

**Testimony**

before the

**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**

Submitted by  
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**University of Maryland School of Law**

on behalf of the

**Center for Progressive Regulation**

Washington, D.C.  
June 13, 2002

Mr. Chairman and members of the Committee, thank you for the opportunity to appear before you today to testify regarding water quality trading on behalf of the Center for Progressive Regulation. CPR is a newly-created 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.

This Committee deserves much credit for recognizing the importance of the topic you consider today. 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.

As you know, the Environmental Protection Agency (EPA) is formulating guidance for states to use when they consider implementing trading regimes, and the comment period for that proposal ends on July 1, 2002. Given that immediate opportunity, I begin my testimony with advice for EPA as it struggles to define when trading is appropriate under existing law. I will then propose the overarching principles that should guide the design of trading regimes in any context, including the first experiments with market-based approaches under the Clean Water Act.

Federal and state regulators pioneered trading regimes in the context of the Clean Air Act, and the history of those efforts can help us structure their Clean Water Act counterparts. The equally short but checkered history of reinvention initiatives attempted by the last Administration also contains important lessons about the pitfalls of innovative approaches. George Santayana once said that those who forget history are doomed to repeat it. These particular pieces of recent history contain fundamental truths regarding the conditions precedent for successful trading, how trading can produce better pollution control at lower cost, and the circumstances in which trading is likely to fail, leading to significant waste of government and private resources.

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. 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 extraordinary concentrations. Expanding the use of market-based mechanisms to situations where it replaces regulatory requirements without statutory authorization and where it produces localized "hot spots" of pollution that harm human health and the environment will only serve to discredit trading 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 local “hot spots”;

Involve the public in the setting of caps and the operation of the program; and

Rest on a foundation of enforceable commitments.

### **EPA’s Proposed Water Quality Trading Policy**

As I mentioned earlier, EPA’s Office of Water is in the process of collecting public comments on a “Proposed Water Quality Trading Policy” dated April 25, 2002 (Proposed Policy). The Proposed Policy represents a sincere effort to encourage trading initiatives at the state level. It has several desirable features, including requirements that trading regimes be limited to a single watershed and prohibitions on trades as a method for complying with technology-based standards.

Unfortunately, despite these wise limitations on the initial experiments with water quality trading, the Proposed Policy tries too hard to be flexible and open-ended, serving as all things to too many people. This open-ended and vague guidance makes it significantly more likely that water quality trading will suffer the same fate as Project XL and other discredited reinvention initiatives. This outcome would be especially unfortunate because trading holds such promise as tool for breaking the political gridlock that paralyzes our efforts to control pollution from non-point sources.

In brief, the Proposed Policy is flawed because it:

sanctions trading as a method for demonstrating compliance with permit limits based on water quality standards, unnecessarily raising the possibility that such trades will expose permit holders to legal liability;

allows trading of toxic discharges, including trading between different kinds of toxic substances, making it far more difficult to deliver on its promise to prevent hot spots;

fails to mandate a reliable method for calculating discharges from non-point sources, so that allowances can be allocated fairly and then reconciled with those that are traded; and

gives no guidance as to how caps on discharges should be set and decline over time.

All of these outcomes could be avoided if EPA takes to heart the historical lessons of reinvention projects in general and the two most prominent examples of trading initiatives.

## **Reinvention Lessons**

The flagship reinvention program launched by the previous Administration was Project XL (for “eXcellence and leadership”). As initially conceived, the program gave regulated entities an opportunity to propose facility-specific projects that would achieve “superior” environmental performance in exchange for exemptions from specific regulatory requirements.

To make a long and painful story shorter and more digestible, at the behest of an overly anxious White House eager to show that it did not embrace big, lumbering, and ineffective government, EPA made two fatal missteps at the outset of the program. It failed to place clear limits on the kind of exemptions it would entertain, and it never defined the nature and scope of what it meant by superior performance. Industry applicants understandably read the Agency’s open-ended request for Project XL proposals as an invitation to request broad exemptions from the most fundamental regulatory requirements and were encouraged to offer in exchange so-called environmental “improvements” that had little to do with the conduct covered by the exemptions.

The result was that EPA headquarters and regional officials, their counterparts at the state level, and industry representatives became embroiled in seemingly endless wrangling over what was and was not inside the intended scope of the program, what criteria should be used to make decisions about projects, and how project sponsors would be held accountable for delivering on promises of superior performance. The transaction costs of XL projects B that is, the resources that were committed to the negotiation process B ultimately rose far beyond the perceived benefits of the program from industry and some states’ perspective.

