Sustainable and Resilient Watershed Management
Virtual NYC Watershed Science and Technical Conference
September 15-16, 2020 (Tuesday-Wednesday)
Zoom Conference

Meeting Registration
https://tinyurl.com/WatershedReg2020

Compendium of Abstracts
https://tinyurl.com/ComWat20

Speaker Evaluations
https://tinyurl.com/EvalWat20

Brave Blue World Film Viewing
www.braveblue.world/watch-the-film

Email: WEF2020@braveblueworld.com
Password: WEF2020

Panel discussion on Tuesday, September 15 at 7:00 pm EST.

To Register for Discussion:
https://us02web.zoom.us/webinar/register/ WN_5UOhbb8STPq7yQxD8VLpw
Welcome to the 2020 Virtual NYC Watershed Science and Technical Conference.

The Watershed Science and Technical Conference was created as an annual opportunity to bring scientists, professionals, and other experts together with watershed stakeholders and the public, to technically inform, exchange ideas, and unveil new information regarding the protection of the nation’s largest unfiltered surface water supply.

In 1997, the signatories to the historic New York City Watershed Agreement formed an enduring partnership to protect and enhance the City’s Watershed and the scores of communities living within it. Twenty-three years later, there has been unparalleled efforts and resources devoted to sound science and innovation in both human health and environmental disciplines within the New York City Watershed. This year’s theme, Sustainable and Resilient Watershed Management, highlights the types of scientific research that was intended in the NYC Watershed Agreement.

The 2020 NYC Virtual Watershed Science and Technical Conference continues its long history of bringing this science to you. As conference attendees you will find yourselves in a unique forum for collaboration and technology transfer and to increase coordination among the array of entities and professionals working within watershed protection science.

Thank you for joining us!

Conference Organizers

The New York Water Environment Association, Inc. (NYWEA) - Founded in 1929, by professionals in the field of water quality as a non-profit, educational organization. Association members helped lead the way toward existing state and national clean water programs. Today the Association has over 2,500 members representing diverse backgrounds and specialties, but all are concerned and involved with protecting and enhancing our precious water resources. www.nywea.org

The Watershed Protection and Partnership Council – Created by the historic New York City Watershed Memorandum of Agreement to provide a regional forum to aid in the long term protection of New York City’s drinking water, and the economic vitality of the Upstate Watershed communities. http://www.dos.ny.gov/watershed/

The New York City DEP – DEP is a New York City agency of nearly 6,000 employees that manages and conserves the City’s water supply; distributes more than one billion gallons of clean drinking water each day to nine million New Yorkers and collects wastewater through a vast underground network of pipes, regulators, and pumping stations; and treats the 1.3 billion gallons of wastewater that New Yorkers produce each day in a way that protects the quality of New York Harbor. www.nyc.gov/html/dep

New York State Department of State – The Office of the Secretary of State was established in 1778, making it, other than the Offices of Governor and Lieutenant Governor, the oldest agency in the administration of New York State government. www.dos.ny.gov

Many Thanks to the Conference Sponsors

• Catskill Watershed Corporation
• New York City Department of Environmental Protection
• New York State Department of Environmental Conservation
• New York State Department of Health
• New York State Department of State
• New York Water Environment Association, Inc. Lower Hudson Chapter
• United States Geological Survey
• Watershed Protection and Partnership Council

Cover photo: View of the Hudson River taken from the Bear Mountain Bridge. istockphoto.com, Nancy Kennedy

September 15-16, 2020 2020 Virtual NYC Watershed Science and Technical Conference
Sustainable and Resilient Watershed Management
Virtual NYC Watershed Science and Technical Conference
September 15-16, 2020 (Tuesday-Wednesday)

**Tuesday, September 15, 2020**

7:00 pm

Panel Discussion of *Brave Blue World* film, followed by Q&A
Registration is free
Link: [https://us02web.zoom.us/webinar/register/WN_5UOhbb8STPqp7yQxD8VLpw](https://us02web.zoom.us/webinar/register/WN_5UOhbb8STPqp7yQxD8VLpw)

*Brave Blue World* is a feature length documentary examining how new technologies and innovations can create a sustainable water future. WEF’s goal is to have Member Associations use the film to raise public awareness about the solutions to water challenges. The following leaders will share their thoughts and perspectives on the film.

