

Water Pollution Trading: Limits and Tradeoffs

In our July-August issue, Morgan Robertson and Eric Raffini, both of EPA, described the lessons the nascent water quality industry could learn from the wetland mitigation banking industry. Here, environmental lawyer Albert Ettinger explains why banking is not an appropriate model—and why environmentalists should be wary of water quality trades.

BY ALBERT ETTINGER

A number of persons, including Eric Raffini and Morgan Robertson in the July-August 2005 issue of the *National Wetlands Newsletter*, have recently advocated the widespread use of water pollution-trading schemes that would work by reducing nonpoint-source water pollution, perhaps in part through the use of constructed wetlands.

A brief review of terms: The Clean Water Act concerns both “point source” pollution and “nonpoint source” pollution. Point source pollution comes from “any discernible, confined, and discreet conveyance,”¹ such as a pipe from a factory or sewage treatment plant. Nonpoint source pollution, however, is not released from a specific discharge.² Its sources are diffuse, such as runoff from corn fields. While the Clean Water Act regulates point source pollution through permitting, its provisions for addressing nonpoint-source pollution are nonregulatory. Nonpoint source pollution is arguably the bigger problem for many pollutants: The U.S. Environmental Protection Agency has defined it as the single-largest cause of water quality impairment in the country.³

In some respects, Raffini, Robertson, and others are proposing to apply to water pollution efforts elements of air pollution-trading and wetland banking programs that have existed for years. A point source discharger required to lessen its loading of a pollutant to a waterbody would instead fund efforts by other sources to decrease their loading of the pollutant or otherwise arrange for pollutants in the relevant waterbody to be reduced. For example, a sewage treatment plant required to reduce its discharges of nitrogen to the Chesapeake Bay would arrange for farmers in the watershed to reduce their use of nitrogen-based fertilizers instead of reducing nitrogen loadings from its own plant.

For a variety of reasons, many clean water advocates have greeted water pollution-trading programs with great skepticism. This skepticism stems in part from doubts about how well air pollution-trading programs, the models for water pollution-

trading programs, have worked. Clean water advocates certainly are not pleased with EPA’s current approach to air deposition of mercury, a strategy that fails to limit overall mercury emissions from coal power plants to the extent that would have been required by earlier proposals and that, while purporting to lessen overall mercury pollution, allows increased mercury levels in certain neighborhoods and waters. (Such sacrifice areas are often called “hot spots.”)⁴ Clean water advocates also worry about modeling water pollution-trading programs after wetland banking initiatives: A number of reports have questioned whether wetland mitigation banking has really been effective in advancing the national goal of “no net loss.”⁵

For environmentalists to embrace water pollution trading, regulators and dischargers who wish to use trading as a substitute for tighter discharge limits must address three major problems with trading programs:

1. *Enforcement.* The enforceability of the pollutant reductions that make up the benefit half of a trade is the most immediate issue. If Company A is allowed to pollute more because Company B is going to pollute less, we must be assured that Company B will meet its commitments. Creating such certainty is particularly challenging if Company B is a nonpoint source, such as a corn grower, and therefore lacks the National Pollutant Discharge Elimination System (NPDES) permit required for point source polluters by section 402 of the Clean Water Act.

NPDES permit holders are generally required to file monthly discharge monitoring reports, and enforcement agencies and citizens can bring suit in federal court or state venues against dischargers who violate permit limits.⁶ While many dischargers undoubtedly fail to report violations, this system generally allows fairly effective and economical enforcement of NPDES limits.

But how can we develop an enforcement scheme for water pollution trading as good as the current reporting system required for NPDES permit-holders? If Company B fails to secure the pollution reductions that were assumed when permit limits for Company A were developed, will the pollution from B be recorded as a violation in the monitoring reports filed by A? Will B be required to file reports although, as a nonpoint source, B would not

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otherwise file any? If B files reports showing that it failed to make the promised pollution reductions, will citizens be able to bring enforcement actions against A, B, both, or neither? If these problems are not resolved and reports filed by A and B cannot be easily reviewed by enforcement agencies and private attorneys general, the developers of trading programs must create other mechanisms to assure that trading is not simply a way for point source polluters to avoid necessary limits.

