



Compiled by Elizabeth Lisican

Shrinking the Dead Zone

Market-based approach identified as viable to compliance & water quality goals

The Gulf of Mexico has the largest dead zone in the U.S. and the second-largest in the world. It presents scientific, technical, economic and political challenges for the region. Michelle Perez, Ph.D., a senior associate with the World Resources Institute (WRI), spoke with *WWD* Managing Editor Elizabeth Lisican about WRI's new study on the benefits of nutrient trading along the Mississippi River Basin.

Lisican: What are the key findings from your latest research on large-scale nutrient trading in the Mississippi River Basin?

Michelle Perez: WRI's feasibility study found that nutrient trading could offer a triple-win solution for wastewater treatment plants (WWTPs), farmers, and the Gulf of Mexico. Our case study's two wastewater utilities could save about \$900 million in meeting our project's Gulf cleanup goals, while the study's farm sector could make \$700 million in profits. Our project selected the 2007 goal of a 45% reduction in the nitrogen (N) and phosphorus (P) pollution to the Gulf from the U.S. Environmental Protection Agency Science Advisory Board as our water quality goal.

Lisican: What exactly is nutrient trading, and why is it an ideal approach to shrinking the Gulf of Mexico dead zone and helping to address local nutrient pollution problems?

Perez: Nutrient trading could help to curb the excess N and P pollution (referred to collectively as nutrient pollution) causing the Gulf dead zone by identifying the most cost-effective nutrient reductions possible to achieve specified Gulf or local water quality goals. Trading is a voluntary market-based mechanism that could help regulated facilities (e.g., WWTPs and industrial firms) find the cheapest way to satisfy nutrient pollution limits tied to the Gulf or to local water bodies.

Because all facilities are different, some will be able to install onsite technology upgrades at a lower cost than others to meet their nutrient reduction requirements. Unregulated farmers also may be able to voluntarily participate if installing conservation practices to

reduce nutrient loads occurs at a lower cost than the regulated facilities' cost. These facilities or farmers with low treatment costs can sell excess reductions, or nutrient credits, to the regulated facilities that face very costly upgrades.

Thus, nutrient trading offers a multiple-win solution: Progress is made toward achieving the trading program's water quality goal (be it Gulf-focused, local water body focused, or focused on both scales); credit buyers spend less on credits than they would spend on costly technological upgrades; and credit sellers make money for their extra pollution reduction efforts.

Lisican: How would this approach affect WWTPs?

Perez: WWTPs may one day receive N and P reduction permits tied to water quality goals for the Gulf of Mexico or for local water bodies. They may then have the opportunity to evaluate use of trading to satisfy their compliance needs. WWTPs need to review several issues to determine if whether trading is right for them for either or both N or P compliance, including: economic cost-effectiveness, avoidance of hot spot creation, legal authority, political acceptance, etc.

Lisican: What needs to happen in order to put a nutrient trading program in place on the Mississippi River Basin?

Perez: Currently there is no nutrient reduction goal for the Gulf of Mexico to serve as a policy driver for a Mississippi River Basin nutrient trading program. This goal is necessary before there can be a real demand for Mississippi River Basin nutrient trading. Until such a driver materializes, several states in the basin are developing voluntary state nutrient reduction strategies, and nutrient trading could be included in these plans to help achieve local water quality goals. **WWD**

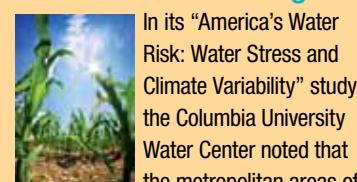
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For more information, write in 1113 on this issue's reader service form on page 43.

