## PFAS & PFOS

WHAT DOES IT ALL MEAN?





- Director: Marathon County Solid Waste Department
- President: Associated Recyclers of Wisconsin
- Treasurer: Solid Waste Association of North America: Badger Chapter
- Treasurer: Wisconsin Counties Solid Waste Management Association
- Co-chair:WI DNR Waste & Materials Management Study Group
- Co-founder: Solid Waste PFAS Group

### WHAT IS PFAS & PFOS

- Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals
- Discovered by accident in the 1930s now 5000+ chemicals in category
- 3M began producing compounds in 1949 as a surfactant
- Hydrophobic & lipophobic (strong affinity for proteins)
- I 969 studies found organofluorine in blood of humans
  - I 976 studies determined these to be PFAS/PFOS
- I 997 3M study found PFAS/PFOS in global blood banks
- May 2000 3M— phase out of the production of PFOS, PFOA
  - Phase-out of PFOA & PFOS appear connected to decline of compounds in blood serum from 1999 to 2014 by 60 and 80% respectively



### INCREDIBLY PERSISTENT COMPOUND

- Studies indicate that <u>PFOA</u> and <u>PFOS</u> may cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animals.
- While there are a large number of epidemiological and toxicology studies on PFOA and PFOS, many questions about health impacts remain about exposure to PFAS and the newer short-chain carbon compounds
- EPA considering classifying PFOA and PFOS as hazardous compounds
  - https://www.federalregister.gov/documents/2020/03/10/2020-04145/announcement-of-preliminary-regulatorydeterminations-for-contaminants-on-the-fourth-drinking-water

#### PFAS IN OUR LIVES







BASS PRO SHOPS BASS PRO SHOPS MEN'S 200 MPH JACKET















BOB KING - DULUTH NEWS TRIBUNE

The oil refinery fire in Superior, Wis., threw thick, black smoke into the sky after an explosion and fire in April.

Sea Grant research addresses the growing crisis of PFAS exposure, finds PFAS in rainwater



#### **EXPOSURE ROUTES**

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- Exposure pathway for adults- Food we eat
  - 2 inches of French fry consumption equals the PFAS intake of drinking 2 liters of 20 ppt (PFOS + PFOA) water...
- Exposure pathway for children-Dust in our homes
- Exposure pathway for infants- Breast milk and in-utero

# Rep. Nygren responds to DOJ's involvement in Tyco water contamination investigation

Michigan to sue 3M as toxic PFAS chemicals taint waters

#### Sampling Finds Elevated Levels Of PFAS Chemicals In

Madison Waterway

First Round Of Testing Reveals Higher Levels In Starkweather Creek

By Danielle Kaeding Published: Tuesday, October 8, 2019, 10:00am Johnson Controls unit Tyco knew since 2013 it was polluting wells. It took 4 years to notify neighbors

Lee Bergquist, Milwaukee Journal Sentinel Published 5:00 a.m. CT Feb. 4, 2019

#### Gov. Tony Evers Issues Order To Curb PFAS Pollution

Order Calls For Officials To Collaborate To Identify PFAS Sources, Develop

Standards, Create Council

By Danielle Kaeding Published: Friday, August 23, 2019, 10:10am Updated: Friday, August 23, 2019, 4:05pm

## Internal documents show 3M hid PFAS dangers for decades

Keith Matheny, Detroit Free Press Published 8:30 a.m. ET May 9, 2019 | Updated 7:27 p.m. ET May 11, 2019

## Sen. Hansen, Rep. Nygren: Bipartisan bill to address PFAS contamination introduced

#### IDENTIFYING PFAS "HOTSPOTS"



### **US State Specific Regulations**



#### LEGISLATION

#### AB321/SB302 (no floor action)

setting standards for certain contaminants, providing information relating to off-site disposal of certain waste, extending the time limit for emergency rule procedures, providing an exemption from emergency rule procedures, granting rule-making authority, and making an appropriation.

#### SB310/AB323 2019 Wisconsin Act 101 (2/6/2020)

- regulating fire fighting foam that contains certain contaminants and granting rule-making authority.
- AB843/AB772 (Available for scheduling/Executive action, but no floor session)
  - PFAS standards and grant programs, providing blood testing for certain individuals, requiring a cancer cluster study, extending the time limit for emergency rule procedures, providing an exemption from emergency rule procedures, and granting rule-making authority.
- SB717/AB792 (Available for scheduling in Senate/passed by Assembly)
  - expanding the clean sweep program to include collection of certain fire fighting foams and making an appropriation.

## **REGULATORY AGENCY RESPONSE**

- DNR and DHS technical advisory committees to:
  - Examine what, where, when and how PFAS is potentially impacting Wisconsin;
  - Establish a public information website to properly inform the public on the matter of PFAS and the risk these chemicals pose to public health and Wisconsin's natural resources.
  - Collaborate with municipalities and wastewater treatment plants on screening programs to <u>identify</u> potential sources of PFAS into the environment.
  - Expand monitoring and consideration of PFAS in the development of fish and other wildlife consumption advisories to protect human health.
  - Develop regulatory standards to protect public health and the environment from PFAS contamination.
  - Modify the Voluntary Party Liability Exemption law, which provides future liability exemptions after successful completion of hazardous substance cleanup, to <u>protect Wisconsin taxpayers from uncertain</u> <u>and costly liability associated with PFAS</u>.
  - Assess opportunities for using natural resources damages claims under state or federal law to address compensation for PFAS impacts to natural resources.



#### Potable well sampling for private wells in Marinette/Peshtigo Area



### EXECUTIVE ORDER 40— CREATE WI PFAS ACTION COUNCIL (WisPAC)

- Develop a multi-agency PFAS action plan for the State of Wisconsin.
  - https://dnr.wisconsin.gov/sites/default/files/topic/PFAS/wispac/DraftActionPlan20201001.pdf
- Major categories of recommendations:
  - Standard setting
  - Sampling
    - Pollution Prevention
    - Engagement, Education, and 🖉 Inmunication
  - Research & Knowledge
    - Phase Out
  - Future Investments

#### PFAS AND WASTE MANAGEMENT





## Waste Systems-Receivers of PFAS

- Waste systems do not produce or use these chemicals
- Waste systems cannot easily control sources of PFAS
- Inextricably tied to wastewater treatment facilities

#### WE NEED A GLOBAL SOLUTION BASED IN REASONABLE RISK ASSESSMENTS, SOUND SCIENCE & FACTS



### BUT HOW?

- A few examples that could show us the way
  - Ban on asbestos in building materials
  - Removal of lead from gasoline
  - Ban of CFCs—Montreal Protocol
  - Cosmetics- not tested on animals any longer
  - BPA-free products

