PFAS WEBINAR - MICHIGAN

A 90-minute update for water supply professionals and local government on science, technology, regulatory and legal issues

Problem assessment, treatment strategies, financing options

An educational information-exchange webinar program from the American Ground Water Trust

Tuesday, April 18th, 2023

10:00am – 11:30am (Eastern Standard Time)

Topics that will be included in the webinar:

- How PFAS enters, moves, and is stored in the environment
- Physical, chemical, and biological links between PFAS and Microplastics
- Technological updates on PFAS treatment equipment
- Costs for equipment installation, operation, and maintenance
- Outline of federal and state regulations and compliance challenges
- Route map for seeking a legal route to cost recovery

Registration fee is free for government employees, staff and board members of public water supply entities, and staff at 501(C)(3) non-profit organizations.

Continuing Education

Certificate of Attendance available on request for all attendees upon completion of CE Form

American Ground Water Trust – Event Sponsors and Principal Corporate Supporters:

Webinar Registration
www.agwt.org/events

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BACKGROUND:

The motivation for this webinar is the American Ground Water Trust's (AGWT) education mission to provide objective information to facilitate water management decisions. **Since 2017, the AGWT has convened many conference, workshop and webinar events focused on PFAS problems. In-person or virtual programs have been offered for the following states: AZ CA CO CT DC FL GA IA IL KS MA MD ME MI MN MO NC NJ NH NM OH OR PA RI SC VT WA WI & WV.**

In 2023 the regulatory aspects of protecting public health are beginning to catch up with the evolving scientific knowledge about the ubiquitous PFAS compounds. This 90-minute webinar is a one-stop-shop for the latest information about PFAS. New Federal proposals on health thresholds will be a major challenge for water suppliers.

PARTICIPATION:

All webinar attendees must register. The ZOOM access codes will be e-mailed to registered participants the day before the webinar. The program is of particular relevance for water utility managers, regulatory professionals, and units of local government with responsibility for public health. This PFAS update will also be useful for consultants and engineers involved with water supply, water treatment and groundwater remediation.

On March 14, 2023, the U.S. EPA released proposed drinking water Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs) for select per- and polyfluoroalkyl substances (PFAS).

WEBINAR PROGRAM (via Zoom)

10:00am (Eastern Standard Time) – April 18, 2023

INTRODUCTION – GROUNDWATER PROTECTION PRINCIPLES: PFAS IN THE ENVIRONMENT

Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

- How we got to where we are – a rapid chronology
- The impact of PFAS compounds on human health
- How PFAS enters, moves, and is stored in the environment

A LEGAL PERSPECTIVE ON PFAS ISSUES IN THE USA

Ken Sansone, Partner, SL Environmental Law Group PC, San Francisco, CA

- How litigation resulted in the evolution of national PFAS contamination awareness
- Update on current federal regulatory thresholds for action on PFAS
- Using the law for water utilities to leverage damages for contamination

THE CRUCIAL PHYSICAL, CHEMICAL, AND BIOLOGICAL LINKS BETWEEN PFAS AND MICROPLASTICS

Yasemin Kunukcu, PhD, PE, Technical Director, Roux, Inc., Somerset, NJ

- Some PFAS occur as microplastics - such as polyvinyl fluoride (PVF) and polytetrafluorethylene (PTFE)
- PFAS can adsorb onto microplastics in the environment and possibly desorb in aquatic species
- Recent research suggests that microplastics may increase PFAS toxicity
- Just published - The ITRC Microplastics Guidance document – a recommended reference

EQUIPMENT DESIGN, INSTALLATION AND OPERATION OPTIONS FOR REMOVAL OF PFAS

AnnieLu DeWitt, Remediation Technologies, Clean Harbors, South Portland, ME

- Criteria for evaluating treatment options for PFAS impacted water and disposal options for the spent media
- Equipment and media requirements and availability for potable PFAS treatment systems
- Preparing for potential surprises from UCMR5 test results

CAPITAL AND O & M COSTS FOR RESIN-BASED TREATMENT TECHNOLOGY FOR PFAS REMOVAL

Cathy Swanson, Groundwater Remediation Specialist, Purolite Corporation, Fullerton, CA
Nick Backman, Midwest Technical Sales Specialist, Purolite Corporation, Neenah, WI

- Effectiveness of IX resin on PFAS compounds for which the EPA has proposed more stringent MCLs
- Lifecycle and O&M costs for IX resin installations
- Waste generation considerations for PFAS treatment options

COLLOIDAL ACTIVATED CARBON TECHNOLOGYTO TREAT PFAS IMPACTED GROUNDWATER *IN SITU*.

