



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

Wednesday, May 11, 2016 (8:30 am – 4:00 pm)
Grappone Conference Center
70 Constitution Avenue,
Concord, NH 03301

Sponsored by
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; Planning, Protection and Assistance Section; Drinking Water and Groundwater Bureau, NHDES
- 8:45 – 8:55 AM **ANNUAL DRINKING WATER SOURCE PROTECTION AND SUSTAINABILITY AWARDS**
◆ Clark Freise, Assistant Commissioner, NHDES
- 8:55 – 9:15 AM **NHDES SOURCE WATER PROTECTION YEAR IN REVIEW**
◆ Pierce Rigrod, Supervisor, Planning; Protection and Assistance Section; Drinking Water and Groundwater Bureau, NHDES
2015 Year in Review: Source Protection in New Hampshire
- 9:15 – 10:00 AM **CLIMATE CHANGE IN NEW HAMPSHIRE: FLOODS AND DROUGHTS ON THE HORIZON**
◆ Cameron Wake, PhD, Research Professor, University of New Hampshire
New England has been getting warmer and wetter and extreme precipitation events have increased dramatically over the past five decades. Models predict the region will continue to experience more frequent and extreme precipitation events and summertime drought. This session will discuss climate trends, use of LIDAR data to better map flood zones, mapping salt water intrusion that may affect groundwater and options to improve resilience to extreme flooding and drought conditions that are likely on the horizon.
- 10:00 – 10:45 AM **SO KEN, HOW'S THE WATER?**
◆ Ken Edwardson, Water Quality Assessment Program Coordinator, Watershed Management Bureau, NHDES
This presentation will focus on statewide surface water quality trends, data limitations, the implications for places with polluted waters, management options, and the relationship between surface water and groundwater quality. Ken will also discuss opportunities to better collaborate and use data to more effectively protect current and future drinking water resources.
- 10:45 – 11:15 AM **BREAK / REFRESHMENTS**

11:15 – 12:00 PM **BREAKOUT SESSION**

Surface Water	Groundwater	Community-Based Source Water Protection	Best Management Practices
When Wandering Rivers Meet Critical Infrastructure: Rivers, River Restoration, and Your Drinking Water Supply	Water System Response to an Emerging Contaminant	Contaminants in Private Well Water: Engaging Community Partners in Long-term Change	Targeting Watershed-Scale Conservation in the White Mountain Region of NH: Success Stories and Lessons Learned
Rivers are vital to NH. Yet more intense storm events highlight the risks of living close to these waterways. The natural migration of rivers across the landscape may impact water supply infrastructure and supporting utilities. This presentation will introduce basic river concepts, review common river restoration practices and discuss infrastructure protection. Discussion will focus on preliminary alternatives for bank erosion issues on the Mad River near Campton's municipal wells, and designs to protect drinking water wells in Whately, MA.	US EPA's Unregulated Contaminant Monitoring Rule (UCMR) Program collects data on contaminants suspected of being present in drinking water yet having no Maximum Contaminant Level standards (MCLs). Six perfluorinated compounds (PFCs) are sampled under US EPA's program. On May 12, 2014 the City of Portsmouth received notice that the Haven Well contained levels of one PFC, Perfluorooctane Sulfonate (PFOS), above the provisional health advisory level. This session will discuss the chronology of events and the city's response since May 2014.	Community groups interested in private well water quality are often unsure of the best way to increase community knowledge of well water contaminants or how to increase water testing rates. This session will review Dartmouth's experiences holding local well testing events in 2015 and review the Well Water Community Action Toolkit, a new resource that provides guidance concerning public communications and organizing community-wide well testing events.	Good forestry practices are important to maintaining clean water. This session will provide an update on efforts near or within the White Mountain National Forest on public and private lands to meet the New Hampshire State Forest Action Plan's goals concerning water quality improvement, forest stewardship and land protection. Specifically, this session will describe on-the-ground actions, and success stories while describing barriers to implementing watershed level conservation in rural NH.
Nick Nelson, Fluvial Geomorphologist, Inter-Fluve, Inc.	Brian Goetz, Deputy Director of Public Works, City of Portsmouth	Kathrin Lawlor, Community Engagement Coordinator, Dartmouth Toxic Metals Superfund Research Program	Karl Honkonen, Forest Watershed Specialist, US Forest Service; Donald Keirstead, Natural Resources Conservation District, USDA