**Discussion Panel:**
- President Bill Nylic, Moderator
- Claire Baldwin
- Geoff Baldwin
- Steve Fangmann
- Robert Kukenberger
- Lauren Livermore
- Paul Rush
- Steve Sanders

**Tuesday, September 15, 2020**

**OPENING SESSION & SESSION 1**

8:15 am  Welcome, William J. Nylic III, NYWEA President
8:20 am  Lisa Melville, NYS Department of State
8:25 am  Paul Rush, Deputy Commissioner, Bureau of Water Supply, NYC Department of Environmental Protection
8:30 am  Tim Burns, NYS Environmental Facilities Corporation

**Co-Moderators**
- Kara Pho, Jacobs; Sara Igielski, Carollo

**Contact Hours**
- 3.0 Engineer
- 3.0 Water
- 2.5 Wastewater

9:00 am  Deciphering the Increase of *Giardia spp.* Cysts in the Rondout Watershed:

1.1  *The Role of Stochastic Rainfall and Rain on Snow*

Mark Bartlett, Stantec; Kerri Alderisio, NYC Department of Environmental Protection
The transmission of *Giardia* cysts to reservoirs is mediated by rainfall and snowmelt. Here, we present a statistical model of rain and snow that provides for a statistical characterization of *Giardia* transmission as a function of the variability of rain, snow and soil moisture. We apply this approach to help explain the unusual increase in *Giardia* cysts which began in Rondout during the fall season of 2018 and persisted through the spring of 2019.

9:30 am  Detection of *Cryptosporidium spp.* Oocysts and *Giardia spp.* Cysts

1.2  *Post-Ultraviolet Disinfection and Why It Makes Sense*

Kerri Alderisio, Alessandro C. Maestri, NYC Department of Environmental Protection
The New York City Department of Environmental Protection (DEP) completed installation and testing of the Catskill/Delaware Ultra-Violet (CDUV) treatment plant in 2013. This Long Term 2 Enhanced Surface
Water Treatment (LT2) requirement was chiefly based on the need for unfiltered systems to have secondary disinfection for *Cryptosporidium* oocysts. To enhance studies evaluating the rare detection of oocysts at Hillview Reservoir, DEP also monitored the CDUV plant outflow weekly for protozoa since late 2017 and those results will be discussed.

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>Grooved Disc Filters for Algae Removal at San Joaquin Reservoir&lt;sup&gt;1.3&lt;/sup&gt;</td>
<td>Katie Ottoboni, Danny Murphy, Carollo Engineers, Inc.</td>
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<td>Participants will learn about the application of grooved disc filters for algae removal.</td>
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<td>10:30 am</td>
<td>Comparison of Two Field Sensors for the In Situ Measurement of Chlorophyll a in New York City Reservoirs&lt;sup&gt;1.4&lt;/sup&gt;</td>
<td>Allison Dewan, NYC Department of Environmental Protection</td>
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<td>In this study, two sensors were deployed in close proximity to assess the difference in field chlorophyll measurements. The YSI EXO Total Algae probe, and the BBE Moldaenke Algae Torch sensors were used for two seasons in a highly productive basin. Samples were also collected and analyzed in the lab using High Performance Liquid Chromatography (HPLC) with Diode Array Detection (DAD). Field and lab data are compared during 2018 and 2019 field seasons.</td>
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<td>11:00 am</td>
<td>Exhibitor Videos / Boerger and Carollo Engineers</td>
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<td>11:30 am</td>
<td>An Investigation into Possible Causes of a Taste and Odor Episode in Croton System Water during Autumn/Winter 2019-2020</td>
<td>Rich Van Dreason, Jason Railing, Dale Borchert, Andy Bader, NYC Department of Environmental Protection</td>
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<td>In 2019 NYCDEP received customer complaints of a moldy taste and odor in the drinking water derived from New Croton Reservoir. Although a direct cause was not found, several likely sources were identified as were particular reservoir conditions which probably contributed to the odor episode. In addition to the likely sources and contributing conditions, suggestions for improved surveillance as well as treatment enhancements will be discussed in this presentation.</td>
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<tr>
<td>12:00 pm</td>
<td>Development and Testing of a Fate and Transport Model for UV254 for Cannonsville Reservoir&lt;sup&gt;1.6&lt;/sup&gt;</td>
<td>Emmet Owens, NYC Department of Environmental Protection</td>
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<td>The development and testing of a model to predict the fate and transport of UV254 in Cannonsville Reservoir, a water supply reservoir for New York City, is described. UV254 measures the absorption in water of ultraviolet light of wavelength 254 nm, and is measured as a surrogate for precursors of disinfection byproducts, including trihalomethanes and haloacetic acids. The model considers internal production and losses of UV254 in the reservoir water column.</td>
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<td>12:30 pm-1:30 pm</td>
<td>Lunch Break</td>
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Tuesday, September 15, 2020

