



Testimony

before the

Subcommittee on Fisheries, Wildlife, and Water

of the

U.S. Senate

regarding

Implementation of the Clean Water Act

Submitted by

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¹ I am grateful for the assistance of University of Maryland law students Katherine Baer and Jeff Gilberg to develop the research that forms the basis of this testimony.

Mr. Chairman and members of the Committee, thank you for the opportunity to appear before you today on behalf of the Center for Progressive Regulation (CPR) to testify regarding the Environmental Protection Agency's (EPA) implementation of the Clean Water Act. Specifically, I plan to address EPA's enforcement record and water quality trading policies. CPR is an organization of academics specializing in the legal, economic, and scientific issues that surround health, safety, and environmental regulation. The Center seeks to provoke debate on how the government's authority and resources may best be used to preserve collective values and hold accountable those who ignore and trivialize them. We reject the idea that government's only function is to increase the economic efficiency of private markets. For further information, please see our web site at www.progressiveregulation.org.

This Committee deserves much credit for recognizing the importance of the topics you consider today. Deterrence-based enforcement lies at the core of an effective regulatory program designed to maintain and improve water quality in America. Yet congressional oversight of EPA's enforcement record has been sporadic and, without such oversight, it is difficult to hold the Agency accountable for keeping, so to speak, the environmental cop on the beat.

Similarly, trading of pollution "credits" or "allowances" is the most prominent market-based alternative to traditional regulation now under consideration by state, federal, and even international governments. This hearing is one of the first to consider how best to use trading as an innovative approach to pollution control. I congratulate you for recognizing how crucial it is to get the design of these initial experiments right.

That said, I am afraid I have disappointing, even alarming, news on both fronts.

The core provisions of the Clean Water Act are under relentless attack by powerful members of regulated industries, raising the real possibility that the Administration will eliminate crucial protections, squandering the gains of the last two decades. I speak here of proposals to eliminate federal controls on pollution for 50 to 60 percent of streams and 20 percent of wetlands. Unless and until the states pick up the slack left by EPA and the Army Corps of Engineer (Corps) abrupt departure from the field, these vast and irreplaceable natural resources could be polluted, drained, or filled in by industrial dischargers, real estate developers, and sewage treatment plants. The cumulative impact of these changes will produce grave erosions in water quality, not just in the affected streams and wetlands, but in the vast bodies of water into which they feed.

In another arena, as discussed in greater detail by my colleague Michael Lozeau, the Bush Administration is pursuing a rule on Total Maximum Daily Loads (TMDLs) that will make it impossible for states to establish enforceable limits for individual sources, potentially rendering that keystone program a dead letter as a practical matter. Ironically, these changes will undermine the state trading programs EPA claims to support because they would also eliminate any basis for allocating pollution allowances to individual sources.

Last but by no means least, there are ample signs that routine enforcement is at a lower ebb than it has been in a decade. The latest numbers indicate a precipitous decline in every measure of enforcement effectiveness from cases brought and penalties paid to staffing levels. But even those

disconcerting statistics do not portend what may well be in store in the next several years as EPA's "brain trust" of experienced civil servants drains away. Because enforcement is such an important measure of the Agency's effectiveness, I will consider it first and then turn to Agency's trading policy.

Enforcement

Overall, enforcement of environmental laws has decreased dramatically since the Bush administration came to power. For example, the number of EPA inspection and enforcement staff has fallen to its lowest level since establishment of the Agency, dropping by more than 12 percent since the Administration took office.² Additionally, fewer violators pay penalties and those who do pay are paying less. Violators have paid 64 percent less in fines for breaking environmental laws during the first two years of the Bush Administration than they did under the Clinton Administration.³ The average civil penalty paid by polluters has dropped from \$1.36 million to \$605,455 and polluters pay 77 percent less for required supplemental environmental projects (SEPs) as part of settlement agreements.⁴ Apparently this trend will only continue – in his 2003 budget request the President sought to eliminate the positions of over 200 enforcement personnel.⁵