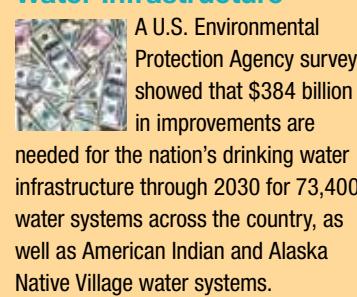
News Briefs compiled by *WWD* Associate Editor Amy McIntosh

Report Reveals Areas at Risk of Water Shortage



In its "America's Water Risk: Water Stress and Climate Variability" study, the Columbia University Water Center noted that the metropolitan areas of Washington, D.C.; New York City; Los Angeles and San Diego face the greatest risk of climate-related water scarcity. Counties in 46 states and the breadbasket regions of Nebraska, Illinois and Minnesota face the same challenge.

\$384 Billion Needed for Drinking Water Infrastructure



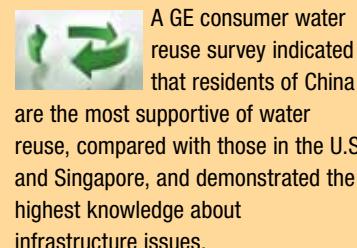
A U.S. Environmental Protection Agency survey showed that \$384 billion in improvements are needed for the nation's drinking water infrastructure through 2030 for 73,400 water systems across the country, as well as American Indian and Alaska Native Village water systems.

Wal-Mart Pleads Guilty to Environmental Crimes



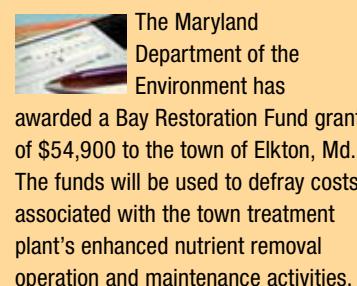
Wal-Mart Stores Inc. pleaded guilty to six counts of violating the Clean Water Act by illegally handling and disposing of hazardous materials at its retail stores across the U.S. The company also pleaded guilty to violating the Federal Insecticide, Fungicide and Rodenticide Act by failing to properly handle pesticides that customers returned to its stores.

Survey Shows Chinese Interest in Water Reuse



A GE consumer water reuse survey indicated that residents of China are the most supportive of water reuse, compared with those in the U.S. and Singapore, and demonstrated the highest knowledge about infrastructure issues.

Elkton, Md., Receives Grant



The Maryland Department of the Environment has awarded a Bay Restoration Fund grant of \$54,900 to the town of Elkton, Md. The funds will be used to defray costs associated with the town treatment plant's enhanced nutrient removal operation and maintenance activities.

WERF Awards Contract for Energy Research



The Water Environment Research Foundation awarded Brown and

Caldwell a contract to perform research that addresses energy production and recovery associated with all aspects of the wastewater conveyance and treatment, the disposition of residuals or reuse of water.

2013 Market Outlook Workshop Set for August



Registration is open for the Hydraulic Institute's 2013 Market Outlook Workshop, which will take place in San Diego Aug. 8 to 9, 2013.

Smart Cities Council Launches Movement



Itron has partnered with Cisco, IBM, GE, Microsoft and AT&T in the Smart Cities Council, dedicated to developing targeted resources for core city departments and functions, including environment, economic development, energy, health and human services, public safety, transportation, waste, and water and wastewater.

American Water Receives 10 National Awards



American Water Works Co. has received 10 Directors Awards of Recognition from the Partnership for Safe Water. Three plants received awards for maintaining Phase III certification for 15 years, five plants received awards for maintaining the certification for 10 years, one plant received an award for maintaining the certification for five years and one plant received its first Directors Award for Phase III certification.

Envirogen Awarded Patent for FBR System



Envirogen Technologies Inc. was awarded U.S. Patent No. 8,323,496 for "Methods for Treatment of Perchlorate Contaminated Water," for enhanced automated operation of its fluidized bed bioreactor systems.

Networking News

- Tomas Valencia joined Pump Solutions Group as senior vice president, sales and business development for Europe, the Middle East and Africa.
- Rafael Simon has joined Microvi Biotechnologies as chairman of its board of directors.
- Don Del Nero, P.E., CDT, has joined Stantec as tunnels and trenchless practice leader. **WWD**

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