SESSION 2

Co-Moderators
Scott Davis, Carollo; Ginger Modafferi, Macandeve

Contact Hours
3.0 Engineer 3.0 Water 1.5 Wastewater°

9:00 am
Development of Climate Change Indices for the New York City Water Supply°

Jordan Gass, Rakesh Gelda, Rajith Mukundan, Emmet Owens,
NYC Department of Environmental Protection

The predicted effects of climate change vary in different regions of the globe. For the New York City water supply watershed, the forecasted impacts include warmer average temperatures and more extreme precipitation events, and which will likely result in changes to water supply operations. This presentation will describe a project underway to quantify long-term trends in climate conditions in the water supply watershed.

9:30 am
Changes in Precipitation Intensities: The New Design Storm 2020°

Mike McMahon, HDR

This presentation will look at new techniques and project examples in the development of a design storm event that can provide for both site-specific spatial and temporal characteristics for a given location through the use of gauge-adjusted radar rainfall studies, as well as methods for incorporating potential changes that the future may bring.

10:00 am
An Integrated Approach to Water Resilient Cities°

Susan Butler, Jacobs

Globally, communities have embraced the concept of One Water – an integrated system-based planning and implementation approach that incorporates the total water cycle with consideration of land use, quality of life, social equity, water supply, watershed management, energy generation, flood management and ecosystem services to advance near and long-term resilience and reliability. Presentation includes an overview of a One Water approach, key components that increase resilience in an uncertain future, and successful One Water case studies.

10:30 am
Reconstruction of Historic Streamflows for West-of-Hudson Watersheds

Based on Tree-Ring Chronologies

Arun Ravindranath, Institute for Sustainable Cities

Streamflow records that are used in process models to evaluate and analyze systemic risk are generally too short for a thorough understanding of the likelihoods and return periods of low-frequency extremes. A model to reconstruct estimates of annual total streamflow at gauges on each of the major inflows to the six West-of-Hudson reservoirs is presented in order to create longer records of flow for the purposes of analyzing the return periods of major hydrological events.

11:00 am
Exhibitor Video / SafeRack/ErectaStep

11:30 am
Twenty-first Century Scenarios for Multi-year Dry and Wet Extremes

in the Catskill Mountains

Allan Frei, Hunter College, City University of New York; Rakesh Gelda, Rajith Mukundan, Emmet Owens, Jordan Gass, NYC Department of Environmental Protection; Jie Chen, Wuhan University, China

Typically, the envelope within which water supply managers plan for extremes several decades in advance is partially determined by Global Climate Models (GCMs). One aspect in which GCMs are deficient is in capturing decadal scale variability. Here we demonstrate why this is a problem in our region, and propose a method to address this issue, enabling us to develop more realistic scenarios of potential extreme conditions during the twenty-first century.
12:00 pm  Calibration and Validation of SWAT-HS Hydrology Model for West-of-Hudson Watersheds
2.6 Rajith Mukundan, NYC Department of Environmental Protection; Mahrokh Moknatian, CUNY Institute for Sustainable Cities/Hunter College
The SWAT-HS watershed model is applied to six West-of-Hudson (WOH) reservoir watersheds in the New York City drinking water supply. Model performance in simulating streamflow including measures of model uncertainty will be presented along with discussions on future applications of the model including simulating water quality to evaluate watershed protection programs and climate change impacts.