Despite the importance of preserving the quality of the nation's surface waters, enforcement under the CWA parallels the general decline of environmental enforcement.⁶ As a direct result, compliance rates are also declining. A recent report by EPA's Office of Enforcement and Compliance Assurance (OECA) on the performance of the major National Pollutant Discharge Elimination System (NPDES) permits reveals that enforcement activity for these dischargers has also declined from 1999 to 2001.⁷ The percent of major NPDES permits in significant noncompliance increased from 16 percent to 24 percent from 1994 to 2001.⁸ The number of inspections declined by eight percent and the percent of facilities that were inspected declined by six percent.⁹ There was a 50 percent decrease in the number of informal enforcement actions and a 45 percent decrease in formal actions.¹⁰ Initiation of administrative complaint orders (ACOs) declined by 31 percent, and the initiation of administrative penalty order (APO) complaints declined by 28 percent.¹¹

Yet even these statistics do not capture the implications of a downward spiral in this arena.

² Natural Resources Defense Council, *Rewriting the Rules, Year-End Report 2002: The Bush Administration's Assault on the Environment*. Jan.2003, p. 26.

³ *Id.* at 27.

⁴ *Id.*

⁵ *Id.* at 26.

⁶ *Id.* at 26.

⁷ A Pilot Performance Analysis of Selected Components of the National Enforcement and Compliance Assistance Program, OECA EPA, Feb. 2003 [hereinafter *OECA Analysis*].

⁸ *Id.* at 10.

⁹ *Id.* at 17.

¹⁰ *Id.*

¹¹ *Id.* at 18.

My fellow CPR member scholar, Joel Mintz, a professor at Nova Southeastern University and the author of the seminal book *Enforcement at the EPA*,¹² is in the process of doing field research on the reasons why the Bush Administration has such a poor track record in this arena. Specifically, Professor Mintz interviewed about 20 enforcement officials at EPA and the Department of Justice (DOJ), both at their Washington D.C. headquarters offices and in some of the EPA regions. Based on those conversations, he has developed the following preliminary findings:

- Most EPA enforcement cases in the past two years have been directed at relatively small violations. The Agency has largely avoided the kinds of coordinated enforcement initiatives that proved so successful in the 1980's and 90's, under both Democratic and Republican Administrations. The non-Superfund enforcement that EPA has been doing is hampered by an extraordinary shortage of attorney resources at the Justice Department.
- Part of the reason for this shortage is that DOJ has assigned a very large number of attorneys to try enforcement cases against electric utilities based on the New Source Review provisions of the Clean Air Act. Even as those resources are expended, other components of the Administration have systematically undercut those cases through public statements and policy changes.
- EPA's Senior Executive Service (SES) personnel, who are the high level, career civil servants with the greatest collective expertise regarding EPA enforcement policies and techniques, are almost totally isolated within the Agency. Political appointees, especially in the Agency's regional offices, almost never consult SES people on important policy questions. As a result, their morale, and the morale of many who report to them, is very low.
- Many senior enforcement managers at the Agency have retired or plan to retire shortly. This trend is causing a severe loss of the expertise and institutional memory that are crucial to the success of vigorous EPA enforcement efforts.

Clean Water Act enforcement is crucial to protecting public health; as just one example, as many as 13 percent of effluent violations for major sources emitting toxic pollutants exceed regulatory limits by *more than 1,000 percent*.¹³ Additionally, enforcement spurs pollution prevention and treatment. Although the data are not complete, the percentage of pollutant reduction, elimination, and increased treatment that results from enforcement actions has increased as a percentage of the total enforcement actions taken.¹⁴

Given its importance, what accounts for these disturbing indications that EPA's enforcement program is, quite literally, falling apart? It has become very clear that this Administration is just not committed to deterrence-based enforcement of the nation's environmental laws. But what are the underlying reasons or justifications for that fact?

¹² Joel A. Mintz, *Enforcement at the EPA: High States and Hard Choices* (1995).

¹³ *OECA Analysis*, *supra* note 10, at 6.

¹⁴ *Id.* at 7.

