

The Shadow of the Rational Polluter: Rethinking the Role of Rational Actor Models in Environmental Law

David B. Spence†

The modern American environmental regulatory system is founded on the assumption that business firms are rational polluters: that the rational pursuit of their self interest guides both their compliance decisions and their participation in the political process. This traditional view of firms implies that environmental regulators must deter pollution through the imposition of fines and penalties, and must deter capture and subversion of the regulatory process through the use of prescriptive and proscriptive rules. Critics of this traditional view claim that the regulatory system is unnecessarily complex, making compliance difficult, and unnecessarily punitive, since most firms try to comply and most noncompliance is unintentional. This article examines this debate between proponents of the traditional view and proponents of the complexity critique, a debate that lies at the root of ongoing controversies over civil enforcement, citizen suit standing, mens rea standards in environmental criminal prosecutions, environmental auditing policy, and EPA's experiments with collaborative regulation. While there is evidence to support both, it seems clear from a

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† David B. Spence, J.D., Ph.D., is Assistant Professor, Legal and Regulatory Environment of Business, University of Texas Graduate School of Business. The author would like to thank Jon Cannon, Daniel Esty, Dennis Hirsch, Nancy King, Rena Steinzor, Dick Stewart, and the participants of the April 2000 Symposium on the Second Generation of Environmental Policy, Columbus, Ohio for their comments on earlier versions of this manuscript.

review of the evidence that, for heavily regulated firms, the complexity critique is right much of the time. That is, the compliance task is often unreasonably difficult, and much noncompliance results from misunderstanding of or ambiguity surrounding environmental rules. The latter part of this article reviews the implications of that finding for the ongoing policy and doctrinal disputes listed above and discusses how failure to recognize those implications could threaten the long-term legitimacy and effectiveness of the regulatory system as a whole.

No government can be maintained without the principle of fear as well as duty. Good men will obey the last, but bad ones the former only.

Thomas Jefferson to John Wayles Eppes, 1814¹

Laws too gentle are seldom obeyed; too severe, seldom executed.
Benjamin Franklin, Poor Richard's Almanack, 1756²

Most central doctrinal and policy debates in American environmental law are, at their core, disagreements over how best to strike the balance to which Jefferson and Franklin refer. Fundamentally, many of these debates rest on disagreements over a single empirical question: what motivates firms in their interactions with the environmental regulatory system?³ In other words, what motivates them to obey or violate the law, and what motivates their participation in the policy process? The traditional view holds that firms are rational and self-interested economic and political actors, and rational pursuit of their self-interest guides both their compliance decisions and their attempts to influence policy. To induce compliance, then, environmental enforcement must aim to deter violations through the imposition of penalties; likewise, to prevent firms from capturing the regulatory process, regulation must rely on prescriptive rules and eschew ad hoc policy-making methods.

Reformers, on the other hand, challenge the traditional view. They look at that same deterrence-and rule-based environmental regime and see a complex, "ossified" system that often makes compliance difficult and impractical, and conclude that noncompliance with environmental regulation is often inadvertent. For these reasons, reformers advocate a more cooperative and collaborative, and less adversarial and punitive, regulatory process. The conflict between these two views casts a long shadow over

1. Letter from Thomas Jefferson to John Wayles Eppes (June 24, 1813), reprinted in T. JEFFERSON, AUTOBIOGRAPHY, NOTES ON THE STATE VIRGINIA, PUBLIC AND PRIVATE PAPERS, ADDRESSES, LETTERS 1285 (1984).

2. See <http://www.quoteproject.com/subject.asp?subject=60> (last visited April 13, 2001).

3. See *infra* Part III.

American environmental regulation. But which view is right? And what are the risks associated with being wrong?

The purpose of this Article is to explore these two questions. Part I outlines the traditional view and its deep roots in our legal system, while Part II explores the critique of the traditional view. Both sections trace the numerous and sometimes elusive connections between current policy debates in environmental law and their common root—the question of the validity of the rational polluter model. Part III summarizes contemporary thinking and evidence on this question from legal and social science scholarship, and concludes that the traditional view fails to explain the behavior of many regulated firms. Because complying with environmental rules is often prohibitively difficult, a significant percentage of noncompliance is neither intentional nor reckless. Therefore, when regulators recognize and respond to that fact,⁴ they may do so for reasons unrelated to their “capture” by powerful regulated interests. Part IV argues that over-reliance on the rational polluter model poses a long-term risk to the legitimacy of the American regulatory system by undermining popular support for the system and incentives for voluntary compliance. Therefore, regulators can and should approach the task of maximizing compliance differently, and recent experiments by the Environmental Protection Agency (“EPA”) with collaborative approaches to regulation are a small step in the right direction. The concluding Part suggests that because the EPA is engaged in an ongoing internal struggle over this issue, environmental regulation can travel either of two future paths, depending upon the degree to which the regulatory system’s approach to regulated firms accurately reflects those firms’ motives. One possible path is a convergence path, in which regulators and the regulated locate and occupy more and more common ground. The other is a divergence path, in which an unnecessarily rigid and punitive regulatory system undermines its own legitimacy in the eyes of the regulated, producing even more resistance and adversarialism.

I

THE RATIONAL POLLUTER MODEL

A. *The Economic Actor*

If there is a foundation on which the traditional American environmental regulatory structure sits, it is the idea of the firm as a rational polluter. The rational polluter as economic actor seeks to maximize its own pecuniary self-interest, and understands the payoffs associated with different courses of action. In order to maximize profit, the rational polluter will

4. Much of this Article describes the variety of ways regulators may “respond” to this fact. See *infra* Part II.B (detailing the ways in which regulators may employ less heavy-handed approaches to enforcement of regulatory standards).

shift as many costs as possible to society; one way it does so is by discharging its wastes into the environment.⁵ Even though the rational polluter may prefer a clean environment to a dirty one, it is individually rational for each polluter to continue to pollute. Of course, this is the central lesson of Garrett Hardin's "tragedy of the commons,"⁶ the prisoner's dilemma from game theory,⁷ Paul Samuelson's analysis of public goods,⁸ Pigou's analysis of externalities,⁹ and countless other rational actor models of firm behavior. These analyses form the backbone of our environmental regulatory system because they provide a logical justification for government regulation by warning us that rational polluters will pollute unless deterred by some sort of "coercion."¹⁰

The designers of the modern American environmental regulatory regime have heeded this warning. For example, the civil enforcement provisions of the major pollution control statutes follow the rational polluter model of enforcement by assuming that prospective violators of environmental laws make compliance decisions using an expected value calculation, as follows:

$$E(NC) = [S-pF]$$

where $E(NC)$ = the expected value of noncompliance,

S = the economic benefit (or savings) associated with noncompliance, such as the money saved by taking fewer steps to minimize pollution, failing to monitor, or failing to report as required by law,

pF = the expected costs of noncompliance, since

p = the probability that a violation will be detected,

and

F = the expected penalty (or fine) imposed if detected.