Ryan Moore, Sr. Technical Manager / PFAS Program Manager, REGENESIS, Valparaiso, IN

- The science and technology of Liquid Activated Carbon™ for *in situ* treatment of PFAS
- Results of applying the technology (Plumestop™) at 40+ sites globally
- A case-study review of *in situ* treatment at a Northern Michigan Airport site

PFAS CONCERNS AND REGULATORY RESPONSE IN MICHIGAN

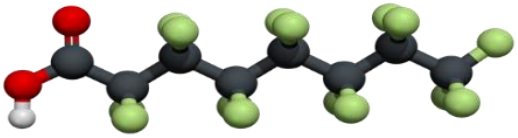
Charlotte Jameson, Chief Policy Officer, Environmental Council, Lansing, MI

- Michigan's PFAS hot spots
- State organizations promoting public awareness and information
- Regulatory response and state preventive & remedial actions

Q & A SESSION

Moderated by Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

11:30am (Eastern Standard Time) - expected presentation end-time



CONTACT INFORMATION AND PROFESSIONAL BACKGROUND OF PRESENTERS

Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

Andrew Stone has experience in Africa and America as a university professor, groundwater consultant, & educator. Since 1989 he has worked in the US as a private-sector consultant, and as groundwater educator, advocate, and outreach specialist for the non-profit American Ground Water Trust. His work with the AGWT has involved convening over 350 "information-exchange" conferences, workshops and webinars related to well design, groundwater management, aquifer storage recovery, water rights, conjunctive use, geothermal technology, contamination issues, water banking, and asset management. He is a recipient of the National Ground Water Association "Oliver Award" for his work in promoting groundwater education.

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Ken Sansone, JD, Partner, SL Environmental Law Group PC, San Francisco, CA

SL Environmental exclusively represents water suppliers in contamination lawsuits. As a partner at SL Environmental Law Group, Ken advises municipalities, water districts and other government entities, and utilities on identifying the parties responsible for polluting water and other community resources and represents clients in pursuing the costs of remediating that pollution through litigation or settlement. Prior to joining SL Environmental Ken served as an Assistant Attorney General for the State of New Hampshire. He has more than 20 years of experience handling complex civil and criminal cases in federal and state trial and appellate courts. His JD degree is from New York University School of Law.

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Yasemin Kunukcu, PhD, PE, Technical Director, Roux, Inc., Somerset, NJ

Yasemin earned BS, MS and Ph.D in Chemical Engineering from the Ege University, Turkey. She has over 20 years of expertise in the design and implementation of site specific (Enhanced In-Situ Bioremediation, In-Situ Chemical Oxidation, In-Situ Chemical Reduction, etc.) remedial solutions in soil and groundwater. Dr. Kunukcu is an active member in TRC's Center of Research & Expertise (CORE) PFAS Work Group which was established to work at the forefront of emerging challenges and solutions. She focuses most of her efforts on the per- and poly-fluorinated alkyl substances (PFAS), specifically the treatment technologies. She is also an active member of ITRC's team on Optimizing In-Situ Remediation Performance and Injection Strategies.

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AnnieLu DeWitt, Remediation Technologies, Clean Harbors, South Portland, ME

AnnieLu is the National Technical and Sales Lead for the Emerging Contaminant and Water Treatment Program for the Clean Harbors Environmental Services Group. She brings her 25 years of experience in the environmental laboratory and remediation fields to assist clients in interpreting their analytical results to evaluate their options for treatment utilizing varied medias and pre-treatment equipment. Having worked as a GC/MS and LC-MS/MS chemist for PFAS compounds, she believes in the importance of evaluating the project as a whole, from suggesting the most valuable testing methods that help determine the best treatment trains and medias for complex waste streams and options for final deposition of their spent media. AnnieLu holds a BS in Chemistry-Geology from Bridgewater State University.

