with a Patchwork Approach

- Michigan: POTWs asked to evaluate potential sources of PFAS and reduce/eliminate sources found
- Maine: Biosolids must be sampled and tested for PFOA, PFOS, and PFBS before land application
- Washington: PFAS Chemical Action Plan being developed
- California: Investigation plan
 - Phase 1: airports and landfills
 - Phase 2: refineries, fire training areas, wildfire areas
 - Phase 3: includes POTWs and “secondary manufacturers”



PFAS Proposed Legislation – “The Big Three”

- H.R.535/S.638 – **PFAS Action Plan of 2019** - Requires EPA to designate ***all* PFAS** as hazardous substances under the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA)
- H.R.2377/S.1473 – **The Protect Drinking Water from PFAS Act** – Amends the Safe Drinking Water Act and requires EPA to set an MCL for ***all* PFAS** chemicals within two years
- H.R.2577/S.1507 – **PFAS Release Disclosure Act** – Amends the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 to require reporting on releases of per- and polyfluoroalkyl substances through the Toxics Release Inventory (TRI).



National Defense Authorization Act (NDAA)

- NDAA is considered a “must pass” bill
- Senate: bipartisan PFAS legislative package advanced out of Committee and attached to NDAA
 - Requires EPA to set MCL for drinking water
 - Requires tracking of PFAS by the U.S. Geological Survey
 - Mandates reporting of PFAS discharges through Toxic Release Inventory reporting
- House: bypassed Committee process and PFAS amendments added to NDAA just before vote
 - Amendment by Rep. Pappas (D-NH): add all PFAS to the Clean Water Act toxic pollutants list and require EPA to develop effluent limitations and pretreatment standards for PFAS by January 1, 2022
 - Amendment by Reps. Dingell (D-MI) and Kildee (D-MI): liability for all PFAS chemicals under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, aka Superfund) as hazardous substances

WIPES



Shittens 

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- Mark Cuban above Testimonials

For Baby For Pets For Grandpa For You

Shittens 



Charleston, SC



'Simply not flushable': Thousands of pounds of wipes clog sewer system



The system had to send in the divers nearly 100 feet (30 meters) into a sewer well after the wipes, congealed by grease and other items sent into the pipes, clogged the suction intake pumps to the Plum Island Wastewater Treatment Center on James Island.

Charleston Water System

Divers swim through 90 feet of raw sewage to unclog giant, hairy 'fatberg'



Workers take dive into deep doo to unclog sewer pumps



Toilets Are Not Trashcans!

Protecting our Pipes, Pumps, Plants, & Personnel



Code of Practice for Labeling Non-Flushable Wipes

2013



2018



To solve the problem of wipes and other non-dispersible products, we need:

**Clear labeling of
non-flushable
products**



**Flushable products
that are safe for
sewer systems**



**Consumer
education**



Code of Practice for Labeling Non-Flushable Wipes

2013



2018



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Code of Practice for Labeling Non-Flushable Wipes



How Do Wipes Perform in Real Sewers?