It is no small irony that Michigan -- the state that has contributed key personnel to the current efforts to develop a water quality trading program B was one of the first to walk away from Project XL, declaring that EPA had bungled the job of designing a program that would work on the front lines, where implementation and enforcement decisions are made. Michigan’s environmental protection officials undoubtedly have their own versions of why Project XL failed, which may differ from my analysis. The one lesson we should all have taken away from this debacle is that crafting a broad, open-ended, “consider-all-comers” approach, especially one that involves exemptions to existing legal requirements, triggers sufficient controversy to cripple such initiatives.

The history of reinvention projects also teaches us that such approaches work best when they rest on a sturdy platform of existing legal requirements, including comprehensive monitoring that makes it possible to track their effects on the actual condition of the ambient environment and baseline standards that prevent pollution spikes from doing grave harm in the immediate vicinity of the source that purchases additional allowances.

For example, the acid rain program established by Title IV of the 1990 Clean Air Act Amendments is the crown jewel of successful trading systems, reducing emissions as promised, across-the-board. The original cap on total emissions possibly could have been set lower, and the program did not deal with the serious problem of nitrogen oxide pollution, but neither of those flaws is fairly attributable to the fundamental design of the program.

The acid rain program is applauded widely because it broke the political gridlock that had stymied efforts to address sulfur dioxide pollution and a comprehensive reauthorization of the Clean Air Act -- for many years. By allowing mid-western utilities and high sulfur coal producers to operate without assuming punishing compliance costs, it turned the prospect of controlling such emissions into a far more manageable negotiation over initial allowance allocations, a task Congress could accomplish relatively easily. Trading has the same potential to break the political gridlock that has frustrated efforts to draw non-point sources into the ambit of the Clean Water Act and, from that perspective, is well worth pursuing.

One central reason for the environmental success of the acid rain trading scheme is that existing permit limits continue to apply to individual sources, serving as a safety net for the environment by preventing emissions from any single source to spike to dangerous levels. Further, by its nature, sulfur dioxide does not have irreversible local effects except at unusually high levels, making it possible to implement reductions on a regional or national scale.

Another, equally important reason for the success of the acid rain program is the ease of estimating the amount of emissions from a given power plant by using fairly precise "fuel factors." That is, if a plant burns a certain type of fuel with a known sulfur content at an ascertainable rate of combustion, it will produce a level of emissions calculable with accuracy. This crucial attribute of power plant operation ensures that we have a sound basis for allocating allowances, tracking trades, and reconciling the two numbers. It is a condition precedent that is too often overlooked by trading enthusiasts, and the difficulty of duplicating such calculations in the area of non-point source pollution is a major problem for the implementation of trading schemes in that context.

As successful as the acid rain trading program has proven to be, the other prominent example of trading -- this time on a regional level -- has been a spectacular failure. In the mid-1990s, the South Coast Air Quality Management District (SCAQMD) decided to grapple with smog in southern California by implementing two ambitious trading programs: RECLAIM, which allowed utilities and other major stationary sources to trade SO<sub>2</sub> and NO<sub>x</sub> credits, and the Rule 1610 "Car Scrapping" program, which allowed operators of large stationary sources to buy their way out of compliance with Clean Air Act controls by paying owners of old, dirty cars to take them off the road. Both programs failed to produce promised environmental improvements and created egregious hot spots in predominantly minority areas. In the case of the car scrapping program, these outcomes were compounded by widespread fraud.

In hindsight, the RECLAIM program was doomed to failure by a cap that was so high that in the first three years of the program that it produced barely discernible pollution reductions. As a result of this fundamental error in design, allowances were so plentiful and so cheap that none of the participating power plants had the incentive to install pollution control devices. In large measure, this problem was caused by basing allocations of credits on allowable -- as opposed to actual -- emissions. In many areas of the country, actual emissions are significantly lower than the emissions levels allowed in a stationary source's permit.

The RECLAIM cap was designed to decline, and everyone, including power plant operators, was aware of that reality. Regardless, lacking any short-term economic incentive, utilities took the easy way out: buying allowances as opposed to installing pollution control equipment to curb emissions. In the spring of 2001, calamity struck as a scarcity of allowances drove the price of NOx allowances up as high as \$100,000/ton and utilities could not install pollution control equipment in time to generate the allowances they needed to continue to operate. SCAQMD hastily pulled utilities from the system, giving them a three-year grace period to return to compliance with traditional permitting requirements.

