

# Water Quality Modeling Basics and Beyond

## About the Water Quality Modeling Basics and Beyond Webinar Series

EPA's Water Quality Modeling Workgroup is hosting a series of webinars to help water quality professionals better understand surface water quality modeling and how models can be used to solve common problems that face water quality regulators. The webinars are focused on modeling as it applies to the Total Maximum Daily Load (TMDL), Standards, and Water Quality Permitting Programs, but they are applicable to a wide range of audiences. These two-hour webinars cover everything from modeling basics (e.g., model setup and calibration) to applied water quality modeling of different pollutants. Webinars are recorded and archived on EPA's website at <https://www.epa.gov/waterdata/surface-water-quality-modeling-training>.

## Conestoga River Watershed HSPF and SWAT Modeling

This webinar presents the development and application of watershed models using the Soil and Water Assessment Tool (SWAT) and Hydrologic Simulation Program FORTRAN (HSPF) for the Conestoga River watershed in Pennsylvania. The novel modeling approach was used to quantify watershed sediment and nutrient sources and impacts of stream restoration. The SWAT model was calibrated and validated for streamflow, sediment and nutrients at the watershed outlet. An HSPF model for the Conestoga River was also developed to quantify legacy sources of sediment and parameterize the in-stream sediment component of the SWAT model. The streamflow and sediment component of the HSPF model were calibrated and validated using the same data used for the evaluation of the SWAT model. Simulations of stream restoration scenarios were completed using the calibrated SWAT model and showed large decreases in delivered sediment and nutrient loads. The results indicate that stream restoration has the potential to reduce sediment and nutrient loads to the Chesapeake Bay.

**Speaker: Sam Sarkar, Tetra Tech**

**March 12, 2019**

Eastern: 1–3 pm | Central: 12–2 pm | Mountain: 11–1 pm | Pacific: 10 am–12 pm | Alaska: 9 am–11 am

**Sponsored By: EPA Water Quality Modeling Workgroup**

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## Target Audience

The target audience is Clean Water Act (CWA) water quality regulators in programs such as TMDLs, monitoring, wetlands, standards, nonpoint sources, permitting, and assessment. The Webinar content assumes that audience members have an understanding of basic hydrology and water quality principles. The Webinars are open to everyone and will be relevant to anyone conducting water quality investigations.

**Registration:** You must register in advance to participate in this free Webcast. Please register at: <https://epawebconferencing.acms.com/conestoga/event/registration.html>. For more information contact Jason Gildea ([gildea.jason@epa.gov](mailto:gildea.jason@epa.gov)). Please be sure to [view system requirements](#) prior to the webcast.

The materials in this Webcast have been reviewed by EPA staff for technical accuracy. However, the views of the speakers and the speaker's organization are their own and do not necessarily reflect those of EPA. Mention of any commercial enterprise, product, or publication does not mean that EPA endorses them.