



N.H. Department of Environmental Services
Drinking Water Source
Protection Conference

Thursday, May 17, 2018 (8:30 am – 4:00 pm)
Grappone Conference Center
70 Constitution Avenue
Concord, NH 03301

In collaboration with

American Ground Water Trust

Concord, New Hampshire

A 501(c)(3) non-profit organization



5.0 Technical Credit Hours for NH Water Works Operators

AGENDA

- 8:30 – 8:45 AM **WELCOME, CONFERENCE OVERVIEW**
♦ Pierce Rigrod; Supervisor; Drinking Water and Groundwater Bureau, NHDES
- 8:45 – 8:55 AM **ANNUAL DRINKING WATER SOURCE PROTECTION AND SUSTAINABILITY AWARDS**
♦ Robert R. Scott, Commissioner, NHDES
- 8:55 – 9:15 AM **NHDES SOURCE WATER PROTECTION YEAR IN REVIEW**
♦ Pierce Rigrod, Supervisor; Drinking Water and Groundwater Bureau, NHDES
2017 Year in Review: Source Protection “highlights” in New Hampshire
- 9:15 – 10:00 AM **LEGISLATIVE AND POLICY UPDATES**
♦ Sarah Pillsbury, Administrator, Drinking Water and Groundwater Bureau, NHDES
Review of a busy legislative year involving arsenic, radon, and PFAS and possible things to come in the next legislative session.
- 10:00 – 10:45 AM **ARSENIC EXPOSURE FROM WATER AND FOOD, AND ITS EFFECT ON HEALTH**
♦ Dr. Tracy Punshon, Research Assistant Professor, Dartmouth College
This session will highlight published scientific evidence about the health effects of arsenic exposure from water and food. The aim of this talk is to provide participants with a balanced understanding and perspective of the issue of arsenic exposure.
- 10:45 – 11:15 AM **BREAK / REFRESHMENTS**

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11:15 – 12:00 PM BREAKOUT SESSION

Surface and Groundwater	Land Conservation	Innovation and Resources	Emerging Contaminants
Arsenic, Health and Addressing Community Concerns	Leveraging Funds to Protect Public Drinking Water Supplies	Assessment of Coverage Indication Technology as a Tool for Reducing Chloride Usage In Sensitive Areas	The Impact of PFAS on Water Resources in NH
Arsenic exposure via contaminated drinking water from private wells is a real concern in many regions of NH. While research shows arsenic is linked to a variety of cancers, past community engagement efforts have not focused on this health concern exclusively. This presentation will introduce the concept of state cancer plans, review how arsenic in drinking water is being addressed in other states, and present work on arsenic currently being completed in NH. In addition, the process by which the New Hampshire Department of Health and Human Services (NHDHHS) responds to community concerns about cancer will be outlined.	Communities, water suppliers and land trusts often share a common goal of conserving land to protect public drinking water supplies and can create mutually beneficial partnerships to achieve this goal. Hear examples of where these types of partnerships have resulted in success and the funding and project structures that were used to conserve this important resource.	During the winters of 2016 and 2017 the Merrimack DPW tested the value of Coverage Indication Technology for operators involved with their winter maintenance program. The results of a double-blind study measuring the effectiveness of Coverage Indication Technology for winter road maintenance operations will be summarized. Qualitative data regarding the perceived usefulness of the technology among winter road maintenance operators will also be presented.	Per- and Polyfluoroalkyl Substances (PFAS) have been detected in drinking water and groundwater at dozens of sites in New Hampshire, contaminating hundreds of private drinking water wells and several public water supply sources that serve tens of thousands of people. Updates on the science of PFAS, its sources and occurrence in NH, regulatory developments and legislative initiatives will be provided.
Kathrin Lawlor, Community Engagement Coordinator, Dartmouth Toxic Metals Superfund Research Program; Karen Craver, Chronic Disease Epidemiologist, NHDHHS	Duane Hyde, Land Conservation Director, Southeast Land Trust	Lori Barrett, Operations Manager, Merrimack DPW; Andrew Jaccoma, Managing Member, Sensible Spreader Technologies, LLC	Brandon Kernen, Supervisor, Hydrology & Conservation, NHDES