48" pipe, 22" WW depth, 42 min. travel time

Toilet Paper



"Flushable" Wipes



Flushability Standard for Flushable Wipes

2013: “GD3” – Wipes Industry Voluntary Guidelines



2018: International Water Services Flushability Group (IWSFG) Specification



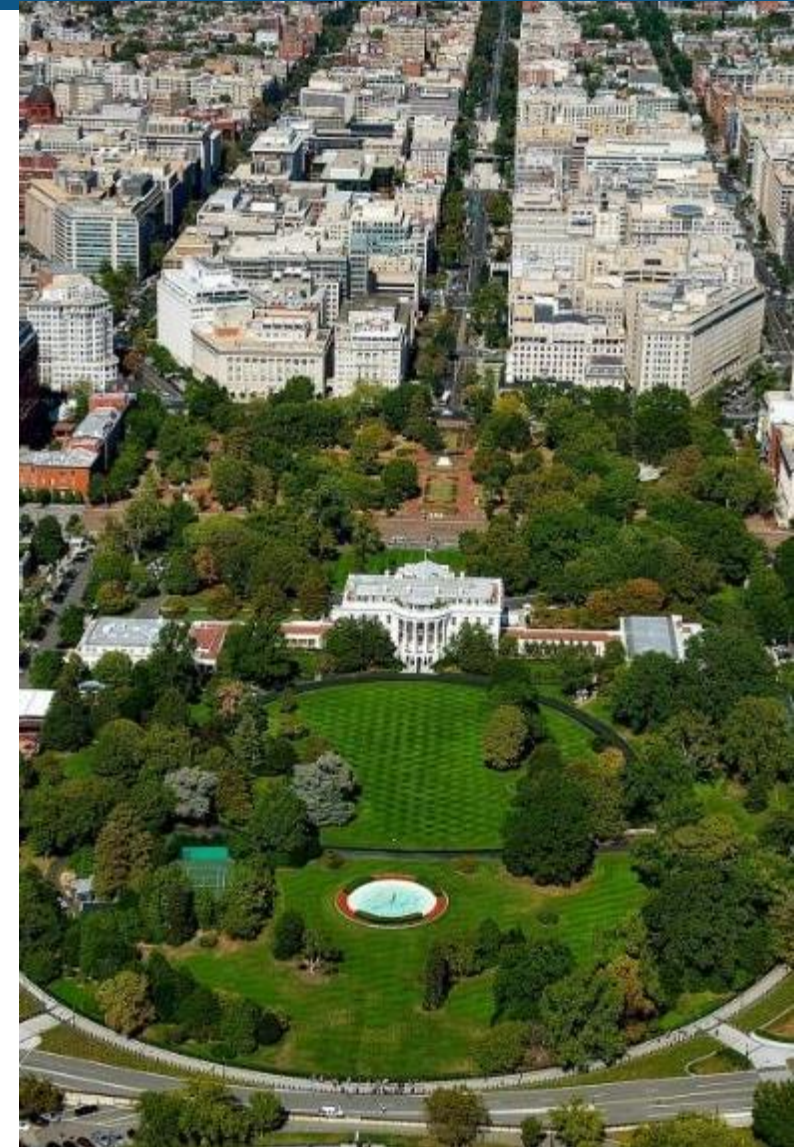
www.iwsfg.org

Slosh Box Test



D.C. – First Wipes Law in U.S.

- Wipes legislation passed by D.C. Council in December 2016
 - Establishes flushability standard for flushable wipes
 - Requires “Do not flush” labeling on non-flushable wipes
- D.C. sued by Kimberly-Clark Corp. on constitutionality of law
- Preliminary injunction granted until regulations published
- D.C. Department of Energy & Environment (DOEE) published draft regulations in March 2019



It's Not a Ban!

“We’re not banning these wipes. Let’s be really clear about that. We’re just saying they should tell the truth and shouldn’t label them as flushable when they’re not.”

**--Mary Cheh,
DC Councilmember**



First Amendment

As for the First Amendment claim, Cheh similarly dismisses it.

“Honestly, we compel speech all the time,” she says. “We tell food vendors that they have to label their products. We have labeling requirement all the time, and to characterize it as compelled speech is really no argument at all.”

What do Wipes and Twinkies have in common?



“It is true that the FDA, for instance, could require Hostess to disclose the calorie count of Twinkies, even if the company’s marketing arm might prefer otherwise,” the judge wrote. “But it cannot require that company to tell consumers its sugary treat ‘should not be eaten’ nor ban it from labeling that product ‘edible.’”

Preliminary Injunction Granted; Issues Not Resolved

“Lurking beneath this city’s streets lies a purported scourge of our sewer system: nonwoven disposable wipes. While unwitting consumers might blithely flush baby or facial wipes down the toilet, little do they know, those wipes may bind together in the subterranean realm, creating plumbing clogs of substantial proportions....”

