



American Water Works  
Association

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# Journal

features



50



62



82

This month's focus

## Water Quality

### 50 Anticipating the Effects of Green Buildings on Water Quality and Infrastructure

As a result of the green building revolution, a wide variety of atypical plumbing systems are being installed, which will likely increase the scope and complexity of problems that water consumers will experience and report. This article discusses the ramifications of water age as a factor that will increase as a function of water conservation efforts.

*William J. Rhoads, Annie Pearce, Amy Pruden, and Marc A. Edwards*

### 62 Philadelphia's One-Water Approach Starts With Source Water Protection

Philadelphia Water Department developed a source water protection program (SWPP) that reaches into the Schuylkill and Delaware River watersheds. This article describes three initiatives that make up the SWPP: pathogen-reduction best practices, stormwater management practices, and an emergency communication and event notification system.

*Elizabeth Couillard, Molly D. Hesson, Kelly Anderson, Chris Crockett, and Mary Ellen McCarty*

### 72 Fixing the Future of Wastewater Systems With Smart Water Network Modeling

US wastewater infrastructure is aging, and capital spending is unable to keep pace with needs. One solution is to improve wastewater system performance with the use of smart water network modeling, including real-time network models, integrated catchment/watershed management models, real-time operations optimization models, and analytical asset integrity management and capital planning models.

*Paul F. Boulos and Andrew T. Walker*

### 82 Three Rivers Water Filtration Plant: Architectural Beauty and Operations Optimization

The first article in the new feature series "Spotlight On . . ." describes the Three Rivers Water Filtration Plant (TRFP) in Fort Wayne, Ind. Originally constructed in 1933, TRFP is both an architectural landmark and an example of innovation in process management and optimization.

*Alex Yavich, Chet Shastri, Vicky Zehr, Andrew Schipper, and Matthew Wirtz*

### 88 Gimme Five and We All Win

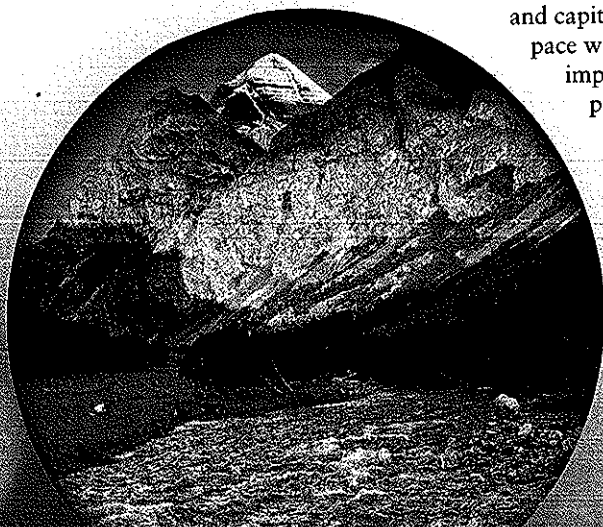
This article describes collaborative water conservation efforts implemented in the small town of Cooper City, Fla., to attain sustainability in a water-limited area. Efforts included outreach to homeowners associations; a rebate program; and education for the community, ratepayers, and schools.

*Michael F. Bailey*

### 91 If You're Not Mobile, You're Behind

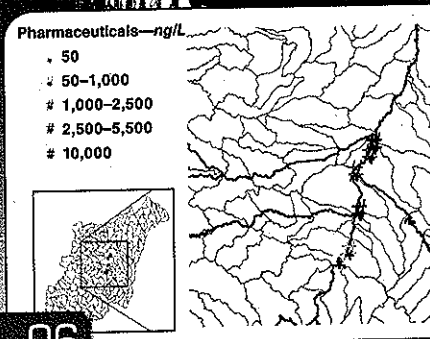
Water utilities should care about mobile payments because mobile devices have completely changed consumer behavior over the last five years and are no longer "in the future." Reasons to implement mobile payments include that it not only saves money but mobile access is a customer expectation and makes it easier for water utilities to get paid.

*Steve Schmitz*

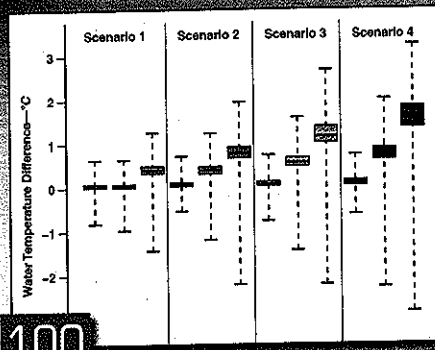


# Journal

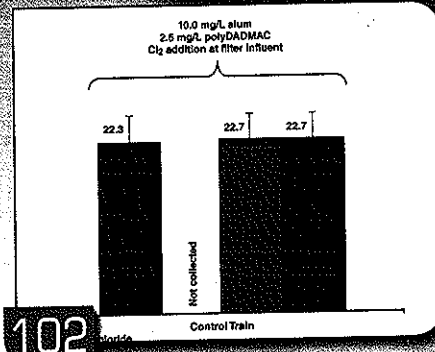
peer-reviewed online



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100



102

## Expanded Summaries

### 96 Evaluation of Watershed Susceptibility to Contaminants of Emerging Concern

This study demonstrates the utility of using spatial analysis for effectively assessing contaminants of emerging concern (CECs) in watersheds, which is important for the implementation of monitoring and management strategies. The authors analyzed four selected US watersheds to identify critical areas susceptible to CECs and used watershed characteristics to prioritize the types of CECs.

*Minji Park and Mi-Hyun Park*

### 98 Chlorate Challenges for Water Systems

This article assesses the presence of chlorate in drinking water and the potential impact of its regulation, giving specific attention to the variety of threshold concentrations that appear most often in the literature and evaluating the effect a regulatory requirement for each of these values would have on utilities.

*Katherine Alfredo, Ben Stanford, and Alan Robinson*  
*and Shannon Eaton*

### 100 Future Climate Effects on Thermal Stratification in the Wachusett Reservoir

A two-dimensional hydrodynamic and water quality model was used to simulate the effects of increasing future air temperatures on water temperature, stratification timing and duration, as well as changes in winter ice cover in a major drinking water supply for metropolitan Boston, Mass. Results provide insight into the sensitivity of Wachusett Reservoir water temperatures and the potential impacts of increasing air temperatures resulting from climate change.

*Lillian C. Jeznach and John E. Tobiason*

### 102 Hexavalent Chromium Removal Through Conventional Filtration Treatment Processes

A pilot-scale study was conducted to evaluate the efficacy of reduction/coagulation/filtration integration into conventional filtration treatment processes for hexavalent chromium and total chromium removal from surface water. Discussion includes increasing aluminum sulfate (alum) and filter aid dosages to improve filter performance, and increasing chlorine contact time to enhance iron-chromium floc formation and reduce filter ripening times and headloss accumulation rates.

*Sun Liang and Shannon M. Maceiko*

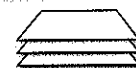
### 104 A Marketing Analysis of the Equitability of Water/Sewage Service Improvements

Advances in choice modeling allow for preferences estimated at the individual level, enabling the translation of preference estimates into information that is more useful from a managerial perspective. This study illustrates the application of such techniques to stated preference data collected for a water and sewage utility in the United Kingdom, estimates the willingness of customers to pay for various water and sewage service improvements, and forecasts potential customer demand for different packages of services improvements offered at varying prices.

*Jonathan Hecht, Scott Reid, and Ali Chalak*

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