SCAQMD's Rule 1610 car scrapping program was based on a similarly unstable foundation. The program allowed stationary sources to pay individual vehicle owners about \$600/car to take old engines with poor on-board emissions control off the road. Stationary sources were allowed to purchase these credits without any method for monitoring the resulting concentrations of pollutants B or hot spots -- that are inevitable when emissions produced by vehicles scattered across a wide area are suddenly concentrated in fixed locations. Four marine terminals located in neighborhoods with 65% minority populations bought a large share of the available credits, and were then authorized to emit levels of volatile organic compounds that were considerably higher than ambient air quality standards. To add insult to injury, SCAQMD auditors discovered rampant fraud in the purchase of the old vehicles, whose owners were paid approximately \$600 each on the assumption that the polluting engines would be taken off the road when, in fact, scrap dealers transferred them into other vehicles that kept on running.

For an excellent explanation of all these developments, see Richard Toshiyuki Drury, et al, *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 Duke Envtl. L. & Pol'cy For. 231 (Spring, 1999).

### **Problems with Clean Water Trading**

The history of the acid rain and southern California programs should teach us that the three crucial components of successful trading regimes include appropriately low and declining caps; a reliable method for calculating initial emissions allocations and reconciling them with subsequent trades; and comprehensive monitoring to detect and correct hot spots. Unfortunately, the federal and state programs that implement the Clean Water Act do not yet provide these conditions precedent for successful trading initiatives. Until and unless these deficiencies are corrected, trading programs will rest on unstable foundations and be prey to waste, fraud, and abuse.

## **Unreliable Methodologies for Estimating Discharges**

Although progress has been made -- especially in the Netherlands -- in estimating the amount of nutrients that are produced by disparate farming operations, these threshold methodologies remain far more of an art than a science. Because we are hard-pressed to calculate the overall amount of discharges produced *without controls*, we have great difficulty *estimating the reductions that can be achieved using various "best management practices,"* such as building lagoons for animal waste and planting trees and other vegetation to prevent erosion. Until and unless we develop more reliable methodologies to count the amount of discharges, allocate allowances, and reconcile allocations with subsequent trading, such programs will be difficult to implement. The research necessary to develop such methodologies must be a top priority for EPA, the states, and large agricultural entities.

## **Insufficient Monitoring**

EPA's 1998 Report to Congress entitled *The Quality of Our Nation's Waters* indicates that between them, states, territories, tribes, and interstate commissions have assessed **only 23 percent** of the nation's 3.6 million miles of rivers and streams, rating 55 percent "good," 10 percent "good" but threatened," and 35 percent "impaired." States and other jurisdictions assessed **42 percent** of the nation's 41.6 million acres of lakes, reservoirs, and ponds, reporting that 46 percent are rated good; 9 percent good but threatened; and 45 percent impaired. According to the Agency, the scope of monitoring had increased only "slightly" since the previous 1996 Report.

Equally as discouraging, the General Accounting Office studied state sampling programs and discovered that such programs fail to follow consistent procedures that would make sampling statistically valid. In other words, states and other local authorities assess a minority of waterbodies -- in the case of rivers, about one-fifth -- without giving us any reason for confidence that the sampling correctly reflects the conditions of those bodies of water, much less the large majority that are never assessed.

## **Inadequate Water Quality Standards**

As for the minimal standards necessary to ensure that pollution does not rise above acceptable levels in any particular area, this Committee is well aware of the long delays that have stymied state efforts to establish the water quality criteria and total maximum daily loads, both of which are required by the Act in areas where permits based on technology-based standards have not been enough to maintain water quality. EPA estimates that more than 40,000 TMDLs remain to be established for the 20,000 bodies of water across America that are identified as impaired to the point that a TMDL is legally required, including more than 300,000 river and shoreline miles, and five million acres of lakes and other surface waters.

EPA has withdrawn a long-overdue rule promulgated at the end of the Clinton Administration that would hasten progress on this monumental task. We can only hope that rule will be liberated soon so that the states have the impetus they so badly need to get this job done.

In the absence of such standards, it will be difficult, and arguably impossible, for federal and state

regulators to determine when hot spots of toxic chemicals pose the threat of irreversible harm to water quality. Until and unless there are enough water quality standards and TMDLs to serve as a floor for trading programs, EPA, the states, and tribes should resist the temptation to employ trading as a solution to toxic water pollution.