To be sure, the nation faces many challenges at home and abroad and, in the absence of a fundamental change in fiscal policies (e.g., the determined pursuit of recent tax cuts despite a worsening economy), resources for domestic programs will continue to be very limited. But deterrence-based enforcement – that is, the publicized prosecution of a few bad actors to create a disincentive for further law violations among a regulated industry as a whole – is far more important when resources are tight because the only alternative is the far more resource-intensive practice of cajoling lawbreakers back into compliance.

Whatever the explanation, CPR urges this Committee to remain focused on enforcement as a leading topic for continued oversight of EPA.

Trading

Overall Advantages and Principles

Trading can be an effective, as well as efficient, management tool under conditions where reliable methods allow us to allocate allowances and track trades, as well as to detect unforeseen consequences. It also has two very significant political advantages.

First, trading has the potential to break political stalemate. The acid rain program established by the 1990 Clean Air Act Amendments broke a 13-year legislative stalemate regarding whether and how to control sulfur dioxide emissions from power plants. By making the fight about how to carve up the pie of total allowances, rather than whether to bake the pie in the first place, trading proved an extremely successful solution to what had become an intractable problem.

Second, regulated industrial sources perceived trading as lowering compliance costs to the point that they were affordable, especially in the Midwest, where the “big dirties” insisted they could not afford to comply with traditional pollution requirements. Everyone involved in the debate over environmental regulation recognizes the validity of industry preoccupation with costs, although it is also true that pre-implementation cost estimates are often exaggerated.

Trading works especially well when the pollutants at issue have a cumulative, long-term effect on the environment and do not pose immediate, short-term risks except in extraordinarily high concentrations. Expanding the use of trading to situations where it replaces regulatory requirements and produces localized pollution “hot spots” that harm human health and the environment will only serve to discredit it as a viable approach for environmental protection in the new millennium.

Water quality trading policy at the federal and state levels should focus on control of nutrients by fostering exchanges between point and non-point sources. Water trading programs must:

- Include an appropriately low, and steadily declining, cap on total discharges;

- Rely on accurate methods for measuring emissions, awarding allowances, and reconciling the number of allocated allowances with subsequent trades;
- Prevent the formation of localized hot spots;
- Involve the public in the setting of caps and the operation of the program; and
- Rest on a foundation of enforceable commitments.

For a further discussion of these issues, please see Rena I. Steinzor, *Toward Better Bubbles and Future Lives: A Progressive Response to the Conservative Agenda for Reforming Environmental Law*, 32 *Envtl. L. Rep.* 11421 (Dec. 2002).

Analysis of EPA Guidance

EPA’s Water Trading Policy encourages states and tribes to develop water quality trading programs for a variety of constituents as a way to achieve water quality improvements at lowered costs. The Policy is premised on the basis that flexibility and economic efficiency will yield greater environmental benefits than traditional regulatory approaches. Water quality trading supposedly allows “one source to *meet its regulatory obligations* by using pollutant reductions created by another source that has lower pollution control costs.”¹⁵ Further, the Water Trading Policy restricts trading to a watershed or Total Maximum Daily Load (TMDL)-defined segment, although there are no stated limitations on the size of the watershed.¹⁶ EPA specifically supports trading in situations, including the following, where trading:¹⁷

- Achieves early reductions and progress towards water quality standards pending development of TMDLS for impaired waters.
- Reduces the costs of TMDL implementation.
- Provides economic incentives for voluntary pollutant reductions.
- Reduces the cost of compliance with water quality based requirements.
- Offsets new or increased discharge to maintain support for designated uses.
- Creates ancillary benefits (*e.g.*, wetland creation).

¹⁵ U.S. EPA, *Water Trading Policy* (January 13, 2003) at 1 (emphasis added), *available at* www.epa.gov/owow/watershed/trading/finalpolicy2003.pdf [hereinafter *Water Trading Policy*].

¹⁶ *Id.* at 4.

¹⁷ *Id.* at 3 and 6.