12:30 pm-1:30 pm  Lunch Break

Tuesday, September 15, 2020

SESSION 3

Co-Moderators  Dahlia Thompson, Hazen and Sawyer; Jennifer Franco, AKRF
Contact Hours  2.0 Engineer  2.0 Water  1.5 Wastewater°

1:30 pm  Risk-based Tools for Decision Making in Prioritizing Dam Rehabilitation and Upgrades°
3.1 Alan J. Brown, Jacobs
The development and application of quantitative risk assessment (QRA) in the United Kingdom is a tool to prioritize dam safety improvements. This presentation will begin with a historical perspective, then describe research and development of 2004 and 2013 Guides, followed by application of these guides across several water company portfolios of dams.

2:00 pm  The Decommissioning of the Nicholson Road (Camp Edward Isaac's) Dam
3.2 Thomas Boland Jr., Jaret Horn, NYC Department of Environmental Protection
This presentation will examine the decommissioning of the Nicholson Road (Camp Edward Isaac's) Dam from the design and permit process through completed construction. The Nicholson Road (Camp Edward Isaac's) Dam was classified in the NY SDEC Dam Inventory as a Low Hazard “A”, 270-foot long, 15-foot high embankment dam located in the Town of East Fishkill in Dutchess County, New York.

2:30 pm  Exhibitor Videos / Carollo Engineers and SafeRack/ErectaStep

3:00 pm  Development and Implementation of a Statewide Dam Construction Monitoring Plan°
3.3 Chad Davis; Justin Niedzialek, HDR
One of the highest risks for a dam owner, is a dam under construction. To better manage those risks, owners should consider the preparation and implementation of Construction Monitoring Plans (Plan). This Plan clearly defines critical contact information, water elevation thresholds, actions required by Contractor/Owner/Engineer, and a schematic rendering of the dam to illustrate key features. The Plan is visually oriented through color coding and is easy to follow in the field during construction.

3:30 pm  Hypolimnetic Aeration for Improving Source Water Quality°
3.4 Jason Assouline, Carollo Engineers, Inc.; Kevin Linder, Pam Benskin, Aurora Water
Utilities across the United States must adapt to treating variable and degrading source waters. Managing surface water quality is the first step in the treatment process and implementing treatment technologies that can address the common challenges affecting treatability and contribute to taste and odor issues can have many benefits. This presentation focuses on a specific treatment approach – hypolimnetic aeration – as one option that is an effective strategy to improve surface water quality.
Tuesday, September 15, 2020

SESSION 4

Co-Moderators
Robert White, A KRF; Kathryn Serra, CT Male

Contact Hours
2.0 Engineer 2.0 Water 2.0 Wastewater

1:30 pm  Data Analysis in the New York City Watershed Water Quality Monitoring Program:
4.1 Overview and Traditional Trend Analysis Approaches
Jim Mayfield, Karen Moore, Rich Van Dreason, David Van Valkenburg,
NYC Department of Environmental Protection
Trend analysis will be conducted to demonstrate the impact of watershed programs on changes in water
quality for streams in the Catskill/Delaware System. Nutrients, turbidity and coliform data will be adjusted
to try to remove variability caused by season and flow in an effort to discern trends in the analyte concen-
trations themselves. The results will be compared to the number and type of watershed protection programs
in each of the watersheds.

2:00 pm  Data Analysis in the New York City Watershed Water Quality Monitoring Program:
4.2 Using the Weighted Regression on Time, Discharge, and Season (WRTDS) Method
for Trend Analysis
Karen Moore, Jim Mayfield, David Van Valkenburg, Richard Van Dreason,
NYC Department of Environmental Protection
Historical water quality monitoring data provide the foundation to investigate linkages between water qual-
ity trends and watershed management. Long-term data sets on river nutrient concentrations are essential for
evaluating patterns and changes in system status and behavior. We applied the “Weighted Regressions on
Discharge, Time and Season” (WRTDS) approach developed by Hirsch and De Cicco (2015) to understand
changes in stream and river water quality and flow in New York City’s upstate water supply watersheds.

