



By Ben Grumbles

## 'A Thousand Flowers Blooming'

*Joining forces to prevent nutrient pollution and dead zones*

April showers bring more than May flowers. Spring rains can unleash a torrent of nutrients, triggering algal blooms in watersheds and dead zones in the headlines. Common sense and good science tell us too much of a good thing (such as nutrients) can lead to problems. But how do you manage for impacts hundreds of miles downstream? How do you forge solutions that transcend political and bureaucratic boundaries and keep up with the latest science?

### Warning Signs

Coastal and inland eutrophic zones are on the rise. The U.S. Environmental Protection Agency (EPA), U.S. Geological Survey, National Oceanic and Atmospheric Administration and various state, scientific and environmental organizations are all looking for and finding more water quality problems related to excess nitrogen, phosphorus and sediment. The Gulf of Mexico, the Chesapeake Bay, Long Island Sound, Puget Sound and Lake Erie are some of the big-name waters in the nutrient news these days, as are international waters such as the Baltic Sea and the coasts of Australia and Brazil.

### Standards & Measures

Over the last three years, EPA has put a priority on establishing numeric nutrient criteria and standards in the states. It should continue to do so. Why? Scientifically and legally defensible numbers help drive environmental results, enforceable progress and market-based innovation. With greater certainty and measurability compared to narratives, numeric criteria strengthen the permitting and total maximum daily load listing and allocation programs as well as boost trading of nutrient credits.

States are increasing their efforts, although EPA would like to see more action, more quickly. Environmental advocacy groups have also stepped up the pressure, filing lawsuits and petitions aimed at EPA and particular states to move beyond the narrative criteria and establish more measurable and enforceable numbers. States and EPA have recently formed a national workgroup on nutrients, signaling the importance and complexity of the issue.

EPA also took a major step against nutrient pollution on Jan. 16, 2009, with an official determination under the Clean Water Act (CWA) that Florida's progress with narrative standards was insufficient and that numeric nutrient standards were required. In one of my last official acts as assistant administrator, I committed EPA to establishing numeric standards for the state if it didn't do so sooner. Florida DEP Secretary Mike Sole accepted the challenge. Don't be surprised if EPA has similar discussions with other states throughout the country.

### 'Secondary' Science & Technology

The Natural Resources Defense Council has petitioned EPA to change its long-standing definition of "secondary treatment" under the CWA to increase nutrient removal at municipal treatment plants. The petition prompts some good but controversial legal and policy questions, including: Does a change require an act of Congress given the CWA's current definition? Is this the best way to accelerate nutrient removal? How costly is costly? And are there energy trade-offs? Stay tuned as EPA and Congress review the matter.

### Regulatory Innovation

If you're not familiar with water quality trading and nutrient banking, you should be. The

concept of "cap and trade" in the air and carbon arena is getting most of the attention, but it's also the wave of the future in water and nutrient-impaired watersheds. It makes environmental and economic sense to create incentives and increase flexibility in CWA permits to foster cost-effective partnerships in meeting water quality-based effluent limits.

### Collaboration

Multi-partner projects are key to sustainable solutions. The Gulf Hypoxia Task Force's 2008 Action Plan, crafted by six federal and 10 state agency representatives and available at [www.epa.gov/msbasin](http://www.epa.gov/msbasin), builds upon the latest science and commits agencies to more detailed actions with annual operating plans. The Mississippi River System drains 41% of the contiguous U.S. and touches on 33 states, but I believe the plan, which is centered on cooperative conservation and nonregulatory stewardship, will improve water quality upstream and cut the size of the spring dead zone in the northern Gulf of Mexico.

The private sector is stepping up, too. Monsanto Co. announced in December 2008 it was committing \$5 million and partnering with the Nature Conservancy, Iowa Soybean Association, Delta Wildlife and National Audubon Society to reduce nutrient and sediment runoff into the Mississippi River and its watersheds. This seed money will grow awareness and on-the-ground conservation practices, such as wetlands restoration and buffer strips.

Good news also came in November 2008 when Perdue Farms, Inc. entered into a memorandum of agreement (for four years) with EPA regions 3 and 4 to strengthen nutrient management at its many poultry-growing facilities throughout the Mid-Atlantic and Southeast regions of the U.S. This is a promising development given the many contract growers and the concentration of operations in watersheds such as the Chesapeake and the Delmarva Peninsula.

### Nutrient Pollution

What's your nutrient footprint? Everyone's talking about carbon and global warming, but keep your eyes on nitrogen, phosphorus and eutrophication. Some big decisions and opportunities are looming.

As scientists and policy-makers probe whether algae can become a sustainable biofuel, now is the time to increase nutrient pollution prevention efforts. Governments, citizens, businesses and nongovernment organizations have important roles to play. Farming, the Earth's first green-collar job and the target of a lot of finger pointing, has a special opportunity—and responsibility—to help increase environmental progress and kill the dead zones. [www](http://www.wwd)

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