The Policy does not support trading to comply with existing technology-based effluent limitations.¹⁸

Consistency with the Clean Water Act

Although the Policy states that trading is supposed to be consistent with the CWA and “aligned with and incorporated into core water quality programs” (*e.g.*, watershed plans, water quality standards, the continuing planning process),¹⁹ the CWA does not provide any statutory language to authorize trading.²⁰ In this sense, the CWA is in sharp contrast to the Clean Air Act, which broadly employs trading to reduce emissions as part of several programs. Significant CAA trading programs, however, were written into the Act as explicit statutory authority, including provisions for compliance monitoring and enforcement.²¹ Because the Policy, like the creation of CAA offsets and SO₂ trading, attempts to create an inter-source trading program to achieve environmental gains by significantly changing the permitting system, these changes must occur at the legislative level, and not via guidance.

Congress also apparently recognizes the fact that trading is not currently authorized by the CWA as reflected by a previous attempt to add such authority to the CWA. The Water Quality Act of 1994 to amend the CWA included a number of provisions directed at controlling nonpoint source pollution.²² Specifically, the bill included provisions for enforceable nonpoint source pollution plans and the study of trading programs.²³ At the bill’s introduction sponsor Representative Mineta stated that a provision with a mechanism to authorize pollution trading would be added.²⁴ Ultimately the bill was not enacted, thus leaving the CWA without authorization for such water quality trading.

Mechanisms for Trading

The Water Trading Policy states that trading can legally be accomplished by incorporating trading into water quality management plans, the continuing planning process, watershed plans, water quality standards, TMDLs and NPDES permits.²⁵ Clearly, however, trading cannot be used by an NPDES permittee to achieve its primary technology-based effluent limits, as recognized in the Policy. However, the Policy also states that EPA will consider revising certain effluent limitations to allow such technology-based trading,²⁶ which would undermine the basic

¹⁸ *Id.* at 6.

¹⁹ *Id.* at 4 and 6.

²⁰ Ann Powers, *Reducing Nitrogen Pollution on Long Island Sound: Is There a Place for Pollutant Trading?* 23 Colum. J. Envtl. L. 137, 168 (1998)(hereinafter referred to as *Powers*).

²¹ *Id.* at 162.

²² H.R. 3948, 103d Cong. (1994).

²³ H.R. 3948, 103d Cong. § 314 (1994).

²⁴ 140 Cong. Rec. 353 (1994)(remarks of Rep. Mineta).

²⁵ *Water Trading Policy*, *supra* note 15, at 6.

²⁶ *Id.*

structure of the CWA that Congress created based upon point source effluent controls.²⁷

NPDES permits, in addition to technology limits, must also include water quality-based limits to ensure that ambient water quality standards are not violated.²⁸ The Water Trading Policy identifies trading to meet water quality standards as an instance where trading may occur to *offset an increased discharge*. This sort of trade to meet water quality standards is inconsistent with the CWA and merely moves a pollution problem from one spot to another. Legally a point source cannot violate its water quality standards in exchange for a reduction elsewhere. Allowing a point source to buy credits instead of meeting water quality-based effluent limitations is also a poor policy choice because, by definition, it would allow pollutants to be discharged at levels that would be inconsistent with the designated uses protected by the water quality standards at the point of discharge.

Ironically, these aspects of the Water Trading Policy appear to contradict other provisions of the same document that define a pollution “credit” as reductions greater than those mandated by a regulatory requirement or established by a TMDL.²⁹ Unfortunately, this apparent contradiction can be reconciled if one remembers that TMDLs apply over a far greater area than the water quality standards that are incorporated into individual permits in the form of discharge limits. Even if EPA insists, *as a practical matter*, that trading comply with TMDLs, numerous plant-specific violations of Water Quality Standards could easily occur. Indeed, the new guidance would have little value to industry if it did not produce this outcome.

²⁷ Sen. Rpt. 92-414, at 3675 (Oct. 28, 1971).

²⁸ 33 U.S.C. §1311 (b)(1)(C).