5. Most environmental economics texts frame pollution problems in this way. E.g., JOHN GOWDY & SABINE O'HARA, *ECONOMIC THEORY FOR ENVIRONMENTALISTS* 104-07 (1995); DAVID W. PEARCE & R. KERRY TURNER, *ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT* 61-67 (1990); THOMAS H. TIETENBERG, *ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS* 52-54 (3d ed. 1992).

6. Garrett Hardin, *The Tragedy of the Commons*, 162 *SCI.* 1243, 1244 (1968) (explaining how it is individually rational for herdsman using a common grazing area to continue to increase the size of their herds to the point where the common grazing area is depleted and ruined).

7. For a description of the relationship between the prisoner's dilemma and modern environmental regulation, see David B. Spence, *Paradox Lost: Logic, Morality, and the Foundations of Environmental Law in the 21st Century*, 20 *COLUM. J. ENVTL. L.* 145 (1995) [hereinafter Spence, *Paradox Lost*].

8. Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 *REV. ECON. & STAT.* 387 (1954) (analyzing the inability of the market to provide public goods at socially desired levels).

9. ARTHUR C. PIGOU, *THE ECONOMICS OF WELFARE* 185-226 (AMS Press 1978) (1920). Pigou is commonly credited with providing the first argument in favor of pollution taxes to force polluters to "internalize" pollution costs they would otherwise shift to society.

10. This is Hardin's term. Hardin, *supra* note 6, at 1247.

If the expected value of noncompliance is negative, we expect the rational polluter to comply with the law; if it is positive, we expect the rational polluter to violate the law.

Using this rational polluter model of firm behavior, the Clean Air Act ("CAA"), the Clean Water Act ("CWA"), and the Resource Conservation and Recovery Act ("RCRA") set civil penalties at high levels, typically \$25,000 per violation. Each day of noncompliance constitutes a separate violation in most instances.¹¹ The statutes also (i) make use of extensive self-monitoring and reporting requirements, which are designed to increase the probability of detecting violations;¹² and (ii) specify that in assessing civil penalties, both the economic benefit of the noncomplying activity to the violator and the seriousness of the offense should be taken into consideration.¹³ The statutes are designed to maximize the likelihood that the expected value of noncompliance will be negative by making noncompliance as expensive as possible.

The EPA's enforcement policies and practices embrace the rational actor theory of firm behavior. The agency's penalty policies state that the EPA will not settle a case for an amount less than the economic benefit of noncompliance,¹⁴ and authorize assessment of penalties at amounts many times the economic benefit to the violator based upon the seriousness of the violation and the risk of harm it poses (the so-called gravity component of the penalty).¹⁵ Equally important is the EPA's stated intention of trying

11. Resource Conservation and Recovery Act, 33 U.S.C. §1319(d) (Supp. 2000); 42 U.S.C. § 6928(g) (Supp. 2000); Clean Air Act, 42 U.S.C. § 7413(b) (Supp. 2000).

12. For example, self-monitoring requirements are found in the Clean Water Act, 33 U.S.C. § 1314 (Supp. 2000) (requiring the establishment and use of monitoring and reporting systems by permittees).

13. Congress left it to the agency to define "seriousness of the offense." See the discussion of the EPA's penalty policies, *infra* note 15, for more on this issue. See also Clean Water Act, 33 U.S.C. § 1319(d) (Supp. 2000) (requiring that assessment of civil penalties include "the seriousness of the violation" and "the economic benefit (if any) resulting from the violation"); Clean Air Act, 42 U.S.C. § 7413(e) (1997) (requiring that the assessment of civil penalties consider, among other factors, "the economic benefit of noncompliance, and the seriousness of the violation").

14. See Clean Air Act Stationary Source Civil Penalty Policy [hereinafter CAA Policy], § II.A.3, available at <http://es.epa.gov/oeca/ore/aed/comp/acomp.html> (explaining that "it is general Agency policy not to adjust or mitigate" the economic benefit component of civil penalties); Interim Clean Water Act Settlement Penalty Policy 3 (1995) [hereinafter CWA Policy], available at <http://es.epa.gov/oeca/ore/water/cwapol.pdf> (specifying that "penalties should be large enough to deter noncompliance" and every effort "should be made to calculate and recover the economic benefit of noncompliance"); Resource Conservation and Recovery Act Civil Penalty Policy 26 (1990) [hereinafter RCRA Policy], available at <http://es.epa.gov/oeca/ore/red/rcra.pdf> ("It is generally the Agency's policy not to settle cases . . . for an amount less than the economic benefit of noncompliance.").

15. E.g., CAA Policy, *supra* note 14, at § II.B.4 (authorizing adjustment of the gravity component of the penalty by as much as 100% upwards based upon aggravating factors such as the offending firm's recalcitrance and history of noncompliance); CAA Policy, *supra* note 14, at § IV.C, 6-13 (authorizing a complex formula of multipliers for the gravity component of the penalty based upon a series of aggravating factors); RCRA Policy, *supra* note 14, at § IX (authorizing adjustments to penalties based on aggravating factors).

to maximize the probability of detecting violations by: (i) treating violations of reporting requirements as serious violations meriting substantial penalties,¹⁶ and (ii) targeting enforcement efforts at firms with records of past noncompliance.¹⁷ This gives prospective noncompliers added incentive to avoid membership in this targeted group.

Like its civil enforcement counterpart, the environmental criminal enforcement system also follows the dictates of the rational polluter model. If polluters are rational, the availability of criminal penalties is crucial to deterrence because sometimes the economic benefit of noncompliance will exceed the maximum allowable civil penalty under the statute.¹⁸ Therefore, a rational polluter will not be deterred from violating the law absent the threat of jail time.¹⁹ Consequently, environmental statutes contain criminal penalties that include substantial fines and jail time, typically ranging from \$25,000 per day of violation and one year of imprisonment for negligent violations, to penalties exceeding one million dollars in fines and up to fifteen years in jail for knowingly endangering others.²⁰ As Figures *A* and *B* indicate, these statutory and other guidelines support a vigorous civil and criminal environmental enforcement effort by EPA, Department of Justice ("DOJ"), and state enforcers, constituting tens of thousands of enforcement actions annually.²¹ Figures *C* and *D* highlight the products of the federal

16. For example, in discussing the gravity of civil penalties, the CWA Policy mandates that violations of monitoring and reporting requirements should be treated as serious because of their importance to the regulatory scheme. CAA Policy, *supra* note 14, at § II.B.2. Similarly, the RCRA Policy indicates that larger penalties are "presumptively appropriate where the violations significantly impair the ability of the hazardous waste management system to prevent and detect releases," and treats failure to monitor and report as among the more serious violations. RCRA Policy, *supra* note 14, at § VI.A.