“Because the Court agrees that the Act likely treads impermissibly on Plaintiff’s First Amendment rights, it will grant the injunction. As the District is still in the process of promulgating regulations to implement the Act, the Court will subsequently reassess whether the injunction remains appropriate once those regulations become final.”

Labeling that would not violate the free speech rights of wipes

Labeling should be “purely factual and uncontroversial information.”

The District of Columbia
this product cannot

Flushing these wipes
to clogs in the sewer



Flushing these wipes contributes
to clogs in the sewer system.

California Legislation

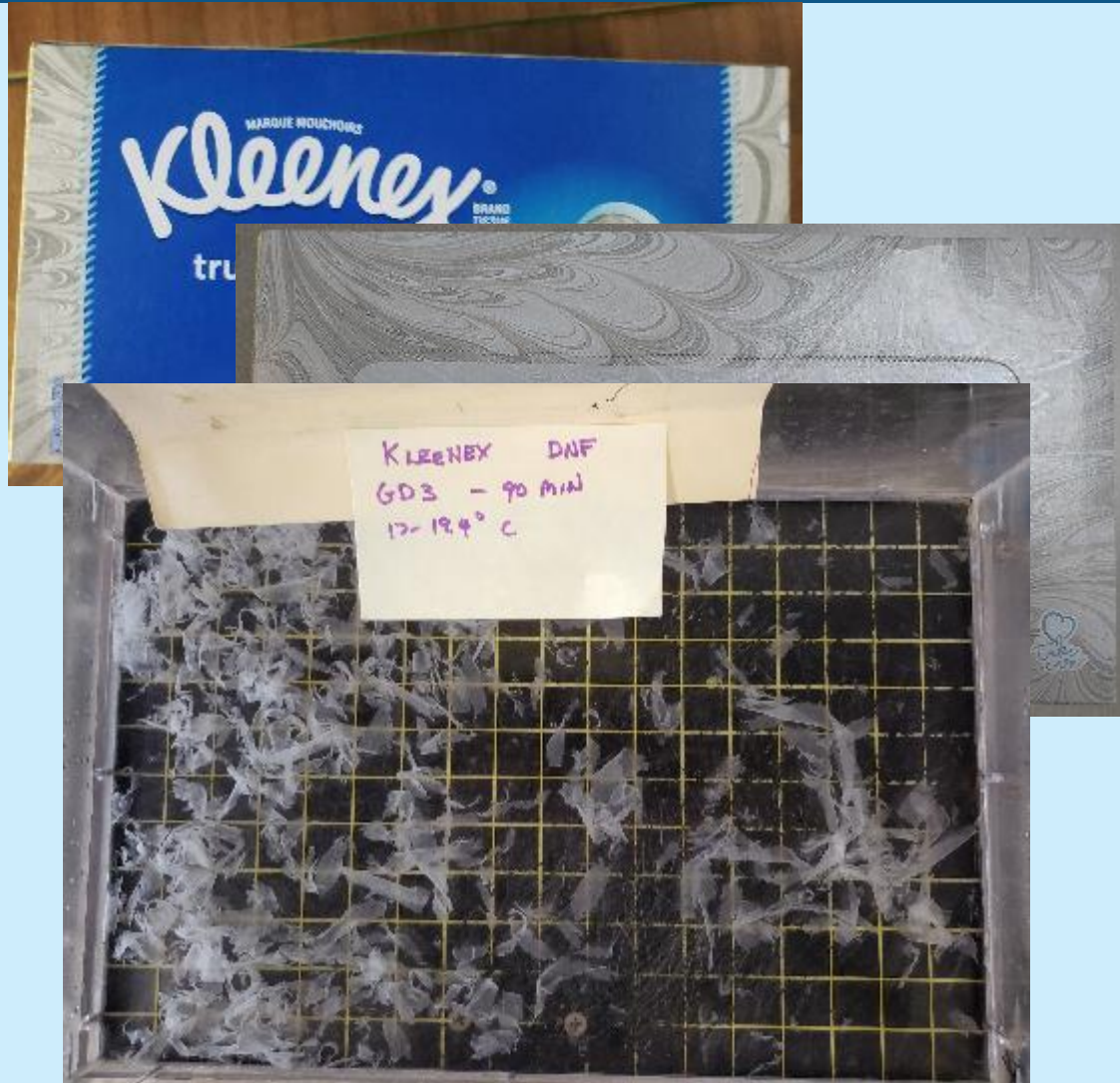


- AB 1672, sponsored by the California Association of Sanitation Agencies (CASA) would establish:
 - IWSFG flushability specification as the flushability standard for wipes labeled “flushable”
 - INDA/EDANA Code of Practice for labeling non-flushable wipes
- Passed first two committee votes