²⁹ *Water Trading Policy*, *supra* note 15, at 5.

Valid Trading Opportunities: TMDLs for Nutrients

EPA trading supporters probably dismiss the complaints of environmentalists on the basis that we have never seen trading that we like. This perception is wrong and allows staff to evade real problems with the Water Trading Policy using a heavily politicized rationale. In meeting after meeting with top EPA officials, national environmentalists repeatedly stated that, while trading to meet permit standards under an NPDES permit is troublesome, TMDLs³⁰ for nutrients provide optimal vehicles for trading to occur. Under TMDLs trading can be limited to circumstances in which there is adequate information on ambient water quality, sources of pollution, current loadings, and the amount of reduction needed to meet water quality standards (i.e. baseline loadings and a declining pollution cap), which are all provided by the TMDL program.

Unfortunately, the Policy allows pre-TMDL trading.³¹ This tactic effectively attempts to circumvent the TMDL process and implement trading without a baseline or cap provided by a TMDL. Trading should be allowed to occur only when there is a TMDL in place and the trading program is consistent with TMDL allocations.

For trading to improve water quality, it must either be limited to point-point trading of reductions exceeding those already required under an NPDES permit (technology and water-quality-based standards) or be done to implement future reductions under a TMDL designed to meet water quality standards. Without a TMDL, EPA cannot allocate a reliable, environmentally sound baseline of initial “credits” are allocated. Trading without a reliable baseline and cap could result in environmental degradation, not environmental improvement. This result could occur, for example, if trading is allowed in a waterbody impaired by both point sources and nonpoint sources, where the point sources trade needed additional reductions with some nonpoint sources, yet other nonpoint sources increase their discharges more than the amount of the trade.

Tradable Constituents: Nutrients versus Toxics³²

According to the Policy:

- Nutrients (TN, TP) and sediments including cross-pollutant trading for oxygen related pollutants are tradable as a matter of course.
- “Other” pollutants (*e.g.*, NH₄, Se) can be traded on a case-by-case basis where prior approval is provided via an NPDES permit, TMDL, or as part of a state/tribal watershed plan or pilot trading project.
- No trading of “persistent bioaccumulative toxics” (PBTs) is supported *unless* it is part of a pilot project to obtain more information about PBT trading.

³⁰ 33 U.S.C. §1313(d)(3).

³¹ *Water Trading Policy*, *supra* note 15, at 5.

³² *Id.* at 4.

Nutrients provide an excellent opportunity for trading because they are a leading cause of water quality impairment and are largely attributable to nonpoint sources of pollution, which are inadequately controlled. However, because many states do not yet have water quality standards for phosphorus and nitrogen, trading to reduce these nutrients should only occur in a TMDL situation where there is good data about baseline conditions and a declining cap can be implemented. Cross-pollutant trading, on the other hand, is extremely complicated, because it makes tracking and monitoring difficult.

As for toxics, needless to say, one person's "pilot project," if replicated often enough, is another person's entire program. It is profoundly disappointing that EPA did not shut the door to these dangerous experiments not just with environmental quality, but with public health. Trading must not apply to toxic pollutants because of the risk to human health aquatic life and the potential to create "hot spots." A hot spot is a localized concentration of pollutants in excess of water quality standards, which could result in fish kills and contamination, adverse human exposure, beach closures, and other impacts on aquatic life. The potential for creating hot spots is particularly troublesome in the case of toxics since the hot spots created today may not dissipate for decades or even centuries to come, but may instead persist in the sediment or increase in the food chain through bioaccumulation and biomagnification.

The Mercury Example: Not Just Water, But Also Air

Mercury, for example, is recognized as a serious threat to human health that poses a threat to children and pregnant women who eat a range of fish.³³ Once mercury is deposited in water, fish absorb it. When humans eat the fish, their bodies take in the poison. At even very low levels, mercury poisoning in pregnant women damages their babies' central nervous system and causes heart, kidney and brain damage. Yet pregnant women are not the only ones at risk. After a yearlong study, a San Francisco physician announced in November 2002 that she had found symptoms of low-level mercury poisoning in dozens of her patients who consumed typical amounts of fish. Symptoms included hair loss, fatigue, depression, difficulty concentrating, and headaches.