### **Is Trading Legal?**

One final aspect of the current environment for trading regimes deserves mention before considering the principles that must determine the design of such systems. I mentioned earlier that some might disagree with my diagnosis of the failures of recent reinvention efforts, but that most observers would probably agree with my conclusion that excessive controversy brought Project XL and similar initiatives to their knees. According to many commentators who have conducted post-mortems on these projects, the lack of statutory authority for the regulatory exemptions that served as the central incentive for industry to participate exposed companies to the threat that citizen suits would be brought despite EPA's endorsement of their use of alternative compliance measures.

Precisely the same problem is present in the water quality trading arena. EPA suggests that trading to meet statutorily-mandated water quality standards can be made legal under the statute merely by placing provisions in individual permits that authorize trades as a compliance methodology. However, there is no provision in the Clean Water Act that contemplates a point source buying what in effect amounts to displaced compliance from another source. The legal risks of continuing to operate under an NPDES permit when one's discharges exceed permit limits and/or regulatory standards are likely to prove unacceptable to responsible companies.

### **The Promise of Nutrient Trading**

Until and unless the Clean Water Act is reauthorized to sanction trading, EPA, the states, and affected industries would be best served by trading programs that focus on reductions that clearly must be accomplished to achieve acceptable water quality, but are not now subject to binding and specific regulatory requirements. Nutrient reductions made in anticipation of, or pursuant to the establishment of, a TMDL for impaired waterbodies provide the best, most promising arena for water quality trading regimes. Trading initiatives should focus on the control of nutrients in the relatively short-term (5-10 years from the present). EPA should foster experiments in trading between point and non-point sources.

### **Designing a Sound Water Quality Trading Program**

Six core principles must inform the design of trading regimes:

***First and foremost, trading must “do no harm.” Trading should not result in an increase in actual -- as opposed to permitted -- levels of pollution.***

As I explained earlier, stationary and point sources typically achieve reductions in their emissions or discharges below the levels by their permit limits. The phenomenon of actual discharges that are substantially lower than permitted discharges is especially common when a lack of resources to implement a regulatory program results in large numbers of expired permits

incorporating limits based on outmoded technologies. The Clean Water Act National Pollutant Discharge Elimination System (NPDES) is the most prominent example of the expired permit problem, with the last two Administrations struggling to get such mismanagement under control.

EPA's Water Quality Trading Principles should be revised to state that the Agency will not approve any state program that allows local or overall levels of discharges that exceed the actual levels measured before the program is implemented.

***Second, all trading schemes should function under a firm cap on total emissions or discharges, based on reliable data about the level of actual releases at the time that trading is initiated. Caps should be set at levels low enough to compel innovation in pollution control by creating adequate scarcity of marketable allowances to ensure that trading remains economically attractive. Caps must decline steadily over time in order to achieve continuous environmental improvement.***

The major federal environmental statutes have as their central mission the achievement of steady progress toward reducing pollution. Any system that substitutes trading for those requirements without establishing a mechanism for consistent improvement is unacceptable.

So-called "open market trading" in the absence of a fixed and declining cap not only would fail to achieve environmental benefits, it would make trading regimes vulnerable to the waste, fraud, and abuse that caused the failure of southern California's Rule 1610 Car Scrapping program.

***Third, once a cap is set, individual sources should be allocated allowances on the basis of typical production levels. Such baselines for allowance allocations should be based on concrete and reliable information about actual emissions, either from monitoring or other similarly accurate technical methodologies.***

Trading systems work best when covered sources are allocated allowances on the basis of reliable data concerning their past performance. For example, the acid rain program chose a given "baseline year" and awarded allowances to power plants on the basis of their measured emissions during that year. Some adjustments were made to avoid prejudice to sources that had an anomalous production schedule during the baseline year and generated far less emissions than they would under normal operating conditions.

In the absence of reliable methodologies that accurately predict current and future emissions or discharges, allowance allocations can produce inequities among sources and, even worse, sham transactions based on allocations that do not conform to the overall cap used by the system.

As I explained at some length earlier, finding more reliable methodologies for calculating discharges from non-point sources must be the top priority for federal, state, and tribal regulators, as well as for the agricultural and other entities that produce the bulk of such pollution.