17. Not only are past violators more likely to be inspected by EPA, but a history of past violation also results in higher civil penalties for subsequent violations. *See, e.g.*, CAA Policy, *supra* note 14, at § II.B.4.C; CWA Policy, *supra* note 14, at § IV.C.

18. Some fear that there will be occasions when noncompliance is so profitable that even the maximum penalties will not recover the economic benefit of noncompliance. *See* E. Dennis Muchnicki, *Only Criminal Sanctions Can Ensure Public Safety*, ENVTL. F., May-June 1990, at 31, 31 (arguing that "fines become merely a cost of doing business," and that only the threat of jail can deter some environmental crime); Paul Thomson, *A New Cost of Business for Environmental Violators*, ENVTL. F., May-June 1990, at 32, 32 (1990) ("Jail time is one cost of doing business that cannot be passed along to the consumer.").

19. Likewise, if the penalty is more than the firm can pay (that is, it would bankrupt the firm), the firm will not be deterred from polluting by the risk of incurring the financial penalty. This phenomenon offers another justification for criminal penalties (jail time) to deter rational, but not well-heeled polluters. For a discussion of this argument, see A. Mitchell Polinsky & Steven Shavell, *A Note on Optimal Fines When Wealth Varies Among Individuals*, 81 AM. ECON. REV. 618 (1991).

20. The Clean Water Act penalty provision fits this description and provides for a fine of no more than \$250,000 for individuals for knowing endangerment of others, and no more than one million dollars for organizations that knowingly endanger others. Of course, the jail penalty (15 years in prison) applies only to individuals. 33 U.S.C. § 1319(c)(3)(A) (Supp. 2000). *See also* Resource Conservation and Recovery Act, 42 U.S.C. § 6928(d) (1994); Clean Air Act, 42 U.S.C. § 7413(c) (1994).

21. These figures were assembled from data drawn from the U.S. EPA, ENFORCEMENT ACCOMPLISHMENTS REPORTS (FY 1991-99).

enforcement effort, expressed in terms of fines and jail time. The EPA and the Department of Justice (DOJ)²² have generally tried to maximize the deterrent effect of criminal prosecution by seeking to impose large fines and jail penalties whenever possible, and reach all the way up the defendant's organizational chart when imposing penalties on individuals. It is evident from Figure D that individual criminal prosecutions comprise a growing part of the overall environmental enforcement effort.²³ Thus, the environmental criminal enforcement system is designed to complement the civil enforcement system and to strengthen the disincentives to noncompliance facing rational polluters.

22. Environmental criminal prosecutions are referred to the Department of Justice by the EPA. The EPA does not bring criminal prosecutions directly, nor does the Department of Justice pursue all of the referrals it receives from the EPA.

23. See, e.g., Joyce E. Cutler, *Large Number of Companies Noncompliant with Environmental Laws, EPA Official Says*, 29 Env't Rep. (BNA) 2233 (1999) (quoting the Director of the EPA's Office of Criminal Enforcement Forensics and Training as saying that the EPA now seeks to enforce against individuals whenever possible, and "to go as high as we can" on the company's organizational chart "to find knowledge"). See also *Government Indicting More Officials, Fewer Corporations, Legal Panel Says*, 20 Chem. Reg'n Rep. (BNA) 797 (documenting trend toward more enforcement against individuals). Polinsky and Shavell have explored the deterrent effects of indicting officers and directors, noting that it offsets the "moral hazard" of inadequate shareholder supervision of management; A. Mitchell Polinsky & Steven Shavell, *Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?*, 13 INT'L REV. L. & ECON. 239, 251-53 (1993); James M. Strock, *Environmental Criminal Enforcement Priorities for the 1990s*, 59 GEO. WASH. L. REV. 916 (1991) (summarizing DOJ environmental crimes indictment data).