In addition, the families of low-income, subsistence fishermen, who rely on daily catch for the protein portion of their diet, are at even greater risk. In 2001, 44 states issued public-health warnings that people should not eat mercury-contaminated fish from local waters. The Great Lakes, the Florida Everglades, and portions of the Chesapeake Bay are afflicted, along with hundreds of other lesser-known water bodies. Provoked by the very severe problems in the Great Lakes, a broad coalition of sportsmen, wildlife groups, and environmentalists has urged EPA to work toward a phase-out of all mercury pollution.

In nine states, fish advisories for mercury extend from inland lakes to coastal waters where tuna and other popular fish are caught. Tuna is the most consumed fish in the country, but

³³ USATODAY, USATODAY.com, Anita Manning, *If you Eat a lot of Fish, you may Run a Health Risk*, <http://usatoday.com/news/health/2002-11-04-fish-1acover_x.htm> (Nov. 4, 2002).

because of concerns about mercury, many experts recommend that pregnant women limit themselves to two small cans per week. As one indication of the extent of this problem, the Senate Environment and Public Works Committee passed legislation in 2002 that bans mercury thermometers—a mere drop in the bucket by comparison to the quantities of mercury that could be traded the Administration is now prepared to let industry pump into the environment.

EPA, in fact, has already funded one mercury pilot project in Sacramento.³⁴ How many more may be in the pipeline is anyone's guess.

To add insult to injury, the Administration's "Clear Skies" initiative would establish a complex credit-swapping scheme by which power plants will be entitled to trade mercury emissions. Most of the mercury that ends up in the water is released first into the air, from smokestacks where large utilities burn coal. The heavy metal particles in the smoke fall down into the water. The President's Clear Skies initiative, supposedly crafted to clean up the air more cheaply, would permit the creation of hot spots with vastly more mercury than the environment can sustain.

For 30 years, the standard approach has been to force plants to put scrubbers on their stacks so that the worst pollution will be removed before it goes into the air and EPA is overdue in promulgating Maximum Achievable Control Technology (MACT) for mercury. But the Bush Administration has decided that this straightforward solution is too costly for the utility industry. Clear Skies permits power plants to trade unused credits with plants up or downwind, even if mercury emissions land where fish are spawned. Worse, high sulfur coal, such as the coal used by the infamous "Big Dirties" in the Midwest, produces more mercury than low sulfur coal, used by the relatively clean power plants in the southwest. There is nothing in the Clear Skies proposal that prohibits trading of mercury credits generated by utilities in the arid southwestern deserts while the Great Lakes, the Everglades, and the Chesapeake Bay become *more* polluted.

Antidegradation

The Water Trading Policy also states that antidegradation review is not required as part of trading programs because EPA does not believe that trading will result in "lower water quality" where trading programs result in a no net increase of pollutants.³⁵ This claim assumes that trades are done by plants in close proximity. However, the Policy permits individual trades between sources at some distance from each other, as long as such sources are located within a watershed, raising the real possibility of a localized pollutant impact that would require an antidegradation analysis.

³⁴ U.S. EPA, Office of Water, Press Release: EPA Releases Innovative Approach to Cleaner Water 11 Pilot Projects Receive More than \$800,000 in Funding, Jan. 13, 2003
<<http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/7f1b0616de4dc2a285256cad006a60a7?OpenDocument>> (last updated Jan. 13, 2003).

³⁵ *Water Trading Policy*, *supra* note 15, at 8.