***Fourth, trading regimes must prohibit and prevent the creation of hot spots that harm human health and the environment, especially in already overburdened communities. The most reliable way to accomplish this all-important principle is to prohibit trading of toxic emissions or discharge.***

A central industry incentive for participating in a trading program is the ability to operate in areas that are so heavily polluted that new or expanded facilities would otherwise be prohibited. But we have done such a bad job of distributing the burdens of pollution that trading could amplify existing imbalances beyond tolerance. As the southern California experience indicates, unrestricted trading of toxic pollutants has the potential to wreak havoc on individual neighborhoods by allowing sources to concentrate emissions or discharges through the purchase of allowances from sources in other locations.

In the absence of continuous monitoring, federal and state regulators have no way to ascertain the nature, scope, and degree of risk posed by such hot spots, much less to prevent them from occurring. Even when there is continuous monitoring, the absence of a water quality standard based on an evaluation of what pollution load a given waterbody can sustain, trading could produce hot spots with irreversible negative consequences.

***Fifth, industries that will reap the benefits of trading programs in the form of reduced compliance costs should bear the expense of implementing such programs.***

EPA and its state counterparts are plagued by increasing gaps between the resources they need to fulfill their statutory mandates and the resources they receive from legislatures facing their own shortfalls. Unless trading regimes are founded on the principle that industries should pay for their implementation, the temptation to cut corners in such crucial areas as monitoring or modeling could easily prove irresistible.

***Sixth, trading programs should include a mandatory reevaluation of their performance at set intervals so that problems with design and implementation can be addressed.***

The National Academy of Public Administration is in the forefront of those urging EPA and state and tribal governments to build assessment tools into new programs, and this basic aspect of sound management is especially important with innovative reinvention programs.

## **Conclusion**

Trading may well be a silver bullet for discrete environmental problems -- most notably the political gridlock that has paralyzed efforts to bring non-point sources under the ambit of pollution control requirements. But it is not a cost-free alternative to the considerable resources that must be committed to enhanced monitoring and progress in setting water quality standards. Pretending that trading regimes can solve those problems by offering cheap, painless, and rapid pollution control

will only serve to set trading regimes up for an inevitable fall and delay the hard work needed to improve the system overall.

EPA should focus its initial efforts on encouraging states to establish systems for nutrient trading between regulated and unregulated sources as a way to restore the fragile hold many waterbodies have on ecological sustainability and make a head start on the inevitable reductions that will be mandated by TMDLs. Applying trading indiscriminately will only discredit it as a method for reinventing environmental regulation, and could potentially cause irreversible damage to health and the environment. Trading regimes should do no harm, incorporate firm and declining caps, allocate allowances on the basis of an equitable baseline, prohibit and prevent hot spots, and require that industries reaping the benefits of reduced compliance costs provide the resources for their successful implementation.

**Attachments:**

Disclosure Statement for Rena I. Steinzor and the Center for Progressive Regulation  
Curriculum Vitae for Rena I. Steinzor

June 13, 2002

**Disclosure Statement  
for  
Rena I. Steinzor  
and the  
Center for Progressive Regulation**

Neither Rena I. Steinzor nor the Center for Progressive Regulation has received either a Federal grant or a Federal contract in any amount within the last two fiscal years.

June 10, 2002

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**EMPLOYMENT**

**ACADEMIC**

**July 2001 to July 2002 (sabbatical year):**

**Academic Fellow, Natural Resources Defense Council (NRDC)**

Fellow in residence to assist NRDC in responding to proposals to reinvent environmental regulation, from the increased consideration of Asound@ science in agency decision-making, to the substitution of Acap and trade@ systems for traditional pollution controls.

**January 1994 to the present:**

**Professor of Law, University of Maryland Law School.**

Tenured full professor responsible for teaching traditional courses (environmental law and science, an environmental survey course, and first-year torts) and supervising an environmental clinic that is part of a program in environmental law ranked among the top ten in the nation by *U.S. News & World Report*. The Clinic, which typically enrolls 12-15 student attorneys in both the fall and spring semesters, represents clients in the litigation, legislative, and regulatory arenas.

The Clinic provides legal counsel to Senator Brian Frosh, Chairman of the Maryland Senate Environment Subcommittee, with respect to a broad range of legislative issues, including a voluntary cleanup program designed to encourage redevelopment of brownfields; control of nutrient loading that contributes to outbreaks of *pfisteria piscicida* in the Chesapeake Bay; reform of penalties for environmental crimes; deregulation of the utility industry; and establishment of performance-based “indicators” to assess environmental quality statewide.