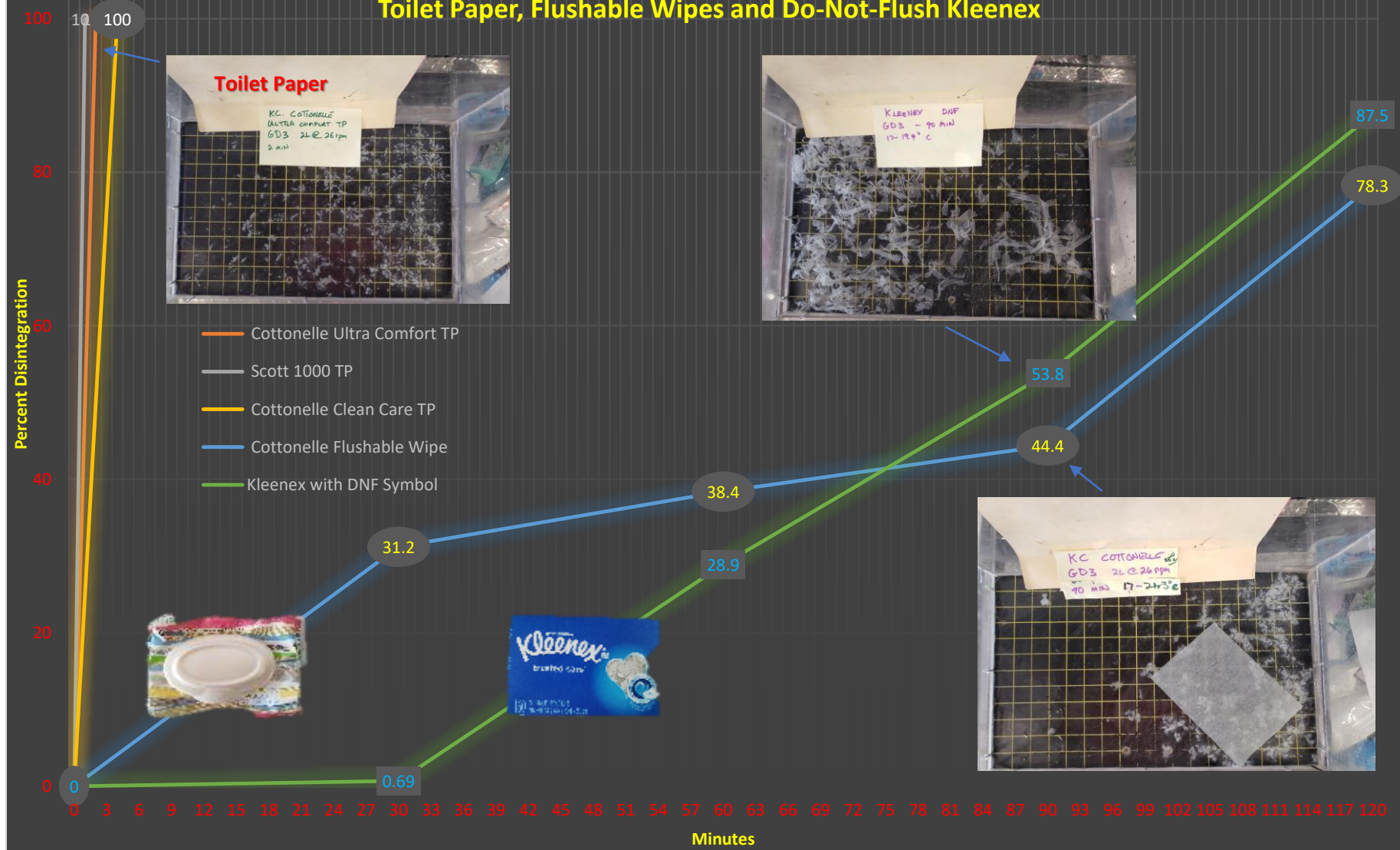


California Association of Sanitation Agencies

Do-Not-Flush Facial Tissue vs. Flushable Wipe



GD3 FG502 Slosh Box (2L@26 rpm) Comparison of Disintegration Between Kimberly Clark Toilet Paper, Flushable Wipes and Do-Not-Flush Kleenex



The Evidence...

Sent: Tuesday, March 12, 2013 1:48 PM

To: Powling, David

Subject: Moist Wipes

Hi David –

Do you know if there is a big difference between the Scott Naturals and Cottonelle Fresh Care Moist Wipes in regards to their breakdown once flushed? We recently placed Cottonelle moist wipes in all the restrooms at KC North. Today we had a massive back up inside the building and when they opened the manhole, we could see all the moist wipes and they were not deteriorated or broken down at all. We have had Scott Naturals in place for some time at South and we haven't experienced this problem, so I'm wondering if Scott Naturals are easier on plumbing systems?? Should we not be using the moist wipes at all in a commercial setting because they are consumer products? Obviously the volume is a lot higher here than what one would experience at home.

Do you have any suggestions or know who could offer recommendations? At this time, we'll have to pull them since we can't risk another back-up in the building.

Thanks David!

Sara Waldschmidt, LEED GA, Facilities Operations Specialist
Facilities Management

The Evidence...

From: Lortscher, Pete [plort@kcc.com]
Sent: 3/13/2013 1:34:58 PM
To: Vogel, Nathan J [nathan.j.vogel@kcc.com]; Powling, David [dpowling@kcc.com]; McCormick, Trina R [trina.r.mccormick@kcc.com]