Raffini and Robertson propose the wetland mitigation trading system as a model for water pollution trading, but the analogy is imperfect. Wetlands are generally destroyed in discrete parcels in one permitted action, and are supposed to be replaced by other wetlands, supposedly maintained in perpetuity, that have equivalent wetland values. Anyone should be able to find these replacement wetlands easily, although whether their wetland functions are being properly maintained is very hard to determine. Moreover, given that the U.S. Army Corps only rarely denies a permit outright, when a developer proposes to fill wetlands the

2. *Location of the reduction.* Clean water advocates will never accept a scheme that allows the creation of “hot spots” in one waterbody to benefit another. Moreover, reducing pollution at the location of Company B may not help improve the quality of receiving waters at the location of the discharge from Company A. In fact, it probably would be very rare that potential traders could find a way to reduce the right kind of toxins in the right place. It is unlikely, for example, that Company B could find and reduce iron pollution directly below Company A’s discharge point.

The location problem may be less significant for nutrient pollution. Although the science in this area is far from clear, current literature suggests that in some watersheds, nitrogen pollution does not impact aquatic life or create algal blooms until it reaches a marine environment. Hypothetically, a discharger could reduce nitrogen pollution through filtering by constructed wetlands located anywhere between the upstream pollution source and the sea, and pollution reduction in the target marine environment would still be assured. However, a similar approach would not work as easily

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public effectively has two choices: allow the developer to compensate for the wetland destruction with a credit purchase from a mitigation bank, or place permit conditions on the 404 permit that requires the holder to perform mitigation. Since no one believes that conditions in 404 permits are actually enforced by the Corps, allowing developers to buy credits from organized wetland mitigation banks is often the lesser of the two evils.

However, unlike 404 permit conditions, NPDES permit limits are comparatively well enforced by EPA, state pollution control agencies, and citizens. If a water pollution-trading program accepts reductions from nonpoint sources in lieu of point source reductions, ease of enforcement clearly suffers. Pollution from improper nonpoint source loadings may be downstream or otherwise beyond easy detection by enforcement agencies or citizens by the time the effectiveness of the trade is checked. In wetland mitigation banking, the public trades poorly enforced Corps permit conditions for relatively visible wetland mitigation banking projects—generally not a bad tradeoff. However, in the water pollution-trading context, the public is being asked to trade comparatively well-enforced NPDES permit limits for largely unenforceable promises to reduce nonpoint pollution.

for phosphorus; current science indicates that phosphorus pollution often immediately impacts receiving waters.⁷ Unless the discharge point from Company A is located directly next to Company B, a trade between the two may allow negative aquatic impacts.

3. *Shifting the costs of pollution reductions.* At a conference convened by EPA and the Environmental Law Institute in July of 2005, the National Forum on Synergies Between Water Quality Trading and Wetland Mitigation Banking, the manager of a point source discharge facility announced that he did not want to pay for one pound more pollution reduction than was necessary to mitigate for his discharge. This view is understandable; one can easily see why point sources do not wish to pay for extra pollution reductions. After all, decisions made by Congress in the Clean Water Act already ensure that point sources such as factories and sewage treatment plants bear regulatory burdens not suffered by agribusiness, forest product producers, and other nonpoint sources. However, in the great tradition of Chicago politicians, friends of the environment must ask, “Where’s mine?” What is the use to the environment of water pollution-trading schemes that do not produce pollution reductions in addition to those already mandated by law? If a trading scheme

merely reduces compliance costs for point source dischargers without substantially reducing the total amount of pollution, where is the environmental benefit?

Actually, water pollution trading could be much worse than a zero-sum game for the environment. Recently the Pennsylvania Department of Environmental Protection, U.S. Environmental Protection Agency, Ohio River Valley Water Sanitation Commission, and Miami (of Ohio) Conservancy District developed water pollution-trading programs intended to reduce nonpoint-source pollution in the Chesapeake Bay and Great Miami River watersheds.⁸ These trading schemes and others like them seem to have extensive administration and enforcement needs and require considerable resource investment by EPA and state water pollution-control agencies. However, these agencies have almost all sustained huge net budget cuts in the last decade; they do not have extra resources to help dischargers come into compliance. Every dollar an agency spends on administering a trading scheme that merely rearranges the costs of addressing pollution is money that could have gone toward actually reducing pollution. If the principle behind trading is that “not one pound more” pollution reduction will be achieved than is already mandated, the public and the environment are being shortchanged.