The Clinic serves as counsel to citizens’ groups with a wide range of legal problems, from the threat of chemical accidents, to the cleanup of a Superfund site, to the siting of a landfill in a wilderness park, to the unsafe operation of a nuclear facility. Most of these groups belong to the Cleanup Coalition, an umbrella organization that monitors environmental compliance and enforcement, which the Clinic serves as general counsel.

The Clinic also represents 1000 Friends of Maryland, a grassroots environmental group formed to advocate “smart growth,” in its effort to ensure that transportation planning in the Baltimore metropolitan area complies with the Clean Air Act. In 2000-2001, the Clinic represented 1000 Friends of Maryland in a case before the Fourth Circuit Court of Appeals challenging EPA’s approval of a motor vehicle emissions budget for Baltimore, which is categorized as a “severe” non-attainment area, one of only ten cities in the country with that designation.

In 1997-98, the Clinic appeared before the U.S. Court of Appeals for the D.C. Circuit to argue a case challenging a U.S. Environmental Protection Agency (EPA) rule that defined when military munitions become federally regulated hazardous wastes on behalf of the Military Toxics Project, a coalition of citizens' groups organized around military bases from Hawaii to Maine. In 1999-2000, the Clinic intervened before the same Court on behalf of the State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO) in a case challenging EPA rules that would control volatile organic compound emissions from paints and consumer products. The Intervenors supported the rules. Student attorneys have also tried cases in Maryland courts on behalf of individual clients concerned about the poisoning of their children by lead paint in residential rental housing.

The Clinic drafted regulatory comments on behalf of STAPPA/ALAPCO with respect to EPA’s proposed guidance on the use of economic incentives as substitutes for traditional regulation. In past years, the Clinic has provided special environmental counsel to environmental attorneys working for Maryland's county governments with respect to the transfer of property to the counties under the Base Realignment and Closure Act.

Lastly, the Clinic has a classroom component that emphasizes the development of practical legal skills (with a special emphasis on ethics, client counseling, and negotiation) and a working knowledge of basic environmental law in such areas as civil and criminal enforcement, liability for hazardous substances, and the permitting of major facilities. Each spring, students enrolled in the Environmental and Criminal Defense Clinics try a mock criminal case involving violations of the Clean Water Act before a jury of undergraduate students from Goucher College.

#### **1996-1998:**

#### **Project Manager, Development of a Curriculum to Teach Scientific Principles Involved in Risk Assessment to Lay Environmental Professionals.**

The curriculum was developed under a \$140,000 grant from EPA, in collaboration with Dr. Linda Greer, a senior environmental toxicologist at the Natural Resources Defense Council. Its purpose is to teach science to lay people active in environmental decisionmaking by considering scientific principles in a context informed by the legal and policy issues that science is required to resolve. It is designed to offer 30 hours of instruction and consists of nine lectures covering (1) chemicals in the environment; (2) chemical fate and transport; (3) assessing chemical releases; (4) fate and transport models; (5) consequence assessment through toxicology; (6) consequence assessment through epidemiology; (7) consequence assessment through ecotoxicology; (8) risk assessment; and (9) pollution control. Each lecture culminates with a class exercise that applies the scientific concepts learned in each lecture to a single, recurring scenario involving the remediation of a brownfields site.

The curriculum was completed in September 30, 1997. It has been offered to law students at the University of Maryland in the fall semesters of 1998 and 1999.

**1998-1999:**

**Consultant, U.S. EPA Title VI Implementation Advisory Committee.** Author of a report explaining the deliberations of this subcommittee of “stakeholders” concerned about the application of federal prohibitions on discrimination to environmental permitting decisions.

**PRACTICE**

**1987 to 1994:**

**Partner (1989 to 1994) and of counsel (1987 to 1989, and 1994), Spiegel and McDiarmid, Washington, D.C.**

Partner in charge of the environmental practice for a 45-lawyer firm representing approximately 400 cities, counties, states, and public agencies in the energy, environmental, communications, and transportation fields. The practice counseled federal, state, and municipal clients regarding compliance with federal and state laws and regulations and represented them in resolving federal enforcement actions, as well as cases alleging their liability under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund).