12:00 – 1:00 PM LUNCH

1:00 - 3:30 PM AFTERNOON SESSIONS—CONCURRENT TRACKS

Surface and Groundwater	Land Conservation	Innovation and Resources	Emerging Contaminants
1:00 – 1:45 PM			
Spill Control and Containment Along I-93: Protecting Nearby Sources of Drinking Water through Better Design	NH Drinking Water and Groundwater Trust Fund: An Unprecedented Opportunity to Support Source Water Protection, Land Conservation, and Infrastructure	Prioritizing Outreach to Increase Private Well Testing for Arsenic in New Hampshire	Metrics for Predicting Cyanobacterial Bloom Conditions and Cyanotoxin Levels with simple tools and techniques
Spills from highways, bridges or other transportation infrastructure can pose a significant threat drinking water quality and treatment operations. Infrastructure has now been designed and constructed along Interstate I-93 in the Exit 3 area to limit the potential for spilled fluids or other releases from discharging and making their way into nearby waterbodies, including Canobie Lake (and Cobbetts Pond), drinking water sources for the Town of Salem. This session will present the current design plans that include valve shutoffs, detention basins and other spills control features.	The Trust Fund was established with \$276 million from the State's lawsuit against Exxon Mobil Corporation for MtBE contamination of water supplies. The Commission established to direct the use of the Trust Fund is holding its first competitive round of financing for water supply land protection (grants) and water supply infrastructure (loans and grants). This session will cover the Fund's purpose, the types of projects and applicants eligible for funding, and the application process. It will emphasize land protection grants and provide background on the High-Priority Water Supply Lands data layer and the Drinking Water Land Protection Plan.	NHDES has been working with partners including Dartmouth Toxic Metals Superfund Research Program and the NH Public Health Lab to hold community forums and private well testing events over the past year. Most of these events are held usually reacting to a request from a municipality. USGS probability mapping, demographics and the percentage of population served by private wells help prioritize outreach to areas of NH with greater inherent risk of exposure and long-term health impacts. This session will summarize data analytics completed by NHDES to support an effective outreach strategy.	The cyanoScope and cyanoMonitoring program was initiated in 2014 via the Cyanobacteria Monitoring Collaborative (CMC) to develop, test, and distribute monitoring equipment for the analysis of cyanobacteria that could be used at the local, state and federal levels. Field research from members has provided information on new ways to collect, process and evaluate samples that reveal important dynamics of cyanobacterial populations that are responsible for bloom formation and elevated toxin levels. The results from 3 years of field work will be presented.
Dan Prehemo, Design Supervisor NHDOT; William C. Ashford, Associate Vice President Principal Engineer VI, CHA, Inc.	Paul Susca, Administrator, Planning, Protection, & Assistance, NHDES	Pierce Rigrod, Source Protection Supervisor, NHDES; Kristen Svendsen, GIS Analyst, NHDES	Nancy Leland, Executive Director, Lim-Tex, Inc.; Hilary Snook, EPA