FIGURE A: NUMBER OF EPA ENFORCEMENT REFERRALS TO DOJ, 1975-1999

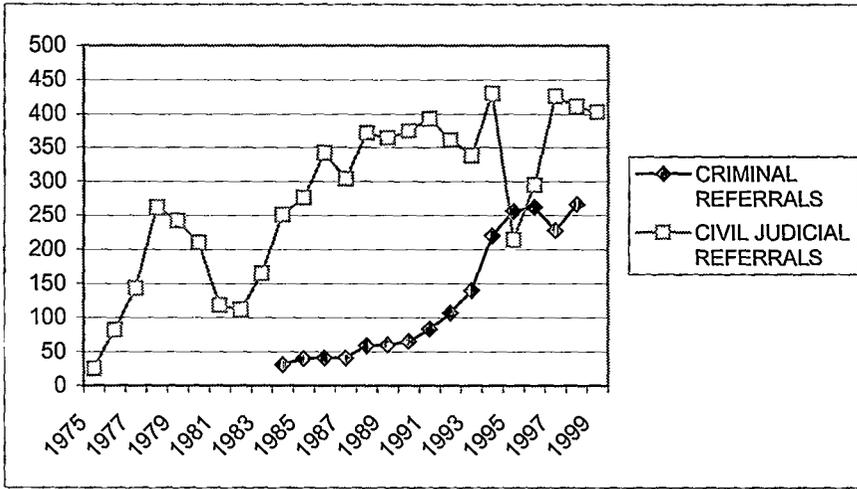


FIGURE B: NUMBER OF EPA ADMINISTRATIVE AND STATE ENFORCEMENT ACTIONS, 1975-1999

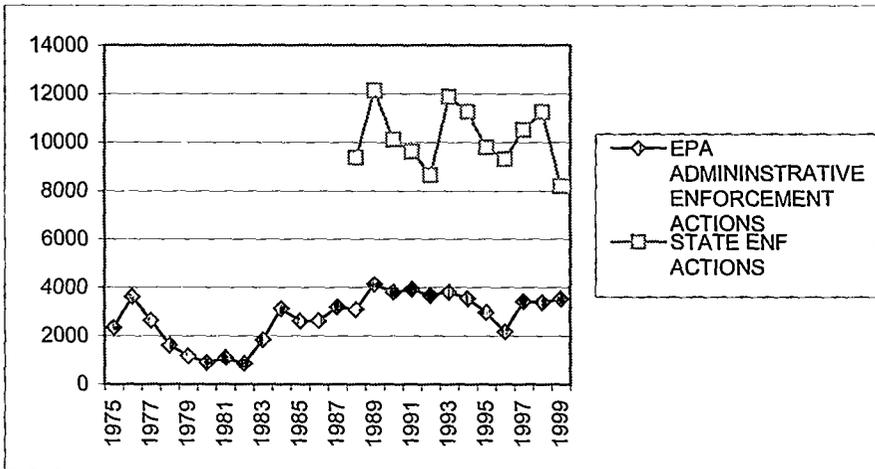


FIGURE C: PENALTIES ASSESSED, 1994-1999

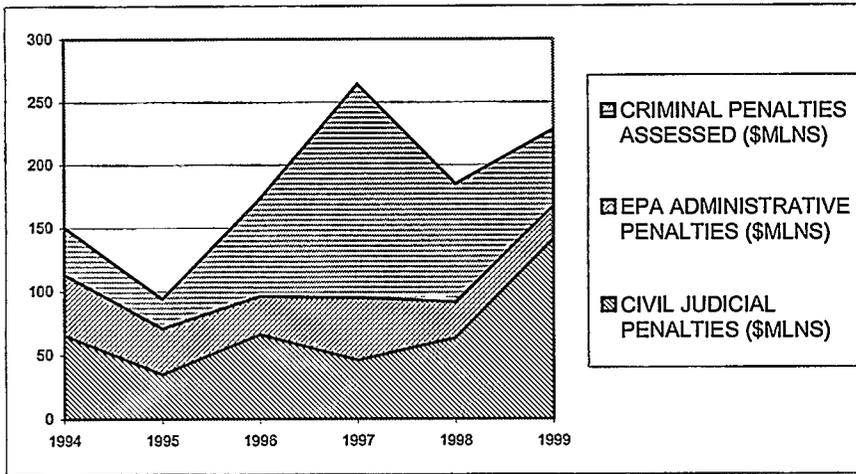
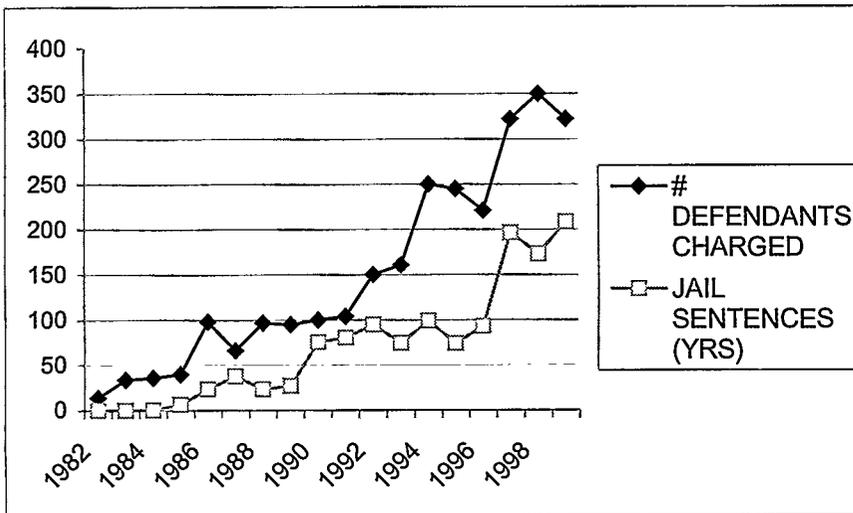


FIGURE D: FEDERAL CRIMINAL ENFORCEMENT, 1982-1999



B. The Political Actor

The rational polluter model suggests another danger, however: firms may not only violate the law, they may shape it as well. The rational polluter is not simply an economic actor; it is also a political actor that exerts influence over policymakers. Indeed, legal scholars and social scientists have articulated a variety of reasons why business firms have advantages

over environmentalists and others in the contest to influence policy outcomes.²⁴ Business firms have more money with which to make campaign contributions, are motivated to political action by the possibility of financial gain,²⁵ and are fewer in number and so face fewer coordination problems when organizing to make their voices heard.²⁶ By contrast, environmental interests are typically not well heeled, and consist of large diffuse groups that have trouble organizing. Consequently, business interests may be overrepresented in the process while environmental interests may be underrepresented.²⁷ The result, from environmentalists' point of view, is a series of policy outcomes that do not adequately reflect the general public's preference for environmental protection.²⁸ This overrepresentation of polluters in the policy process extends beyond the legislative stage into the policy implementation stage. The omnipresent fear that polluters will

24. The notion that businesses have resource-based advantages in the political process predates the spread of rational actor models to political science. Robert Dahl, David Truman, E.E. Schattschneider, and other interest group theorists of the 1950s and 60s, as well as the progressives before them, wrote about this bias in the political system. For a summary of this literature and an interesting response to it, see JACK L. WALKER, JR., *MOBILIZING INTEREST GROUPS IN AMERICA: PATRONS, PROFESSIONS AND SOCIAL MOVEMENTS* (1991); see also David B. Spence, *A Public Choice Progressivism, Continued*, 86 *CORNELL L. REV.* (forthcoming 2001) (on file with author) [hereinafter Spence, *Public Choice Progressivism*].

25. That is, business organizations can reap direct financial rewards from lobbying for reduced environmental standards. Citizens' groups cannot, typically, though they may reap psychic or other intangible rewards in the process.

26. Mancur Olson is commonly credited with providing the first explanation of these forces in economic language. MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION* (1964). For a summary of these arguments, see Spence, *Paradox Lost*, *supra* note 7, at 149-50.

27. OLSON, *supra* note 26, at 33. See also RUSSELL HARDIN, *COLLECTIVE ACTION* (1982) and TODD SANDLER, *COLLECTIVE ACTION: THEORY AND APPLICATIONS* (1992) for more complete analyses of group formation dynamics.

28. See HARDIN, *supra* note 27, at 105. For a summary of this literature, see Spence, *Paradox Lost*, *supra* note 7, at 145-50.

