

W A T E R R E S O U R C E S

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CONTAMINANTS OF EMERGING CONCERN



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CONTAMINANTS OF EMERGING CONCERN

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Guest Associate Editor ~ William A. Battaglin ~ wbattagl@usgs.gov

Contaminants of Emerging Concern (ECs) are being found with increasing frequency in the world's streams, lakes, and ground water. Are some ECs potentially harmful to ecological or human health? Are there safe limits of exposure or ingestion? How do we allocate scarce funds to study or control EC exposure when the risks are poorly defined? This issue of *Water Resources IMPACT* starts the process of finding answers to these questions. We will continue that communication process at the AWRA meeting in Vail, Colorado, on June 25-27, 2007, but we also realize that the professional challenges that face this group of researchers and interested stakeholders will take time to solve.

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William Battaglin (wbattagl@usgs.gov)

Jörg Drewes, Bret Bruce, and Mike McHugh

FEATURE ARTICLES

5 The Cycle of Emerging Contaminants

Susan T. Glassmeyer (glassmeyer.susan@epa.gov)

An overview of the sources of contaminants of emerging concern (ECs). The author focuses on how wastewater and drinking water treatments affect ECs occurrence, transport, and fate in the environment.

8 A Balancing Act: Dealing With Infrastructure Needs

Stephan D. Frank (sfrank@mwr.dst.co.us)

Wastewater treatment plant operators have a unique perspective on contaminants of emerging concern in the environment. The author highlights how operators must balance their desire to be forward looking with realities of supporting aging infrastructure and addressing pressing water quality issues.

11 Pathogens in Natural and Engineered Water Systems: Emerging Issues

Tamim Younos (tyounos@vt.edu)

Valerie J. Harwood, Joseph O. Falkinham III, and Hua Shen

Authors describe how pathogens can be ECs and their potential threats to human health. They suggest that improvements in detection capability and fate and transport modeling are needed to help protect the public from the potential effects of pathogens in America's water resources.

15 Endocrine Active Chemicals (EACs) in Wastewater: Effects on Health of Wildlife and Humans

David O. Norris (David.Norris@Colorado.edu) and *Alan M. Vajda*

Some contaminants of emerging concern are endocrine active chemicals that interfere with the hormone systems of wildlife and humans. The authors characterize the effects these chemicals can have on wildlife and suggest that there can be extreme fetal sensitivity to exposure to endocrine active chemicals.

17 Is Your Body a Hazardous Waste Site?

Laurie Peterson-Wright (laurie.peterson-wright@state.co.us)

This article reviews results from recent national scope biomonitoring surveys. It describes how biomonitoring can be used as a public health tool that can provide answers to questions about EC exposure and accumulation in humans.

18 Conflicting Public Policies: Why Is It So Difficult to Keep Pharmaceuticals Out of the Water?

Brenda Ortigoza Bateman (brendab@tvwd.org)

Ralph Thonstad and Daniel Danicic

The issues and obstacles involved in designing effective and sustainable community pharmaceutical "take-back" programs are summarized. The authors provide examples of programs that are working from across the U.S.

22 Striving for Collaborative Science and Communication Through the Consortium for Research and Education on Emerging Contaminants (CREEC)

Juliane B. Brown (jbbrown@usgs.gov) and *William A. Battaglin*

Relates how the CREEC was formed. The authors tell how a group of Colorado and Wyoming stakeholders, and the organizations they represent, are being proactive about EC issues and are working together to address their concerns.

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(Opinions expressed by our columnists are their own and do not represent the opinion or position of AWRA.)

Learn more about AWRA's Summer Specialty Conference
 "Emerging Contaminants of Concern in the
 Environment: Issues, Investigations, and Solutions"
 June 25-27 ~ Vail, Colorado
 Check out the special 4-page center tear-out section
 featuring Conference Themes ... Who Should Attend? ...
 Program Highlights ... Program-at-a-Glance ...
 and a Registration Form for your convenience

Scheduled Topics for Future Issues ...

JULY 2007

INSTREAM FLOWS

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SEPTEMBER 2007

**MEASURING MONITORING PERFORMANCE BY
 LOCAL WATERSHED GROUPS**

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NOVEMBER 2007

WATER RESOURCES DISASTER RECOVERY
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