2:30 pm  Exhibitor Video / Stantec

3:00 pm  The Good, the Not So Good, and the Ugly. Exploring Automated Monitoring
4.3 Data Review Techniques to Enhance Your Final Dataset
Dave Van Valkenburg, NYC Department of Environmental Protection
The New York City Department of Environmental Protection (DEP) utilizes continuous monitoring instru-
mentation to provide near-real time data for supporting water supply operations to help ensure the highest
quality drinking water. By utilizing graphical and statistical evaluation techniques, review of continuous
monitoring data can be streamlined for conditions like anomalous values, changing sensors, and missing
data. Streamlining the review of these reoccurring conditions will allow colleagues to focus upon more
unusual data conditions.

3:30 pm  Road Salt Pollution Prevention at Its Source -- A Case Study in Best Practices
4.4 Kevin Draganchuk, CEA Engineers, PC
Stormwater discharges containing road salt are polluting New York’s surface waters, with potentially sig-
nificant adverse impacts on surface water quality, aquatic species and drinking water supplies. A case study
is presented for an industrial salt mining facility, detailing adverse impacts on a nearby lake and streams
from salt pollution, facility conditions resulting in salt pollution, and proactive Best Management Practices
(BMPs) and pollution prevention technologies responsibly implemented by the facility to reduce salt pollu-
tion in nearby surface waters.
**Wednesday, September 16, 2020**

**SESSION 5**

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<tr>
<th>Co-Moderators</th>
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<tbody>
<tr>
<td>Kerri Alderisio, NYCDEP; Tim Clayton, Surpass Chemical</td>
<td>2.0 Engineer  2.0 Water  1.5 Wastewater</td>
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<th>Time</th>
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<tr>
<td>9:00 am</td>
<td>Development and Testing of a Turbidity Model for Pepacton Reservoir</td>
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<td>Rakesh Gelda, NYC Department of Environmental Protection</td>
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<td>A two-dimensional, multi-particle size-class, dynamic turbidity model for Pepacton Reservoir based on the transport framework of CE-QUAL-W2 is developed and tested for 1996-2018. The model performed satisfactorily in simulating turbidity in the reservoir and in the withdrawal. The model may be integrated into New York City DEP’s Operations Support Tool (OST) in the future.</td>
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<td>9:30 am</td>
<td>Preparing for the Lead and Copper Rule Revisions</td>
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<td>Flakë Gjonbalaj, Carla Glaser, Salome Freud, Kelly Cahalan,</td>
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<td>NYC Department of Environmental Protection</td>
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<td>In preparation for EPA’s proposed Lead and Copper Rule Revisions (LCRR), the New York City Department of Environmental Protection undertook a number of studies to investigate the optimization of corrosion control and to better understand lead exposure, including piloting an increased orthophosphate dose, profile sampling of homes, and evaluating the effect of flushing after lead service line replacement.</td>
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<td>10:00 am</td>
<td>Exhibitor Video / Surpass Chemical</td>
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<td>10:30 am</td>
<td>Emerging Contaminants: A New York City Reservoir Watershed Survey</td>
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<td>David Quentin, Kerri A. Alderisio, NYC Department of Environmental Protection</td>
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<td>Emerging contaminants were monitored quarterly within the New York City Watershed. Objectives were to determine what compounds, if any, were present and in what concentrations. Sampling sites included key-points and streams around Kensico Reservoir, and four additional watershed reservoir key-points. Of the 148 analytes tested, 42 were detected. The Kensico inflows and outflow had seven compounds detected, while the streams had the most compounds detected. No State or Federal water quality standards were exceeded.</td>
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<td>11:00 am</td>
<td>Framework for Creating a Drinking Water Source Protection Program Plan (DWSP2)</td>
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<td>Timothy Taber, Barton &amp; Loguidice, DPC; Stephanie Castro, Arcadis</td>
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<td>This presentation is an interactive education session to teach attendees about the Drinking Water Source Protection Program, and review the DWSP2 framework.</td>
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**Wednesday, September 16, 2020**