“capture” the policy implementation process²⁹ leads policymakers to design environmental regulation to resist capture.³⁰

Proponents of capture theory argue that business interests captured the federal government’s earliest efforts to regulate large business conglomerates in the late nineteenth century in this way. According to this argument, the Interstate Commerce Commission did less to regulate railroads in its early years than to coordinate the industry’s anticompetitive activities.³¹ Whether or not the Commission was persuaded to do so by resourceful railroad representatives whose influence secured business-friendly political appointees, the result was the same. Some have argued that the first Reagan Administration attempted to transform environmental regulation in analogous ways, using political appointees to subvert the letter and spirit of environmental regulations.³²

Of course, reasonable people may disagree over whether a particular change in policy is evidence of “capture.” In the context of environmental law, the designers of the modern environmental regulatory state have been concerned about the possibility that future regulators would not share their enthusiasm for the agency’s mission of environmental protection. That concern has led them to try to increase the transaction costs associated with

29. On capture theory generally, see WILLIAM A. NISKANEN, JR., *BUREAUCRACY AND REPRESENTATIVE GOVERNMENT* (1971); Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J. L. & ECON. 211 (1976); and George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971). There are at least two different varieties of capture theory. Under one version, capture takes place with the complicity of congressional committees, via iron triangles, subgovernments, and the like. See DOUGLAS CATER, *POWER IN WASHINGTON* (1964); J. LEIPER FREEMAN, *THE POLITICAL PROCESS* (1965); Stigler, *supra*. Another version of capture theory argues that after an initial burst of interest in regulation, the general public eventually loses interest in agency policymaking, leaving only regulated interest groups to participate in the process. Eventually, the agency is persuaded to adopt the policy preferences of the regulated industry, based in part upon the skewed information set with which the agency is presented. See generally MARVER BERSTEIN, *REGULATING BUSINESS THROUGH INDEPENDENT COMMISSION* (1969); GABRIEL KOLKO, *RAILROADS AND REGULATION, 1877-1916* (1966); John Ferejohn, *The Structure of Agency Decision Processes*, in CONGRESS: STRUCTURE AND POLICY (Matthew McCubbins and Terry Sullivan eds. 1987). For a summary of literature describing both of these varieties of capture, see David B. Spence, *Managing Delegation Ex Ante: Using Law to Steer Administrative Agencies*, 28 J. LEGAL STUD. 413, n.21 (1999) [hereinafter Spence, *Managing Delegation*].

30. For a more detailed summary of the ways in which fears of agency capture have shaped the design of the environmental regulatory process, see ALFRED MARCUS, *THE PROMISE AND PERFORMANCE OF ENVIRONMENTAL REGULATION* (1982). See also David B. Spence & Lekha Gopalakrishnan, *Bargaining Theory and Regulatory Reform: The Political Logic of Inefficient Regulation*, 53 VAND. L. REV. 599, 606-09 (2000).

31. KOLKO, *supra* note 29 (making this argument). See also STEPHEN SKOWRONEK, *BUILDING A NEW AMERICAN STATE: THE EXPANSION OF AMERICAN ADMINISTRATIVE CAPACITIES, 1877-1920* 121-50 (1982) (painting a more complicated, but essentially similar, picture of the ICC’s early failures).

32. There is an extensive literature on the early Reagan Administration’s attempts to shape regulation generally. For a summary of a variety of case studies, see KENNETH MEIER, *POLITICS AND THE BUREAUCRACY: POLICYMAKING IN THE FOURTH BRANCH OF THE GOVERNMENT* 167-81 (1993). For a detailed discussion of these efforts in the context of environmental policy, see RICHARD A. HARRIS & SIDNEY M. MILKIS, *THE POLITICS OF REGULATORY CHANGE* 225-301 (1996).

changing or undoing policy choices. By memorializing policy choices in formal rules, current policymakers can ensure that any future policymakers who are hostile to the status quo will be unable to make a policy change quickly or easily.³³

In addition to relying on rules, the system also guards against capture by empowering watchdog groups. The danger of capture and the need to maximize the expected costs of noncompliance imply the need for environmental groups to stand in the shoes of public enforcers when government fails to enforce the law vigorously. Environmental citizen-suit provisions typically provide that any person aggrieved by a violation of an environmental law may commence an action against the offending party in federal court, after providing the EPA and the prospective defendant with sixty days prior notice of intent to sue.³⁴ Plaintiffs may seek injunctive relief or an order directing the payment of fines to the U.S. Treasury,³⁵ and successful citizen plaintiffs may seek a court order awarding attorneys fees at the conclusion of the litigation.³⁶ Of course, the inclusion of citizen-suit provisions in environmental statutes maximizes the expected costs of noncompliance by increasing both the probability that noncompliance will be detected and the probability of enforcement action. It is the omnipresent fear that rational polluters will subvert the enforcement process that offers the primary justification for a vigorous and wide-ranging enforcement role for citizens groups.³⁷

33. MARCUS, *supra* note 30, at 20-21; Spence & Gopalakrishnan, *supra* note 30, at 606-07. Of course, formally promulgated rules are created by a process specified in the Administrative Procedures Act, specifying publication of notice of the proposed rule in the Federal Register, followed by a comment period and finally, publication of the final rule. See 5 U.S.C. § 553 (Supp. 2000). Repealing a rule promulgated in this way requires a similar process.

34. *E.g.*, Clean Water Act, 33 U.S.C. § 1365 (Supp. 2000) (authorizing citizen suits, but prohibiting their commencement "prior to 60 days after the plaintiff has given notice of the violation" to EPA and the defendant); Resource Conservation and Recovery Act, 42 U.S.C. § 6972 (Supp. 2000) (same limitation); Clean Air Act, 42 U.S.C. § 7604 (Supp. 2000) (same limitation).

35. The Clean Water Act authorizes the Administrator "to commence a civil action for appropriate relief, including a permanent or temporary injunction, for any violation for which he is authorized to issue a compliance order under subsection (a) of this section." 33 U.S.C. § 1319(b) (Supp. 2000).

36. 33 U.S.C. § 1365(d) (Supp. 2000).

37. There is an extensive law review literature on citizen suits. For recent examples of arguments to this effect, see for example, Holly Doremus, *Preserving Citizen Participation in the Era of Reinvention: The Endangered Species Act Example*, 25 *ECOLOGY L.Q.* 707, 712 (1999) (arguing that governments under-enforce the Endangered Species Act); David R. Hodas, *Enforcement of Environmental Law in a Triangular Federal System: Can Three Not Be a Crowd When Enforcement Authority Is Shared by the United States, the States, and Their Citizens?*, 54 *MD. L. REV.* 1552, 1618-19 (1995) (suggesting a tendency toward laxity in enforcement by state governments); David L. Markell, *The Role of Deterrence Based Enforcement in a "Reinvented" State/Federal Relationship: The Divide Between Theory and Reality*, 24 *HARV. ENVTL. L. REV.* 1, 114 n.418 (2000) ("[T]he perception in some quarters that states sometimes act to shield violators from citizen suits highlights the challenge the government faces in engendering the desired sense of trust."). For a direct statement of this view from an environmental organization, see U.S. PUBLIC INTEREST RESEARCH GROUP ("PIRG"), *DIRTY WATER SCOUNDRELS: STATE-BY-STATE VIOLATIONS OF THE CLEAN WATER*

Thus, the rational polluter model has had a profound impact on American environmental regulation. The model tells us that business firms are amoral profit-seekers whose profit-maximizing behavior can and must be shaped through incentives. Given the opportunity, the rational polluter will find a way to maximize profits by polluting, whether by violating regulatory requirements or influencing the policy process. Of course, while analyses of the rational polluter are usually couched in the language of logic, they carry a strong moral subtext. Indeed, to the average person the rational polluter seems not amoral but immoral. After all, pollution causes recognized harm not only to the environment but also to human health. There is a strong moral stigma attached to polluting behavior, and rightly so. In the nearly forty years since the publication of Rachel Carson's *Silent Spring*,³⁸ the public has reached a consensus that pollution is morally wrong.³⁹

