Columbia River Toxics Reduction Working Group

Per- and Polyfluoralkyl Substances (PFAS): State of Oregon Overview and Status

October 10, 2019

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Presentation Overview

- Uses and Sources of PFAS
- Oregon PFAS Regulatory Landscape
- Status of DEQ/OHA Program Efforts
- Pollution Prevention Initiatives
- Communication and Coordination Activities

Common Uses of PFAS in Products

Used for polymerization, repellence, and surfactant properties

Source: Green Science Policy Institute

Health Effects of PFAS

- Affect growth, learning, and behavior of infants and older children
- Lower a woman's chance of pregnancy
- Interfere with body's hormones
- Increase cholesterol levels
- Affect the immune system
- Increase the risk of cancer

https://www.atsdr.cdc.gov/pfas/docs/pfas_fact_sheet.pdf

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PFAS: Increasing concerns across U.S.

Michigan is cracking down on PFAS in wastewater plants

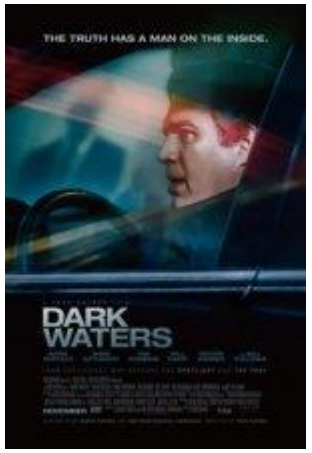
Updated Mar 21; Posted Mar 21
(From: www.mlive.com)

Plating surfactants a concern for MI WWTPs

The True Cost of ScotchGard: 3M to Pay Minnesota $850 Million in Perfluorochemical Settlement

By Sarah Wightman
April 3, 2018
(From: www.martenlaw.com)

Dark Waters Trailer: Mark Ruffalo is a Crusading Attorney



TOXINS TAINT AIRPORT GROUNDWATER, SOIL

November 30, 2017
The Port of Portland recently detected contaminated soil and groundwater at Portland International Airport, traced to a special foam used in firefighter training for more than a half-century. So far, there's no evidence that the two chemical compounds, known as **PFOS and PFOA**, have spread very far.
(From: https://portlandtribune.com)

Oregon PFAS Regulations: High Level Landscape

- Oregon currently has no state statutes or regulations related to:
  - Drinking Water Standards
  - Cleanup Action Levels
  - Hazardous Waste Management
  - Surface Water Quality Standards
  - Air Toxics Criteria *(although reporting required)*
  - Solid Waste Management

- One 2011 Oregon rule does address PFAS…..

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Senate Bill 737 (2007)
Persistent Priority Pollutants Program

- DEQ required to develop list of priority persistent toxic pollutants for water
  - *118 on the "P3" list, including 5 PFAS*
- 52 largest "major" municipal wastewater treatment plants required to monitor listed pollutants in effluent
  - *Only two rounds of monitoring in 2010*
- "Initiation levels" established in rule for pollutants
  - *If levels exceeded, required to develop pollution plan incorporated into NPDES permit*
- Additional monitoring and regulation would only apply to new "major" wastewater plants

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Senate Bill 737 (2007)
Persistent Priority Pollutants ("P3") Program

- Analytical Framework and Results
  - 14 PFAS were analyzed by DEQ Lab
    - 5 on P3 List and 8 others in analytical method
  - Limit of Quantitation ranged from 1000 to 5000 ng/l (ppt)
    - May have missed many detects above HAL
  - Only PFOA was detected in wastewater
    - Two detects at the same wastewater treatment facility at 2700 and 5000 ng/l (ppt)

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PFAS Status in Oregon: Public Drinking Water Programs

- Unregulated Contaminant Monitoring Rule
  - No detections of PFAS in wells of >10,000 population systems
  - Currently no plans for more DW monitoring
  - Some community water systems planning voluntary monitoring of PFAS
    - Springfield, Portland

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PFAS Status in Oregon: Public Drinking Water Programs

- UCMR3 Results
- PFOS, PFOA, PFNA, PFhXS, PFHpA, PFBS

	MRL (ppt)	Result
PFOS	40	All below MRL (Method Reporting Limit)
PFOA	20	
PFNA	20	
PFhXS	30	
PFHpA	10	
PFBS	90	

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Oregon PFAS Fish Monitoring Results

- National Rivers and Stream Assessment Program - 2008
  - EPA-DEQ monitoring partnership
  - 5 fish tissue sample detections of PFOS
    - Ranged between **5.3** and **10.4 ng/g** (estimated)
    - Mostly urban streams in Western Oregon

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Oregon PFAS Contamination Sites

