

## A Preview of What's In This Issue

*The title of each article links to the on-line version*

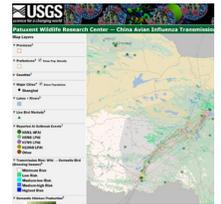
### Study Highlights the Complexity of Chemical Mixtures in United States Streams

A new study highlights the complexity of chemical mixtures in streams and advances the understanding of wildlife and human exposure to complex chemical mixtures.



### Frequent Fliers—Web-Based Tool Aids in Understanding the Role of Wild Birds in Transmission of Avian Influenza

This visualization tool helps researchers and public health officials see how relations between poultry density and waterfowl migration routes affect the threat of avian influenza to people and the poultry industry.



### Understanding Chemical and Microbial Contaminants in Public Drinking Water

Collaborative joint agency study provides nationally consistent and rigorously quality-assured datasets on a wide range of chemical and microbial contaminants present in source and treated public drinking water supplies. Tap water was not analyzed in this study.



### Examining Shifts in Stream Microbial Communities Exposed to Oil and Gas Wastewaters

Study examines shifts in the overall microbial community structure that were present in stream sediments that contained chemicals associated with unconventional oil and gas wastewaters.



### Poly- and Perfluoroalkyl Substances From Firefighting and Domestic Wastewater Remain in Groundwater for Decades

New study explores the persistence and transport of poly- and perfluoroalkyl substances (PFASs) that originated from both firefighting and domestic wastewater sources. Both sites continue to be sources of PFASs to groundwater 20 years after they were shut down.



### Trace Levels of Organic Chemicals Limited to Local Reaches of a Stream near an Oil and Gas Wastewater Disposal Facility

Organic contaminants that were present in Wolf Creek, West Virginia, near a oil and gas wastewater disposal facility were evident immediately downstream from the facility.



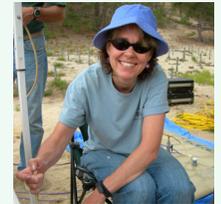
### New Method Improves Measurement of Bullet Fragments in Culled Varmints

A creative combination of radiography and techniques borrowed from meat processing and gold prospecting led to a better method for determining the lead content in ground squirrels shot by hunters to evaluate potential exposure risk to avian scavengers.



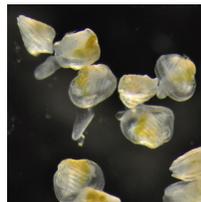
### Nitrate Addition Enhances Arsenic Immobilization in Groundwater

The addition of nitrate in a low oxygen groundwater resulted in the immobilization of naturally occurring dissolved arsenic and the conversion of nitrate to innocuous nitrogen gas.



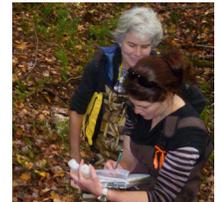
### Assessing Contaminant Hazards Without a Critter—Advancements in Alternatives to Animal Toxicity Testing

During the past two decades, great strides have been made toward the development and use of ecotoxicity testing methods that reduce animal use or replace animals altogether with in vitro tests or in silico models.



### Scientists Start at the Base of the Food Chain to Understand Contaminant Effects on Energy Cycling in Streams

Study examines the potential adverse effects of fungicides on leaf decomposition by microbes and aquatic invertebrates.



### Low Levels of Contaminants Found in Great Lakes Tree Swallow Nestlings

Tree swallow nestlings at most study sites in the Great Lakes basin were minimally exposed to organic contaminants.



### Presidential Early Career Award Given to Environmental Health Researcher Diann Prosser

Dr. Diann J. Prosser was awarded the Presidential Early Career Awards for Scientists and Engineers. The award is the highest honor bestowed by the U.S. Government on science and engineering professionals in the early stages of their research careers.



### Fish Diets Switch From Aquatic to Terrestrial Insects in Streams Affected By Metal Contamination

A riparian zone rich in terrestrial insects can provide an alternate food source for fish in metal-affected watersheds.



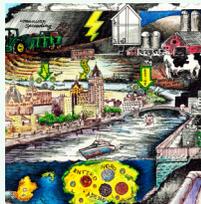
### USGS Scientist Receives Award for Assistance with National Wetlands Assessment

Dr. Keith A. Loftin received the U.S. Environmental Protection Agency Office of Water's Achievement in Science and Technology Award for his contributions to the National Wetlands Condition Assessment.



### Human and Bovine Virus Prevalence in Some Great Lakes Tributaries Influenced by Watershed-Specific and Seasonal Characteristics

Human enteric and bovine-specific viruses were detected in eight Great Lakes tributaries.



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