**SESSION 6**

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<tr>
<td>David Stahl, Dewberry; Michael Bonomo, ADS Environmental</td>
<td>1.5 Engineer*  2.0 Water  2.0 Wastewater</td>
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<td>9:00 am</td>
<td>PFAS Fate and Transport in a Drinking Water Reservoir</td>
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<td>Andrew Thuman, Laurie De Rosa, Djibrilla Rapant, HDR</td>
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<td>Sampling by the City of Greensboro (NC) identified elevated PFAS concentrations in their drinking water reservoir and needed a method to predict when elevated PFAS levels could impact their water withdrawal. The presentation will provide background on the sampling program, fate and transport model development, and application for estimating reservoir PFA S intake levels to help guide city planning. In addition, plans for enhancing the model for real-time use by City staff will be discussed.</td>
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9:30 am | **Reduce Lake Phosphorus by In-basin Engineering to Reduce Algae Blooms**  
6.2 and Improve Taste and Odor*  
David Austin, Jacobs  
There are effective and practical means of substantially lowering total phosphorus in lakes and reservoirs by in-basin engineering methods. Increasingly common in drinking water reservoirs, these methods sharply reduce harmful algal blooms as well as taste and odor. This presentation will summarize theory and provide case studies.

10:00 am | **Exhibitor Video / Stantec**

10:30 am | **Treatment Technologies for Emerging Contaminants – Technical Discussion**  
6.3 of Technologies, Both Tried and True and Emerging. Where is the Industry Going?*  
Jim Jensen, Pete D’Adamo, HDR, Inc.  
Our industry is facing a variety of contaminant challenges and compliance hurdles as we work to sustain high quality potable water. We will present these challenges and compliance hurdles as a matrix of contaminants versus treatment technology choices. We will introduce a research industry lexicon known as Technology Readiness Levels (TRLs); explain how TRLs can help us assess up-and-coming treatment processing schemes; and we will provide a high level example TRL assessment.

11:00 am | **Widespread Salinization of Groundwater and Surface Waters of Hudson River Watersheds**  
6.4 Due to Chronic Road Salt Usage  
Nicole Camilliere, Ossining Union Free School District  
Through the innovative use of geographic information system (GIS) and by creatively studying salinization year-round, it was found that salt usage has disconcerting long-term impacts on freshwater systems that are more severe in urban streams. Furthermore, the high salt levels that were observed throughout the year are an indication of groundwater salinization and contamination of essential drinking water supply as a result of poor monitoring of deicing practices and a highly unregulated road management system.
New York City's Water Supply System Map

New York City's Water Supply System

- Catskill/Delaware Watershed Area
- Croton Watershed Area
- Rivers and Reservoirs
- Catskill Aqueduct and Tunnels
- Croton Aqueduct
- Delaware Aqueduct and Tunnels
- County Borders
- State Borders

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**Surpass Chemical**

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**Boerger, LLC** specializes in reliable and cost effective rotary lobe pumps and macerating technology for the conveyance of low to high viscous and abrasive materials. pma@boerger.com; www.boerger.com  **Session 1**

**Carollo Engineers** provides a full range of planning, design and construction management services to meet your water and wastewater needs. sdavis@carollo.com; www.carollo.com  **Sessions 1 & 3**

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At **Stantec** we design with community in mind We’re designers, engineers, scientists and project managers, innovating at the intersection of community, creativity and client relationships. Balancing these priorities results in projects that advance the quality of life in communities in the Catskills, New York City and across the globe www.stantec.com; glenn.muckley@stantec.com  **Sessions 4 & 6**

**Surpass Chemical** is a sodium hypochlorite manufacturer and water/wastewater ‘one-stop-shop’ chemical distributor out of Albany, NY. Technical support as well as water/wastewater/PE-certified chemical training are available onsite to our customer base. We maintain our own fleet of tanker and trailer trucks. tim.clayton@surpasschemical.com; www.surpasschemical.com  **Session 5**
Panel Discussion of *Brave Blue World*
7:00 pm  Registration is free.

