

## A Preview of What's In This Issue

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

### Iodinated Disinfection Byproducts found in Dairy-Impacted Wastewaters and Streams

Iodinated disinfection byproducts were found at stream locations downstream from treated discharge from wastewater treatment plants that receive dairy waste and in the wastewaters directly from dairy facilities.



### USGS Scientists Complete First Systematic Regional Survey of Algal Toxins in Streams of the Southeastern United States

Microcystin—an algal toxin—was detected in 39 percent of 75 streams assessed in the southeastern United States. These results will become part of a larger, systematic national survey of algal toxins in small streams of the United States.



### Bacterial Pathogen Genes in Streams Related to Animal Type and Hydrologic Conditions

A U.S. Geological Survey study elucidates the influence of animal type and environmental variables on bacterial pathogen occurrence in streams under typical watershed conditions.



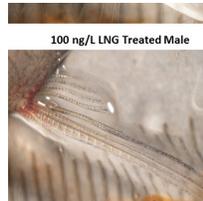
### New Guide to Help Identify Harmful Algal Blooms

To assist Native American and Alaska Native communities, USGS scientists developed a guide to evaluate algal blooms for the presence of cyanobacteria that are known to produce a variety of toxins.



### Synthetic Progestin in Environmental Waters can Affect Fish Reproductive Development and Behavior

Scientists conducted laboratory experiments on levonorgestrel (a synthetic progestin) and observed differential effects to males (reproductive behavior) and females (masculinization) of eastern mosquitofish (*Gambusia holbrooki*).



### Nutrients in Dust from the Sahara Desert cause Microbial Blooms on the East Coast of the United States

Saharan dust nutrients, particularly iron, deposited episodically in tropical marine waters stimulate marine microbial bloom growth and change microbial community structure.



### New Hepatitis B Virus Discovered in White Sucker (*Catostomus commersonii*)

The first known hepatitis B virus to infect fish (white sucker; *Catostomus commersonii*) has been discovered by USGS scientists. This newly discovered virus is in the family *Hepadnaviridae*, which include similar viruses in mammals and birds.



### Importance of Lake Sediments in Removal of Cyanobacteria, Viruses, and Dissolved Organic Carbon

USGS scientists determined that the top 25 centimeters of lake sediments was highly effective in removing cyanobacteria, viruses, and dissolved organic carbon during water passage through the lake bottom to aquifer sediments.



### New Study on Cyanotoxins in Lakes and Reservoirs Provides Insights into Assessing Health Risks

Newly published study provides new evidence of the widespread occurrence of cyanotoxins in lakes and reservoirs of the United States and offers new insights into measures used for assessing potential recreational health risks.



### USGS Scientists Measure New Bacterial Nitrogen Removal Process in Groundwater

For the first time, USGS, Virginia Institute of Marine Science, and the University of Connecticut scientists have detected active anammox bacteria in groundwater. Anammox is the anaerobic (without oxygen) oxidation of ammonium.



## North American and European Atmospheric Mercury Declines Explained by Local and Regional Emission Reductions

Recent findings indicate that declining atmospheric concentrations of mercury can be explained by the phaseout of mercury in many commercial products and by reduced emissions from utilities during the past two decades.



## USGS Identifies Crude-Oil Metabolites in Subsurface Plumes

Scientists studying two subsurface crude-oil spill sites in Minnesota measured concentrations of oil breakdown products (metabolites) at greater concentrations than parent compound concentrations.



## Persistent Contaminant Threats Following Hurricane Sandy—Establishing Baselines and Assessing Impacts

Potential long-term contaminant threats resulting from compromised infrastructure, beach erosion, and sediment disturbance were evaluated in the coastal environments of New Jersey and New York in the aftermath of Hurricane Sandy.



## New Sediment-Toxicity Benchmarks Available for Pesticides in Whole Sediment

Scientists developed 129 sediment-toxicity benchmarks for use in evaluating currently used pesticides in whole sediment. Sediment benchmarks are needed to evaluate the likelihood that pesticides in stream sediments may affect stream invertebrates.



## USGS Develops Approach to Assess Baseline Chemical and Radiological Conditions Prior to Uranium Mining near Grand Canyon National Park

Approach developed and baseline data collected to assess offsite migration of mine-related contaminants and to identify critical contaminant exposure pathways that could result from uranium mining activities in the Grand Canyon region.



## Distinct Microbiomes Identified in Landfills Throughout the United States

A comprehensive study finds distinct microbial assemblages (microbiomes) in landfill leachate across the United States and investigates factors related to microbiome formation.



## Soil Disturbance Can Increase Stream Salinity in Semiarid Watersheds

Soil disturbance from construction of roads, pipelines, and well pads on naturally salt-rich soils was determined to be a potential factor resulting in increased salinity in a southern Wyoming stream.



## DOI Distinguished Service Award Given to Two Program Scientists

Two USGS scientists, Denis R. LeBlanc and Dr. Michael T. Meyer, received the Department of Interior's highest honor—the Distinguished Service Award. The award was given to recognize their outstanding contribution to science.



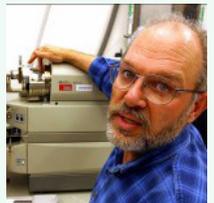
## Indication of Unconventional Oil and Gas Wastewaters Found in Local Surface Waters

Evidence indicating the presence of wastewaters from unconventional oil and gas (UOG) production was found in surface waters and surficial sediments near an UOG disposal facility in West Virginia.



## USGS Scientist Recognized as Highly Cited Researcher

USGS scientist Dr. Edward T. Furlong has been designated a Thomson Reuters Highly Cited Researcher, ranking among the top 1 percent of researchers from 2003 to 2013 for most cited documents in their specific field (Environment/Ecology).



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