Subject: RE: Moist Wipes - back up at KC North

Nathan,

We can do some strength testing. I believe it's an infrastructure issue. The video/picture information from the lines should provide a little more clarity with the issues they are having. Believe it or not the maintenance guys took our wipes and let them soak in a bucket for about an hour to see if our claim of break-up was true (very similar to wastewater stakeholders actions). We pulled the sample out of the bucket and it was very weak so that was a good thing.

-Pete

From: Vogel, Nathan J
Sent: Tuesday, March 12, 2013 5:24 PM
To: Powling, David; McCormick, Trina R
Cc: Lortscher, Pete
Subject: RE: Moist Wipes - back up at KC North

If we get a sample tomorrow can we get a strength test on it? They recently switched to CFF so we can get some data on that by checking the wipe size. If we see some SCT sheet size that will tell us something as well – especially if they are still whole. Winter in Neenah not great for break-up, eh?

Single-Use Plastics & Microplastics

ENVIRONMENT 11/20/2018 01:45 pm ET | Updated Feb 28, 2019

Dead Whale Had 1,000 Pieces Of Plastic Inside Its Stomach – Including Flip-Flops

Rescuers in Indonesia also found 115 drinking cups and 25 plastic bags.



The New York Times

Before You Flush Your Contact Lenses, You Might Want to Know This

Flushing disposable contacts down the toilet or washing them down the drain may contribute to the problem of microplastic pollution, researchers said.