Lead counsel to American Communities for Cleanup Equity, a national coalition of local governments organized to lobby for reform of federal laws imposing liability for the disposal of municipal solid waste. Co-counsel to the Alliance of Responsible Energy Systems for Energy Access, a nationwide coalition of publicly-owned electric systems formed to lobby Congress and intervene before EPA concerning the acid rain provisions of the 1990 Clean Air Act Amendments. Co-counsel to the Transmission Access Policy Study Group, a nationwide coalition of consumer-owned utilities, and consumer and environmental groups formed to lobby Congress regarding the transmission access provisions of the Energy Policy Act of 1992.

Legal advisor to the National League of Cities regarding legislation to control emissions from municipal incinerators and resource recovery facilities and the EPA Superfund Municipal Settlement Taskforce. Project manager for the *Environmental Compliance Manual* for electric utilities published by the American Public Power Association. Designed and taught a comprehensive, quarterly environmental compliance course offered on 30 occasions to several hundred municipal officials across the country.

**1983 to 1987:**

**Staff Counsel, Subcommittee on Commerce, Transportation, and Tourism of the Energy and Commerce Committee, U.S. House of Representatives (James J. Florio, Chairman).**

Primary staff person responsible for legislation that became the Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499) and the Asbestos Hazard Emergency Response

Act (Public Law 99-519). Also prepared legislation to reauthorize the Toxic Substances Control Act during the 98th Congress. Responsibilities included drafting bills, Committee reports, other legislative history, and legal and policy memoranda; advising the Subcommittee chairman and other members during Committee mark-ups, floor debate, and Conference deliberations; staffing legislative and oversight hearings; speechwriting and press relations.

**1979 to 1983:**

**Attorney Advisor to Commissioner Patricia P. Bailey, Federal Trade Commission.**

Senior legal advisor to the Commissioner concerning consumer protection matters including the issuance of complaints, acceptance of consent agreements, and the disposition of trade regulation rules. Drafted opinions resolving administrative litigation. Served as legislative liaison during congressional consideration of bills to eliminate the FTC's antitrust jurisdiction over the medical professions; legislative veto of the Used Car Rule; and oversight of the FTC's implementation of its consumer protection authority.

**1979:**

**Assistant to the Director, Albert H. Kramer, Bureau of Consumer Protection, Federal Trade Commission.**

Assisted the bureau director in supervising the work of staff attorneys and formulating recommendations to the Commission concerning trade regulation rules and enforcement cases. Areas of expertise included credit practices, appliance labeling, funeral industry practices, and advertising practices. Served as legislative liaison during congressional oversight of the FTC's implementation of its consumer protection authority.

**1976 to 1979:**

**Staff Attorney, Division of Credit Practices, Bureau of Consumer Protection, Federal Trade Commission.**

Enforcement attorney in cases involving credit and insurance industry members' practices covered by the Federal Trade Commission Act, the Truth in Lending Act, the Equal Credit Opportunity Act, and the Fair Credit Reporting Act.

**NON-LEGAL**

**1971 to 1973:**

**Editorial Assistant to the Editorial Page Editor, James A. Wechsler, The New York Post.**

Edited the daily letters to the editor column and researched Mr. Wechsler's daily opinion column.

**EDUCATION**

Columbia Law School, New York City, New York  
J.D. received in May 1976  
Harlan Fiske Stone Scholar 1974-76

University of Wisconsin, Madison, Wisconsin  
B.A. in European history, with honors, June 1971

### **ADMITTED TO PRACTICE**

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### **SERVICE**

#### **2002:**

Board Member, Center for Progressive Regulation

#### **1999 to 2001:**

Chairman, Curriculum Committee, University of Maryland Law School.

#### **1998 to April 2001:**

Member, Steering Committee, District of Columbia Bar, Section on Energy, Natural Resources, and the Environment.

Member, Environment Section Steering Committee, American Association of Law Schools.

#### **1994 to 1999:**

Member, University of Maryland Law School Appointments Committee.

## RECENT PUBLICATIONS BY RENA STEINZOR

*Bad Science*, ENVTL. FORUM 28 (Jan./Feb. 2002).

*EPA and Its Sisters at Thirty: Devolution, Revolution, or Reform?*, 31 ENVTL. L. REP. 11086 (2001).

*Myths of the Reinvented State*, 29 CAPITAL U. L. REV. 223 (2001).

*The Corruption of Civic Environmentalism*, 30 ENVTL. L. REP. 10,909 (2000).

*Devolution and the Public Health*, 24 HARV. ENVTL. L. REV. 351 (2000).

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