Conclusion

In principle, water pollution trading is not inherently inconsistent with the Clean Water Act or environmental protection. However,

the implementation of trading must be carefully planned so that environmental benefits are assured. All of the agreements and pollution limits that are part of a trading program must be easily enforceable by regulatory agencies and private attorneys general. Trading programs must not allow environmental damage to occur in any waterbody affected by trading. Finally, the entire trading program must achieve real pollution reductions, rather than merely reduce the net public resources available for meeting the goals of the Clean Water Act. ■

NOTES

- ¹ 33 U.S.C. § 1362(14).
- ² 33 U.S.C. § 1362(12).
- ³ U.S. Environmental Protection Agency, *National Water Quality Inventory: Report to Congress*, 1998, EPA-841-F-97-003.
- ⁴ New York Attorney General's Office, “Nine States File Suit Challenging EPA Mercury Rule,” March 29, 2005, http://www.oag.state.ny.us/press/2005/mar/mar29c_05.html.
- ⁵ National Research Council, *Compensating for Wetlands Losses Under the Clean Water Act*, (Washington, DC: National Academies Press, 2001); Environmental Law Institute, *Banks and Fees: The Status of Off-Site Wetland Mitigation in the United States* (Washington, DC: Environmental Law Institute, 2002).
- ⁶ 40 CFR 122.48; 33 U.S.C. § 1365 (a)(1).
- ⁷ Walter K. Dodds, *Freshwater Ecology* (Burlington, MA: Academic Press, 2002) 341–42, 356.
- ⁸ Pennsylvania Department of Environmental Management, *Nutrient and Sediment Reduction Credit Trading Interim Final Policy and Guidelines*, 2005, 392-0900-001, http://www.dep.state.pa.us/TechnicalGuidance/Draft_technical_guidance.asp; Ohio Environmental Protection Agency, “Water Quality Credit Trading,” *Ohio Nonpoint Source Pollution Management Plan*, 2005–3020, http://www.epa.state.oh.us/dsw/nps/NPSMP/MM/pollutant_trading.html.

Federal Agencies

New agreement increases funding for New Orleans levees

On December 16, the White House said it would dedicate roughly \$3.1 billion to rebuilding the Crescent City's levees, a figure nearly double the funding initially promised. The funding will come from previous requests submitted to Congress, and adds to the more than \$60 million Congress has appropriated for the Gulf Coast crisis.

Significant debate remains about how levees should be rebuilt and the extent to which their reconstruction should be complemented by wetland restoration and other coastal protection measures.

Environmental waivers draw concern on the Gulf Coast

Environmental groups and agency whistleblowers are criticizing the decisions of state and federal agencies to waive environmental protections in the wake of Hurricanes Katrina and Rita. The U.S. Environmental Protection Agency and the Louisiana Department of Environmental Quality have waived restrictions on fuel standards, open burning, asbestos handling, landfills, and water and air pollution, reported the Associated Press. Critics say that the waivers unfairly benefit oil companies and are creating long-term environmental and public health hazards.

Great Lakes cleanup plan unveiled

On December 12, EPA and other partners unveiled a Great Lakes restoration plan that a 1,500-member stakeholder group began developing in 2004. Reuters reported that the plan calls for updating old sewage treatment facilities, focusing on “hot spots” of environmental degradation, combatting invasive species, and restoring wetlands, among other projects, at a cost of up to \$20 billion. However, federal agencies said that budget constraints will prevent them from allocating additional funds to implement the plan.

GAO criticizes Chesapeake Bay restoration effort

On November 16, the U.S. Government Accountability Office released *Chesapeake Bay Program: Improved Strategies Are Needed to Better Assess, Report, and Manage Restoration Progress*. The report concluded that “the lack of independence in the Bay Program's reporting process has led to negative trends being downplayed and a rosier picture of the bay's health being reported than may have been warranted” and that the program “does not have a comprehensive, coordinated implementation strategy” for achieving restoration goals. The report also found that assessment tools used by the program cannot adequately measure overall progress toward restoration.