Enforcement and Monitoring: The Potential for Waste and Fraud

Although the Water Trading Policy lists elements that should be used to ensure a successful state/tribal trading program, there is no requirement that states or tribes include any of these elements. This permissiveness is especially troubling with respect to provisions for enforcement or monitoring.³⁶ For example, the Water Trading Policy recommends that credits should be generated before or at the same time as they are used to comply with a limit, that standardized protocols should be used to account for the uncertainty associated with reduction of nonpoint source (NPS) pollution, and that there should be methods for determining compliance.³⁷ Trading programs, however, are subject to manipulation and fraud and thus demand stringent monitoring and enforcement mechanisms.³⁸ Failed programs to reduce air pollution in Los Angeles by the South Coast Air Quality Management District make this point clear.³⁹ In that case, stationary sources purchased credits, including from vehicle owners to take their old engines off the road, and without adequate monitoring the result was fraud and the creation of volatile organic compound hotspots in minority neighborhoods.⁴⁰ This real life and spectacular failure makes plain that all trades should be governed by a regulation, permit, or other enforceable mechanism with both governmental and citizen enforcement provisions.

The Policy offers some sound ideas – such as consideration of compliance history to determine trading eligibility.⁴¹ But these ideas must be transformed from notions into requirements for a trading program. Additionally, EPA oversight and approval for all trading programs is crucial, but it is a responsibility that is abdicated in the Policy, which states that “EPA does not believe that the development and implementation by states and tribes of trading programs consistent with the provisions of this policy necessarily warrant a higher level of scrutiny under these oversight authorities [NPDES and TMDL] than is appropriate for activities not involving trading.”⁴² On the contrary, continual EPA oversight of any state trading program is important both to the state agency and to those who use state waterbodies.

Compounding the potential for waste and fraud is the fact that the technology necessary to measure pollution reductions at non-point sources is still in its infancy. Consider, for example, a promise by agribusiness to erect a tree buffer to stop run-off from reaching the local water body. It is far more of an art than a science to predict how effective the buffer will be in stopping run-off, especially since meteorology, topology, and geology (*e.g.*, soil type) play such a crucial role

³⁶ *Id.* at 9 and 10.

³⁷ *Id.*

³⁸ Rena Steinzor, Center for Progressive Regulation, Testimony before the House Subcommittee on Water Resources and the Environment of the U.S. House of Representatives regarding Water Quality Trading: An Innovative Approach to Achieving Water Quality Goals on a Watershed Basis. June 13, 2002 [hereinafter *Steinzor Testimony*].

³⁹ Richard Toshiyuki Drury, et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 Duke Envtl. L. & Pol'y. For. 231 (1999).

⁴⁰ *Steinzor Testimony*, *supra* note 38.

⁴¹ *Water Trading Policy*, *supra* note 15, at 10.

⁴² *Id.* at 11.

in those determinations.

For this reason, environmentalists have called for *trading ratios* that would compensate for problems in the methodology of measuring non-point emissions by requiring, for example, two credits from a non-point source to be traded for one credit from a point source. The EPA Policy, however, neither acknowledges these problems nor recommends this kind of solution.

Public Involvement

Public participation is key to environmental programs, and similar to monitoring and enforcement, EPA makes references to public participation and access to information but without any specific requirements.⁴³ If the trade is part of an NPDES permit, the public will have a chance to comment only when the permit including a trading program is issued, but not for each trade. For trades that are not part of an NPDES permit, the opportunity for public involvement is unspecified and the Policy supports public participation and access to information and encourages states and tribes to make information available. There are no requirements, however, for such involvement.

The public must have a seat at the table when developing a trading program. All trading programs involve changes to components of a state water pollution program that require full public review (*e.g.*, the TMDL, the NPDES program, the impaired waters list, etc). The public must be allowed to comment on and object to proposed trades, and should be given adequate information to track trades and their water quality effects. The Policy “encourages” entities to make trading information available to the public, but does not call for public comment on proposed trades or publicly available information on water quality impacts.

Summary

Water quality trading offers promise in solving some of our remaining and intractable water quality problems. It is not, however, the “silver bullet” answer to solve all problems. Each trading program must be tailored to local conditions and based upon a legally defensible background that will support trading consistent with existing legislative authority. To achieve real gains, trading must focus on reducing nutrients in TMDL settings with an enforceable and declining cap against which credits can be measured.

⁴³ *Id.* at 10.