Outside

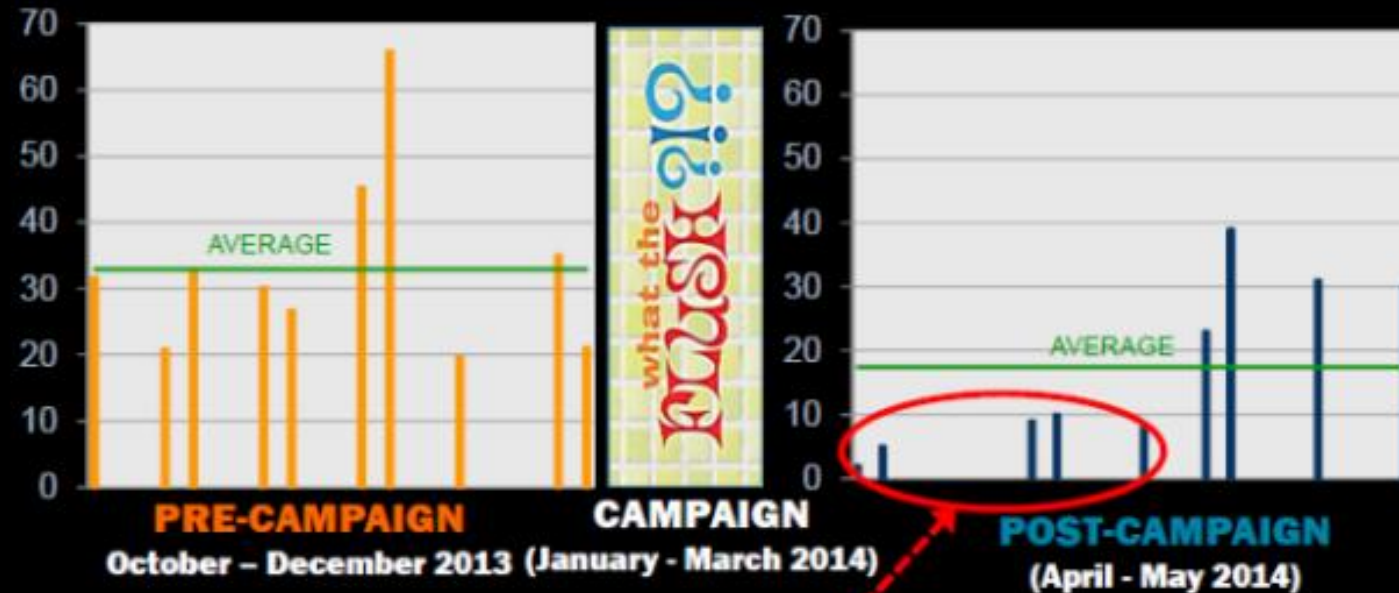
Patagonia's New Study Finds Fleece Jackets Are a Serious Pollutant

The brand commissioned a study to find out how many synthetic microfibers—the tiny bits of plastic that marine scientists say could be jeopardizing our oceans—are shed from its jackets in the wash. The results aren't pretty.

Consumer Education – Maine Pilot Project

ANALYTICAL EVIDENCE OF CAMPAIGN

Number of Baby Wipes per 100,000 gallons



Initial reduction in number of baby wipes flushed, followed by resumption of behavior at pre-campaign levels.

Visit: www.mewea.org/pump-clog-resources/outreach-materials-dont-flush-baby-wipes-campaign/

Courtesy of Aubrey Strause, Verdant Water



Wipes – The Tip of the Fatberg?



The first flushable pregnancy test



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- City of Clinton POTW
- City of Greensboro Water Resources Dept.
- City of Raleigh Public Utilities Dept.
- Metropolitan Sewerage District of Buncombe County
- Orange Water & Sewer Authority
- Town of Cary

Join the NACWA Family!

Membership dues for wastewater and stormwater utilities serving populations less than 75,000 are \$750 to \$1,000/year

www.nacwa.org/membership

UPCOMING EVENTS

National Clean Water Law & Enforcement Seminar

November 20, 2019/ Austin, TX

NACWA Webinar on EPA's National Nutrient Survey

October 30, 2019

Resilience Webinar Series, Part 2

December 5, 2019

Winter Conference

February 4-7, 2020/ Atlanta, GA

NACWA Pretreatment & Pollution Prevention Workshop + Training



Nashville, TN

May 13-15, 2020

Training Day: May 12

www.nacwa.org/20pret