Surface and Groundwater	Land Conservation	Innovation and Resources	Emerging Contaminants
1:45 - 2:30 PM			
Evaluation of Long Term Sediment Deposition and Accumulation Rates within Water Supply Ponds	Basic Land Conservation Options	Chloride Reduction along the Southern NH I-93 Corridor	Responding to Cyanobacteria Blooms – Manchester Water Works
Over the past five years, Pennichuck Water Works (PWW) has completed several projects to characterize the accumulation of sediment within Harris Pond and its connected system of water supply ponds. Field investigations have documented that sediment is migrating within the system of ponds due to currents and inflow, making it challenging to predict available water volume on a long-term basis. This presentation will provide an overview of recent field investigations as well as ongoing efforts to conduct a dredging feasibility study for Harris Pond.	In this workshop we'll provide information on the tools of land conservation including conservation easements, deed restrictions and fee simple acquisitions. Information will also be provided on the income tax benefits of gifting associated with them and how the new federal tax law might affect those benefits. This will be an open session with lots of questions as we go that often lead us into more detail than "basic" would imply.	The New Hampshire Department of Transportation (NHDOT) faced a dilemma in the early 2000's when the environmental permitting of the I-93 expansion from Salem to Manchester was contingent on a required reduction of total chloride use, while simultaneously expanding the roadway network. This talk will highlight the development and implementation of a sustainable winter maintenance program which reduces the use of chlorides during winters of varying severity, while continuing to operate within the parameters of the statewide Snow Removal and Ice Control Policy.	Manchester Water has dealt with periodic cyanobacteria blooms for many years. This talk will outline the steps Manchester Water Works employ in dealing with blooms, including monitoring strategy, response protocol and sampling, and treatment optimization, in an effort to provide the best treatment possible under all water quality conditions.
Ben Lundsted, PE and Bob Hartzel, CLM, CPESC, Comprehensive Environmental, Inc.	Phil Auger, Land Manager, Southeast Land Trust of NH (<i>invited</i>)	Caleb B. Dobbins, PE, State Maintenance Engineer Bureau of Highway Maintenance New Hampshire Department of Transportation	David Miller, Deputy Director, Water Supply, Manchester Water Works; Kristin Conte, Lab Technician, Manchester Water Works
2:30-2:45 PM Break			
2:45 - 3:30 PM			
Source Water: Your Largest Asset to Manage	Your Land, Your Water, Your Legacy: Creative Approaches for Implementing Land Conservation to Protect Drinking Water	NH Drinking Water Festival: Celebrating Water and Water Professionals	Emerging Contaminant 1,4-Dioxane: A revised groundwater standard and related changes to groundwater discharges
As essential as source water protection is to delivering safe drinking water, implementation of this centuries-old approach is not typically thought of as an tangible asset. However, poor management of nearby threats can result in expensive treatments or development of new sources. This presentation will discuss the concepts of how to account for financial benefits and reduced life cycle costs gained by implementing source water protections and how to consider those financials as part of Asset Management planning.	This presentation will describe innovative approaches to incorporating land conservation into source water protection. Examples will be provided from throughout New England. A discussion of how these approaches can be replicated in other communities will be presented. Examples of projects to be discussed include: working at a regional scale on projects that cross state boundaries; partnering with land conservation and private sector organizations; building a land conservation campaign around a specific water body; and others.	Interactive environmental education has been well recognized as an effective tool in encouraging the stewardship of critical natural resources such as drinking water. The goal of the NH Drinking Water Festival is to instill these values in children early in an effort to encourage life-long habits that help protect our drinking water supplies, to encourage an interest in the drinking water industry, and to promote science literacy. The format through which the festival is organized can serve as a model for other states in how drinking water professionals from the public, non-profit, and private sectors can cooperate on initiatives to promote environmental education.	Revisions to the groundwater discharge rules are necessary to give discharge sites flexibility to adapt to the new low-level standard. This presentation will review the proposed change to the ambient groundwater discharge rules for permitted discharges of treated wastewater.
Luis Adorno, Environmental Program Manager, NHDES	Kira Jacobs, EPA; Tin Smith, Land Stewardship Coordinator, Wells National Estuarine Research Reserve	Andrew Madison, Source Water Specialist, GSRWA; Lara Hooper, Drinking Water & Groundwater Education Coordinator, NHDES	Stephen Roy, Technical Section Manager – Groundwater Permitting, NHDES
3:30 - 4:00 PM EVALUATIONS & NETWORKING			