Pollution is doubly contemptible when it not only causes harm but violates the law as well. Therefore, the rational polluter's actions as an economic actor are widely condemned.⁴⁰ But so are its actions as a political actor. While some social scientists describe the capture process in value-free terms,⁴¹ most would view it as an insidious dynamic. Polluters' ability

ACT BY THE NATION'S LARGEST FACILITIES SECTIONS 1-6 (1997) (suggesting that "the problem of lax enforcement is getting worse, not better" and noting that some states are negotiating "sweetheart" deals with violators in order to shield such parties from citizen suits: "some states have undertaken slap-on-the-wrist administrative actions for the sole purpose of precluding citizen suits and protecting local industries").

38. RACHEL CARSON, *SILENT SPRING* (1962). Carson's seminal work chronicled the impacts of pesticides on ecosystems in ways that were understandable to lay readers.

39. Regular polling data verify this assertion. *E.g.*, WILLETT KEMPTON, JAMES S. BOSTER & JENNIFER A. HARTLEY, *ENVIRONMENTAL VALUES IN AMERICAN CULTURE* 87-115 (1996) (noting that most Americans are environmentalists); Riley Dunlap, *Public Opinion and Environmental Policy*, in *ENVIRONMENTAL POLITICS AND POLICY: THEORIES AND EVIDENCE* 108-09 (James P. Lester ed., 1989); Christopher Bosso, *After the Movement: Environmental Activism in the 1990s*, in *ENVIRONMENTAL POLICY IN THE 1990s: TOWARD A NEW AGENDA* 47 (Norman J. Vig & Michael E. Kraft eds., 1990) ("Much more than a social force led by a small cadre of true believers, environmentalism increasingly is a social and political ideology whose core values are shared widely by Americans."). That environmentalists have won the hearts and minds of a broad spectrum of the American public has been noted by columnist David Broder, among many others. David S. Broder, *Beyond Folk Songs and Flowers*, *WASH. POST*, Apr. 22, 1990, at B7; Cameron Mitchell, *Public Opinion and the Green Lobby: Poised for the 1990s?*, in *ENVIRONMENTAL POLICY IN THE 1990s: TOWARD A NEW AGENDA* 325 (Norman J. Vig & Michael E. Kraft eds., 1990) (describing environmental policy as a valence issue in American politics).

40. That is, if people imbue the law with moral authority, they may see those who violate the law as immoral. For a discussion of the moral authority of the law, see *infra* notes 311-312 and accompanying text.

41. Economists like Stigler, Peltzman, Kalt and Zupan couch their analyses in the formal logic of economic theory, and generally stop short of outright condemnation of capture. *See* Joseph P. Kalt & Mark A. Zupan, *The Apparent Ideological Behavior of Legislators: Testing for Principal-Agent Slack in Political Institutions*, 33 *J. LAW & ECON.* 103 (1990); Stigler, *supra* note 29. Most political science treatments of this issue portray capture as a clear defect in the process. *E.g.*, THEODORE J. LOWI, *THE END OF LIBERALISM* (2d ed. 1979). (describing interest group liberalism as an inherently corrupting

to exert disproportionate influence on the political process subverts the public interest,⁴² provoking additional and understandable outrage. Thus, the rational polluter's actions as a political actor are also doubly contemptible: he not only extracts concessions from government that allow him to pollute, he also thwarts the will of the majority in the process. For all of these reasons, the traditional environmental regulatory structure supplements logic with "moral outrage" when addressing the problem of the rational polluter.⁴³

Of course, the rational polluter model of behavior ought to look familiar. It is one variant of a model of human behavior that has a proud history in American law, as the opening quotations from Thomas Jefferson and Benjamin Franklin suggest. Indeed, two other giants of American law—James Madison and Oliver Wendell Holmes—each argued persuasively for the use of similar models when designing constitutions and rules of common law, respectively. Neither Madison's long and careful argument about the need to check the ambition and opportunism of self-interested factions,⁴⁴ nor Holmes' less developed argument that legal rules ought to be crafted with an eye toward the "bad man,"⁴⁵ bear repeating here. The point is that both men argued that regardless of whether most people were bad or opportunistic most of the time, the object of the law ought to be, first and foremost, regulating human self-interest and

view of politics); ELMER E. SCHATTSCHEIDER, *THE SEMISOVEREIGN PEOPLE: A REALIST'S VIEW OF DEMOCRACY IN AMERICA* (Harcourt Brace Jovanovich College Publishers 1988) (decrying the advantages of "upperclass" interests in the policy process).

42. Of course, with common roots in neoclassical economic theory, capture theory is a relative of Arrowian social choice theory. See Kenneth Arrow, *SOCIAL CHOICE AND INDIVIDUAL VALUES* (1951). Therefore, we might expect some capture proponents to deny the existence of anything called public choice theory in the Arrowian sense. There is an alternative way to conceive of the problem of capture, one that does not raise this semantic issue: if policy should reflect the preferences of the median voter, capture leads agencies to choose policies that deviate from the preferences of the median voter. For a fuller discussion of this idea, see Spence, *Public Choice Progressivism*, *supra* note 24; David B. Spence & Frank Cross, *A Public Choice Case for the Administrative State*, 89 *Geo. L.J.* 97, 121-28 (2000) [hereinafter Spence & Cross, *Public Choice Case*].

43. For a discussion of the relationship between logical and moral arguments in support of command and control environmental regulation, see ROBERT V. PERCIVAL ET AL., *ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY* 67-68 (2d ed. 1996); Christopher H. Schroeder, *Cool Analysis Versus Moral Outrage in the Development of Federal Environmental Criminal Law*, 35 *Wm. & Mary L. Rev.* 251 (1993); Spence, *Paradox Lost*, *supra* note 7.

44. The Federalist papers authored by Madison are replete with references to these ideas. Perhaps the most famous and oft-quoted is Federalist 51, in which Madison explains the goal of the constitutional design, to regulate human self-interest: "Ambition must be made to counteract ambition. . . . If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary." *THE FEDERALIST NO. 51* (James Madison). The literature on Madison's views of human nature is too large to summarize here. For two recent treatments, see LANCE BANNING, *THE SACRED FIRE OF LIBERTY: JAMES MADISON AND THE FOUNDING OF THE FEDERAL REPUBLIC* 212-23 (1995) and RICHARD K. MATTHEWS, *IF MEN WERE ANGELS: JAMES MADISON AND THE HEARTLESS EMPIRE OF REASON* 48-82 (1995).