12:00 – 1:00 PM **LUNCH**

1:00 - 3:30 PM AFTERNOON SESSIONS—CONCURRENT TRACKS			
Surface Water	Groundwater	Community-Based Source Water Protection	Best Management Practices
1:00 – 1:45 PM			
Geographic Response Plans on the Exeter and Lamprey Rivers	Impacts of Blasting on Groundwater Quality in New Hampshire	A Tale of Two Cities: Successes and Challenges to Groundwater Protection in Neighboring Communities	The Utilization of Coverage Indication Technology (CIT) To Reduce Salt Use during Winter
Geographic Response Plans (GRPs) are map-based, pre-event plans designed to assist the emergency responder community to carry out effective pollution response and recovery tactics and strategies that minimize impacts from oil spills and hazardous substance releases. This session will review the process to evaluate spill risks, identify sensitive sites and establish a geographic response plan to protect the Exeter and Lamprey Rivers, sources of drinking water for Exeter and Durham, respectively.	Explosives used in rock blasting for construction and mining projects are a potential source of nitrate in groundwater. In addition, natural and anthropogenic sources such as septic systems, fertilizers, and decomposing vegetation can potentially cause impacts. This presentation will detail the potential risk of rock blasting to groundwater quality and the approach the NHDOT has implemented to limit potential impacts. Results of recent work completed in collaboration with USGS to determine the source and fate of nitrogen compounds near blasting sites using isotopic, time series, geochemical, hydrologic, and geologic data will also be discussed.	Zoning is a valuable tool to protect local groundwater and can be challenging to adopt at town meeting. It can be even more challenging to coordinate the protection of an aquifer that crosses municipal boundaries. This presentation will focus on how to work to amend groundwater protection overlay districts (zoning) in multiple communities. Discussion will focus on efforts to adopt new zoning in the City of Rochester and the Town of Farmington, highlighting protection outcomes, lessons learned and what works when enacting more consistent zoning protection across municipal boundaries in the region.	Coverage Indication Technology (CIT) is an enhancement of existing "on-board" technology available for plow trucks designed to track salt application. CIT limits salt waste by allowing truck operators to view maps displaying their salt application in relation to other trucks' applications in real-time, reducing overlap in salt applications. This session will review the technology, current functionality and future CIT enhancements. An analysis of data collected and salt reduction achieved using CIT in Laconia will be discussed.
Mike Popovich, Senior Project Manager, NUKA Research and Planning Group; James Carew, Contingency Planner, EPA Region 1	Krystle Pelham, Engineering Geologist, NH Department of Transportation	Liz Durfee, Regional Planner, and Kyle Pimental, Principal Regional Planner, Strafford Regional Planning Commission	Luke Powell, Assistant Director, Laconia Department of Public Works; Andrew Jaccoma, Managing Partner, Sensible Spreader Technologies