- Sites with historical fire-fighting foam use or storage
  - Airport Facilities (PDX), Air Guard Bases (Portland & K-Falls), Fire Training Center (Portland), Army National Guard facilities (multiple)
  - Highest levels in shallow groundwater in monitoring wells
  - Also some detections in surface water (e.g.,Columbia Slough) & stormwater
  - Nature and extent of contamination still being assessed
  - Proactive investigations by responsible entities

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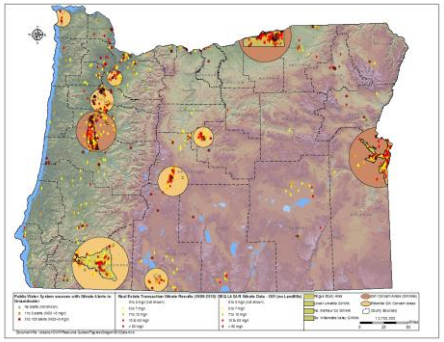
Drinking Source Water Protection

- DEQ and OHA coordinating efforts
- Identifying and mapping potential sources
  - Sites likely using fire fighting foam (AFFF)
  - Landfills, Wastewater Treatment Plants
  - Industrial uses (e.g., chrome plating, paper mfg)
- Information will assist local water providers with source water protection



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Future Ambient Environmental Monitoring of PFAS in Oregon

- DEQ Lab working on PFAS analytical methods
  - Both drinking water (EPA 537.1) and various non-DW methods
- Environmental monitoring needs identified include:
  - Surface water
  - Groundwater
  - Stream sediments
  - Fish Tissue

- Wastewater agencies, USGS and others planning their own monitoring

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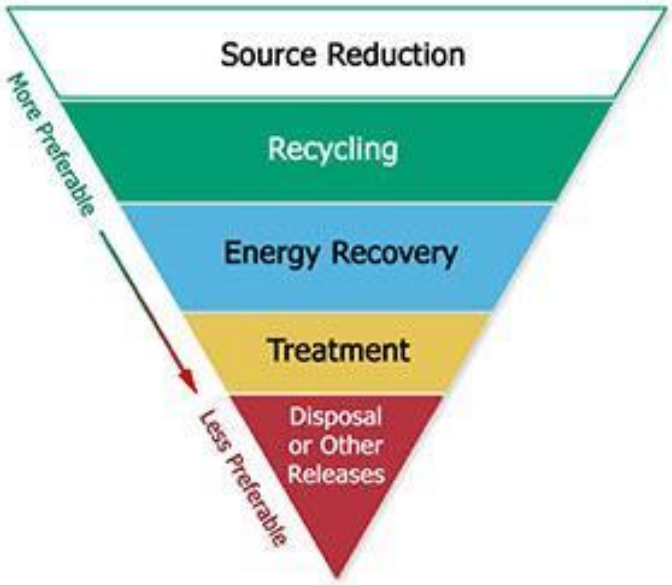
PFAS Pollution Prevention Efforts

- DEQ and other state partners advancing safer alternative assessments …why?
  - Avoid transition to “regrettable” substitutes in market
  - Reduce PFAS in state purchasing contracts
  - Decrease future cleanup and treatment burdens



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PFAS Pollution Prevention Efforts

- Food Packaging
  - Many entities pursuing different elements (e.g., WA Ecology)
  - DEQ used EPA grant funds to develop "roadmap" for assessing alternatives
  - Complex → barrier coatings AND packaging materials
- Flourine-Free Foam (F3) alternatives
  - Viable substitutes used outside US.
- Office Furniture Purchasing
  - Simple solution → Properties of PFAS not necessary

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Coordinating with States and EPA on PFAS Policy and Technical Issues

- Oregon DEQ and OHA Participating in Multiple PFAS Coordination and Info Sharing Forums
  - EPA-Environmental Council of States working groups
  - Region 10-States' Calls
  - IC2 and Interstate Technical & Regulatory Council (ITRC)
  - West Coast States' group for safer products and chemistry
  - ATSDR coordination (Oregon Health Authority)
  - Regular Department of Defense contacts

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PFAS Communications Efforts in Oregon

- Drafting on DEQ-OHA fact sheet and web content describing activities, resources and contacts
- Responding to public and media inquiries and requests for information
- Presenting information at forums and conferences, including State Environmental Justice Task Force

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What Do We Need from the Federal Government (EPA & ATSDR)?

- Regulatory standards for cleanup, drinking water and other media if needed
  - Would reduce burden on states and “patchwork” of state laws/regs
- Technical guidance and information on:
  - Remediation technologies
  - Lab analytical methods and multi-parameter tools
  - Toxicity values for vast array of PFAS (high throughput screening)
- Coordination with states on Risk Communication

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