*Panel Discussion of Brave Blue World* film, followed by Q&A

*Registration is free*

*Link: https://us02web.zoom.us/webinar/register/WN_5UOhbb8STPqp7yQxQJ8VLpW*

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**Opening Program**

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8:20 am  Lisa Melville, NYS Department of State
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8:30 am  Tim Burns, NYS Environmental Facilities Corporation

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**Session 1**

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10:30 am  Comparison of Two Field Sensors for the In Situ Measurement of Chlorophyll *a* in New York City Reservoirs
11:00 am  Exhibit Video Break featuring Börger
11:30 am  Twenty-first Century Scenarios for Multi-year Dry and Wet Extremes in the Catskill Mountains
12:00 pm  Development and Testing of a Fate and Transport Model for UV254 for Cannonsville Reservoir
12:30-1:30 pm  Lunch

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**Session 2**

9:00 am  Development of Climate Change Indices for the New York City Water Supply
9:30 am  Changes in Precipitation Intensities: The New Design Storm 2020
10:00 am  An Integrated Approach to Water Resilient Cities
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<tr>
<td>12:30 pm</td>
<td></td>
<td>Lunch</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>Session 3</td>
<td>Risk-based Tools for Decision Making in Prioritizing Dam Rehabilitation and Upgrades</td>
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<tr>
<td>2:00 pm</td>
<td>Session 3</td>
<td>The Decommissioning of the Nicholson Road (Camp Edward Isaac's) Dam</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Session 3</td>
<td>Exhibit Video Break featuring</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Session 3</td>
<td>Development and Implementation of a Statewide Dam Construction Monitoring Plan</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>Session 3</td>
<td>Hypolimnetic Aeration for Improving Source Water Quality</td>
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**Session 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 4</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1:30 pm</td>
<td>Session 4</td>
<td>Data Analysis in the New York City Watershed Water Quality Monitoring Program: Overview and Traditional Trend Analysis Approaches</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Session 4</td>
<td>Data Analysis in the New York City Watershed Water Quality Monitoring Program: Using the Weighted Regression on Time, Discharge, and Season (WRTDS) Method for Trend Analysis</td>
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<tr>
<td>2:30 pm</td>
<td>Session 4</td>
<td>Exhibit Video Break featuring</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Session 4</td>
<td>The Good, the Not So Good, and the Ugly. Exploring Automated Monitoring Data Review Techniques to Enhance Your Final Dataset</td>
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<td>3:30 pm</td>
<td>Session 4</td>
<td>Road Salt Pollution Prevention at Its Source – A Case Study in Best Practices</td>
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**Session 5**

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<tr>
<td>9:00 am</td>
<td>Session 5</td>
<td>Development and Testing of a Turbidity Model for Pepacton Reservoir</td>
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<tr>
<td>9:30 am</td>
<td>Session 5</td>
<td>Preparing for the Lead and Copper Rule Revisions</td>
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<tr>
<td>10:00 am</td>
<td>Session 5</td>
<td>Exhibit Video Break featuring</td>
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<tr>
<td>10:30 am</td>
<td>Session 5</td>
<td>Emerging Contaminants: A New York City Reservoir Watershed Survey</td>
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<tr>
<td>11:00 am</td>
<td>Session 5</td>
<td>Framework for Creating a Drinking Water Source Protection Program Plan (DWSP2)</td>
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**Session 6**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 6</th>
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<tbody>
<tr>
<td>9:00 am</td>
<td>Session 6</td>
<td>PFAS Fate and Transport in a Drinking Water Reservoir</td>
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<tr>
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<td>Session 6</td>
<td>Reduce Lake Phosphorus by In-basin Engineering to Reduce Algae Blooms</td>
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<td>Session 6</td>
<td>Exhibit Video Break featuring</td>
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<tr>
<td>10:30 am</td>
<td>Session 6</td>
<td>Treatment Technologies for Emerging Contaminants – Technical Discussion of Technologies, Both Tried and True and Emerging. Where is the Industry Going?</td>
</tr>
<tr>
<td>11:00 am</td>
<td></td>
<td>Widespread Salinization of Groundwater and Surface Waters of Hudson River Watersheds Due to Chronic Road Salt Usage</td>
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