45. Holmes outlined his "bad man" theory in his famous essay, *The Path of the Law*. Oliver Wendell Holmes, *The Path of the Law*, 110 *HARV. L. REV.* 991 (1997).

opportunism. In that sense, the American environmental regulatory system's reliance on the rational polluter model is unremarkable.

II

THE COMPLEXITY CRITIQUE

Despite its impressive lineage, the rational polluter model has its critics. The strongest criticism challenges the rational polluter model as unrepresentative of reality and ultimately counterproductive. Critics charge that the environmental regulatory apparatus is so complex that compliance with regulatory requirements is unreasonably difficult. In a recent survey of corporate environmental managers, nearly half reported that their most time-and energy-consuming duty is trying to determine whether their companies are in compliance with the law, with seventy percent believing perfect compliance is impossible.⁴⁶ As a result, critics claim most noncompliance results not from calculations by rational polluters, but rather from a lack of awareness or understanding of the rules. Consequently, say critics, the regulatory system is not producing as much environmentally beneficial behavior as it could. This argument has taken hold in some corners of the EPA, triggering tentative experiments with alternative approaches to regulation, and a parallel and corollary debate over the wisdom of reforms that deviate from the rational polluter model.

A. *The Complexity Critique Generally*

This complexity critique is really several critiques, but includes at least four important elements. Critics complain that environmental regulatory requirements are (1) too numerous, (2) too difficult to understand, (3) too fluid, or ever-changing, and (4) too hard to find. Each of these characteristics, say critics, makes compliance difficult. Each of these overlapping critiques deserves further elaboration.

First, environmental regulations are numerous. That is, the EPA relies on rules more than any other executive agency.⁴⁷ For the EPA, rules offer not only a deterrent to capture, they also enable the agency to get a bigger bang for its buck. While the EPA budget comprises only a tiny percentage (less than one percent) of the federal budget, environmental regulation imposes a much larger percentage of the regulatory costs that businesses must bear.⁴⁸ However, rules are inherently inflexible in ways that make the task

46. Marianne Lavelle, *Environment Vise: Law, Compliance*, NAT. L. J., August 30, 1993, at S1.

47. CORNELIUS M. KERWIN, *RULEMAKING: HOW GOVERNMENT AGENCIES WRITE LAW AND MAKE POLICY* 14-20 (2d ed. 1999) (describing EPA's disproportionate reliance on rules compared to other agencies); Patrick Crow, *Regulatory Yardstick*, OIL & GAS J., Oct. 29, 1984, at 49, 49 (comparing various federal agencies' rulemaking activities in the early 1980s).

48. See Clyde W. Crews, Jr. & James C. Miller, *The Environment and U.S. Competitiveness, Directors & Boards*, Summer 1992, at 20, 20 (quoting Professor Thomas Hopkins to the effect that the

of compliance difficult.⁴⁹ Given the countless variety of situations in which those problems arise, it is difficult (if not impossible) to write a prescriptive rule specifying *ex ante* all the ways in which firms must address environmental problems.⁵⁰ Putting aside situations in which rules explicitly require the use of unnecessarily costly means to reach a given end,⁵¹ reliance on even the best-written rules necessarily begets some inefficiency. There will inevitably be cases of bad fit, and more rules imply more bad-fit situations. That is not to say that it is impossible to build some flexibility or adaptability into rules,⁵² only that it is extremely difficult to do so without the benefit of hindsight.⁵³

Second, environmental regulations are difficult to understand. The rules are both technically complex and written and structured in ways that

EPA imposes about twenty-three percent of all federal regulatory costs). The EPA estimates that it imposes regulatory costs that average about \$1,800 per family annually. *Id.*

49. See Kepten D. Carmichael, Note, *Strict Criminal Liability for Environmental Violations: A Need for Judicial Restraint*, 71 IND. L. J. 729, 748-49 (1996) (noting that “[r]egulations under the Clean Water Act, Clean Air Act, and RCRA number over [sic] 9000 pages in the Code of Federal Regulations” and claiming that “[t]he EPA has even acknowledged that one hundred percent compliance with certain CWA requirements is not feasible”).

50. See, e.g., PHILIP V. HOWARD, *THE DEATH OF COMMON SENSE: HOW LAW IS SUFFOCATING AMERICA* 27 (1994) (“Once the idea is to cover every situation explicitly, the words of law expand like floodwaters that have broken through a dike. Rules elaborate on prior rules; detail breeds greater detail. There is no logical stopping point in the quest for certainty.”); EDWARD P. WEBER, *PLURALISM BY THE RULES: CONFLICT AND COOPERATION IN ENVIRONMENTAL REGULATION* 201 (1998) (documenting particularly nonsensical outcomes dictated by rules); Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65, 76 (1983) (“The degree of precision appropriate to any particular rule depends on a series of variables peculiar to the rule’s author, enforcer, and addressee. As a consequence, generalizations about optimal rule precision are inherently suspect.”); Jody Freeman, *Collaborative Governance in the Administrative State*, 45 UCLA L. REV. 1, 18 (1997) (“[A]diversarialism . . . has contributed to a rigid rule-making and implementation process that fails to encourage creativity, adaptation, and cooperation in solving regulatory problems.”); Cass R. Sunstein, *Problems with Rules*, 83 CALIF. L. REV. 953, 1021 (1995) (“A system dedicated to the rule of law is committed to limiting official discretion, but it is not committed to the unrealistic goal of making every decision according to judgments fully specified in advance.”).

51. This is the basis of the familiar economic critique of environmental regulation, one that challenges the use of uniform standards and absolute prohibitions as inefficient. The critique offers the use of market incentives as a way to ensure that the cost of achieving regulatory goals will be a least-cost solution. See, e.g., PEARCE & TURNER, *supra* note 5, at 61-100; TIETENBERG, *supra* note 5, at 362-82.

52. Eric Orts addresses the problem of making a regulatory system adaptable—he uses the term “reflexive”—to new situations. Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1253 (1995). So does Cass Sunstein, who argues for rules that promote “casuistry,” and which emulate the adaptability of common law rulemaking on a case-by-case basis. Sunstein, *supra* note 50, at 958. See also MICHAEL W. SPICER, *THE FOUNDERS, THE CONSTITUTION, AND PUBLIC ADMINISTRATION: A CONFLICT IN WORLDVIEWS* 26-40 (1995), for a similar argument.