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Cathy Swanson, Environmental Sustainability Segment Manager: Purolite, Fullerton, CA

Based in Southern California, Cathy has specialized in groundwater treatment with ion exchange for over 15 years, including perchlorate, nitrate, arsenic, uranium, and now PFAS systems. She has also worked on technologies ranging from GAC to biological to reverse osmosis. Her project portfolio includes both remediation and drinking water sites. She received her BS in Chemical Engineering at Northwestern University in the Chicago area and her MBA from UNC Chapel Hill. Previous employment in the field of chemistry and water treatment has been with Evoqua, Airliquide, GS Polymers and Dow Corning.

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Nick Backman, Midwest Technical Sales Specialist, Purolite Corporation, Neenah, WI

Nick has worked as the Midwest Technical Sales Specialist for Purolite for over 5 years. Prior to this, he was employed by Clearbrook, Inc. as a National Technical Sales Representative/Business Manager. Nick earned his bachelor's degree in chemistry and biology from the University of Wisconsin-Oshkosh.

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Ryan Moore, Sr. Technical Manager / PFAS Program Manager, REGENESIS, Valparaiso, IN

Ryan Moore's background is in environmental consulting and laboratory operations, specifically in-situ treatments, site investigations, soil/groundwater remediation projects, and business development. He has more than 22 years of experience as an environmental project manager and laboratory account executive relating to multimedia contamination sites throughout the U.S. Ryan has presented at multiple conferences on PFAS in situ remediation including events hosted by Battelle, AIPG, AEHS among other recognized environmental associations. He has a B.S. of Environmental Studies from Manchester University, North Manchester, Indiana.

RMoore@Regenesis.com www.regenesis.com

Charlotte Jameson, Chief Policy Officer, Michigan Environmental Council, Lansing, MI

As the Chief Policy Officer, Charlotte is responsible for strategic oversight of MEC's policy team and managing MEC's legislative and advocacy priorities. She also continues to provide leadership to achieve MEC's energy, climate, and water policy goals, roles she previously served in as a program director for the Environment Council. She joined MEC in 2017 after directing government affairs for the Michigan League of Conservation Voters, researching with Obama for America, PAC, and coordinating public affairs for Planned Parenthood. Charlotte has a bachelor's degree in political science from the University of Chicago and a master's degree in environmental policy and planning from the University of Michigan. She is an appointee of the Michigan Council on Climate Solutions, the Citizens Utility Board of Michigan, Michigan Energy Michigan Jobs and the Statewide Drinking Water Advisory Council.

charlotte@environmentalcouncil.org, www.environmentalcouncil.org

Registration Form PFAS Webinar (Connected via Zoom)
Tuesday, April 18th, 2023 - 10:00am – 11:30am (Eastern Standard Time)

Registration and payment can be made on-line at www.agwt.org/events

General registration	$100	☐
Public Water Supplier employees & boards/ Government employee	$0	☐
501(3)(c) Non-Profit organization staff & board members	$0	☐

Please complete one registration form per attendee.
Webinar login instructions will be emailed on April 17th.

Payment Information:

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TEL: (603) 228-5444

? QUESTIONS:
Call: (800) 423-7748
9:00-4:00pm (Eastern Time)
Email: trustinfo@agwt.org

AMERICAN GROUND WATER TRUST

The AGWT was formed in 1986 as a non-profit education organization with the mission of promoting interest and awareness in groundwater issues. The AGWT's conference, workshop and webinar programs and educational materials:

- Communicate the environmental and economic value of groundwater
- Showcase groundwater science and technology solutions
- Increase citizen, community and decision-maker awareness
- Facilitate stakeholder participation in water resource decisions
- Promote efficient and effective groundwater management