Surface Water	Groundwater	Community-Based Source Water Protection	Best Management Practices
1:45 - 2:30 PM			
Water Supply Protection in Pennichuck Brook Watershed	Emerging Contaminants in the Environment – State of the Science in New Hampshire and New England	Integrating Well Water Testing into Routine Pediatric Preventive Care: Lessons Learned from an Intervention Study in Northern New England	Mapping Tools: EPA's <i>DWMAPS</i> and An Updated Version of USGS's <i>Stream Stats</i>
Pennichuck Water Works (PWW) has completed several phases of water supply protection within the Pennichuck Brook Watershed. Pennichuck Brook is the main source of drinking water for the City of Nashua. This presentation will highlight the multi-phased program that PWW has implemented throughout the watershed including on-going water quality monitoring, public education outreach and installation of structural Best Management Practices (BMPs). A major focus will be on the challenges and results associated with structural BMPs located throughout the watershed.	Emerging contaminants of concern in groundwater continue to be an issue for public water suppliers, the public and regulators. Ongoing work on this topic in NH and other New England states will be presented.	Despite the importance of safe drinking water to human health, modern clinical medicine has largely separated itself from this basic environmental health determinant. The Dartmouth Children's Environmental Health and Disease Prevention Center partnered with a network of primary care clinics in NH and VT to raise awareness of arsenic in groundwater and emphasize the importance of private well water as a source of exposure. This session will present findings from baseline surveys of medical practices indicating their capacity to address arsenic exposure through drinking water.	EPA has developed a robust, online mapping tool that provides critical information to help safeguard local sources of drinking water. <i>DWMAPS</i> allows users to learn about water quality, local water suppliers and possible sources of pollution that could affect their communities' water supply. USGS's <i>StreamStats</i> is a web-based geographic information system (GIS) helpful for water resources management. It provides a variety of streamflow statistics and maps key basin characteristics. This session will go over the functionality and complete a real-time demo.
Benjamin Lundsted, P.E.; Principal, Environmental Engineer, Comprehensive Environmental Inc.	Brandon Kernen, PG, Manager of the Hydrology and Conservation Program, NHDES	Dr. Carolyn Murray, MD, MPH; Asst. Professor of Medicine, and Community and Family Medicine, Geisel School of Medicine at Dartmouth	Ted Lavery, Hydrologist, US EPA, Region 1; Robert Flynn, P.E., USGS Pembroke Office
2:30 - 2:45 PM BREAK			
2:45 – 3:30 PM			
Improving Knowledge and Awareness among First Responders, and Drinking Water Suppliers Along the Merrimack River	The MtBE Remediation Bureau: Coming to a Community Near You	NHDES Local Source Water Protection Grants—the Ins and Outs	Soak Up the Rain New Hampshire: Building Resilient Landscapes at the Grass Roots
Following a large chemical spill in 2014 released from two large storage tanks adjacent to the Elk River, (Charlestown, WV's primary source of drinking water), national attention focused on the potential for large chemical spills to contaminate drinking water and affect public health. This session will discuss a year-long project to improve chemical inventories at over 100 businesses, encourage prompt emergency notification and increase awareness of chemical storage risks along the Merrimack River, Nashua's primary source of drinking water.	The NHDES MtBE (Methyl-tertiary Butyl Ether) Bureau was created in April, 2014 and tasked with the design and implementation of a plan to address MtBE contamination in NH. This session will provide an update of Bureau activities over its first two years with an emphasis on the progress of the private well sampling program. The presentation will also describe how the Bureau is contributing to other Department efforts to promote safe drinking water in New Hampshire.	Each year NHDES provides grants to water systems, municipalities and other eligible organizations through the Local Source Water Protection Grant Program. Grant funded projects fall into four categories: 1) delineation of source water protection areas, 2) threat assessment, 3) planning and, 4) implementation projects, such as: <ul style="list-style-type: none"> Revising wellhead protection areas (<i>delineation</i>) Updating Source Water Assessment Reports (<i>assessment</i>) Identifying appropriate protections (<i>planning</i>) Security enhancements and water conservation measures. (<i>implementation</i>) This presentation will give an overview of the eligibility, application process and examples of a number of great projects.	Soak up the Rain (SOAK) is NHDES' stormwater outreach and assistance program. It is designed to increase awareness of stormwater, the problems it can cause and the simple ways it can be better managed to reduce water pollution and adapt to our changing climate. Working with local partners, the program provides education, outreach, training, and assistance to install small-scale stormwater practices on residential properties. The session will discuss the "barn raising" approach used by the SOAK program to build understanding and capacity within communities and empower individuals to contribute to protecting and restoring water quality. Examples will be given of completed projects and lessons learned in implementing successful local stormwater management programs.
Andrew Madison, Source Water Specialist, Granite State Rural Water Association	Gary Lynn, Administrator, MtBE Remediation Bureau, NHDES	Amy Hudnor, Planner, Drinking Water and Groundwater Bureau, NHDES	Jillian McCarthy, Stormwater Coordinator, Watershed Management Bureau, NHDES
3:30 - 4:00 PM EVALUATIONS & NETWORKING			

PROGRAM SPONSORS

USDA – NRCS – Durham, NH



NRCS helps America's farmers, ranchers and forest landowners conserve the nation's soil, water, air and other natural resources. All programs are voluntary and offer science-based solutions that benefit both the landowner and the environment. NRCS helps landowners implement conservation practices to improve and maintain drinking water quality in New Hampshire.

GZA GeoEnvironmental, Inc. – Bedford, NH

GZA GeoEnvironmental, Inc. (GZA) is an employee owned multidisciplinary geotechnical, geo-civil, environmental consulting, engineering, construction management and environmental remediation firm.

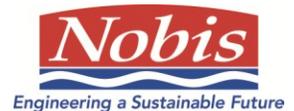


Capital Well Co., Inc. – Dunbarton, NH

For nearly 30 years Capital Well Clean Water Center has serviced wells and pump systems for New Hampshire families and businesses. Over the years, we have expanded our services to include water treatment, hydro-fracking and geothermal.

Nobis Engineering, Inc. – Concord, NH

Nobis is a multi-disciplinary consulting firm providing diversified services to commercial, federal, and state and municipal clients throughout the U.S. With proven expertise and established industry relationships, Nobis delivers a full range of environmental, geotechnical and civil engineering services.



Sanborn, Head & Associates – Concord, NH



Sanborn, Head offers a broad range of technical consulting services for clients across a variety of client markets. Our client markets are grouped under the broad headings of industrial, development, solid waste and energy.

USGS – New England (NH, VT Office)

The Nation's premier earth and biological science agency, providing the hydrologic data, investigative studies, and research needed for the characterization and management of water resources in our two States.

We work in cooperation with many Federal, State, and local agencies to evaluate the source, distribution, use, quantity, quality, and biology of water resources.