53. For a good statement of the problem from a practitioner’s viewpoint, see Roger Strelow, *Corporate Compliance with Environmental Regulation: Striking a Balance*, 20 ENVTL. L. REP., 10,529, 10,529-31 (1990) (“Simplification of the rules is another major imperative. We would see much more voluntary compliance if we simplified the complicated and nearly incomprehensible system of regulations.”). Strelow attributes this over-reliance on specific rules to the desire to “avoid [the] exercise of discretion.” *Id.*

impede comprehension. One environmental attorney has described the EPA's hazardous waste regulations as containing "some of the most puzzling English word patterns ever devised,"⁵⁴ and describes a variety of compliance problems in which a plain reading of the regulations leads to a misunderstanding of the law.⁵⁵ This is a familiar story in the regulated community,⁵⁶ one underscored by the Clinton Administration's public efforts to encourage agencies to write regulations in plain English.⁵⁷ Even if the firm understands the words, it must ensure that its understanding of the meaning of those words is similar to the agency's understanding, lest it risk liability based on its mistaken understanding.⁵⁸ For all but the richest and most sophisticated firms, the cost associated with understanding environmental rules can be daunting.

Third, environmental regulations are fluid in at least two ways. Some EPA regulations are designed to evolve so that their meaning changes over time in a self-executing way. For example, the technology-based standards imposed on pollution emissions under the Clean Air Act are tied (that is, benchmarked) to evolving industry practices imposing more stringent standards over time without any formal change in statutes or regulations.⁵⁹ This is one reason why American environmental law is sometimes described as "aspirational."⁶⁰ It is not simply that environmental statutes set symbolic but unreachable policy goals, like the 1972 Clean Water Act's goal of

54. Richard Stoll, *Coping with the RCRA Hazardous Waste System: A Few Practical Points for Fun and Profit*, 1 ENVTL. HAZARDS 6, 6 (July 1989).

55. Stoll describes three different hypothetical problems involving the generation and treatment of hazardous waste in which the language of the EPA regulations leads firms to believe, wrongly, that certain sorts of recycling activities may not be undertaken without triggering burdensome and costly rules applicable to waste treatment facilities. *Id.* at 7-10.

56. *See, e.g.,* United States v. White, 766 F. Supp. 873, 882 (E.D. Wash. 1991) (the district court cited the testimony of an EPA Assistant Administrator for the EPA Office of Solid Waste and Emergency Response, stating that "RCRA is a regulatory cuckoo land of definition . . . I believe we have five people in the agency who understand what 'hazardous waste' is."). *See also* Randolph L. Hill, *An Overview of RCRA: The "Mind Numbing" Provisions of the Most Complicated Environmental Statute*, 21 ENVTL. L. REP. 10,254 (1991). Courts have recognized the confusion on occasion. In *Rollins Environmental Services, Inc. v. EPA*, 937 F.2d 649, 654 (D.C. Cir. 1991), the court set aside a penalty imposed by EPA for violation of hazardous waste rules because the rules were too ambiguous.

57. Cindy Skrzyzcki, *Gore's Plain-Spoken Directive; Order Calls for Clarity in Federal Communications*, WASH. POST, June 2, 1998, at A1.

58. *See* Lavelle, *supra* note 46, at S2 (quoting one company counsel's opinion that "the primary problem . . . is the susceptibility of the requirements to differing interpretations. . ."). *See infra* notes 63-70 and accompanying text for a discussion of the effects of informal agency interpretations on the task of compliance.

59. *See, e.g.,* Clean Air Act, 42 U.S.C. § 7511a(a)(2)(A) (Supp. 2000) (specifying the application of "reasonably available control technology" to sources of air pollution in specified areas). *See also* Clean Water Act, 33 U.S.C. § 1311(b)(1)(A) (specifying the application of "best practicable control technology currently available" for some sources), § 1311(b)(2)(A) (specifying the application of "best available technology economically available" for other sources).

60. *E.g.,* Richard J. Lazarus, *Fairness in Environmental Law*, 27 ENVTL. L. 705, 735 (1997) ("[E]nvironmental laws are aspirational in character and exceedingly dynamic in nature. They do not simply reflect existing norms and behavior. They seek, quite often radically, to change behavior.").

eliminating the discharge of pollution to waters by 1985.⁶¹ Rather, it is that the laws are designed to promote continuous movement toward those goals automatically. Consequently, environmental regulatory requirements are in a constant state of flux. In addition to this automatic fluidity, the rules themselves are frequently amended and replaced. For example, the EPA's most recently published regulatory agenda reports that it is currently working on 346 rulemaking proceedings, each comprising sets of entirely new rules or revisions of existing rules.⁶²

Finally, environmental regulations are sometimes difficult to find. With an enormous rule-based legal structure comes the need for an enormous number of rule interpretations. Consistent with the aspirational nature of environmental law, the EPA sometimes reevaluates its interpretations of statutes and rules, a process that can have a significant impact on the regulated community. For example, a recent shift by the EPA in its interpretation of when and how physical activities at existing plants can trigger more stringent air pollution requirements sent shock waves through the industry.⁶³ The task of locating and understanding the myriad official interpretations of agency rules is even more difficult than the task of finding and understanding the rules themselves. Some commentators have lamented the EPA's practice of "regulation by memo"⁶⁴ and its periodic practice of applying informal policies as if they were rules.⁶⁵ Others decry the Agency's strange practice of burying crucial legal

61. See 33 U.S.C. § 1251(a)(1) (1994) ("[I]t is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.")

62. 65 Fed. Reg. 23,430 (Apr. 24, 2000).

63. In recent years, the Agency has changed its interpretation of how and when more stringent "new source review" requirements are triggered under the Clean Air Act. That change was announced, before enforcement actions were taken, in a policy statement entitled *Guidance on the Appropriate Injunctive Relief for Violations of Major New Source Review Requirements* (Nov. 17, 1998), published in the *Federal Register* at 63 Fed. Reg. 39,857 (July 24, 1998). Clean Air Act regulations specify that any "[m]ajor modification" to a facility triggers new source review. 40 C.F.R. §§ 51.165(a)(1)(v)(A), 52.21(b)(2)(i) (2001). Prior to the change, members of industry believed a variety of physical activities undertaken at their plants fell under a "[r]outine maintenance" exception to the definition of "[m]ajor modification." See 40 C.F.R. §§ 51.165(a)(1)(v)(C), 52.21(b)(2)(iii) (2001). One commentator has described the policy shift as an attempt by the EPA to enact changes through informal policy statements that it could not achieve through notice and comment rulemaking. Christopher W. Armstrong, *EPA's New Source Review Enforcement Initiatives*, 14 NAT. RESOURCES & ENV'T 203 (2000). For a good summary of the evolution of this policy change, see Bart Cassidy, *New Resolve on New Source Review*, 31 TRENDS: ABA SEC. ENV'T, ENERGY & RESOURCES NEWSL. 10 (2000).

64. See Bryan G. Tabler & Marek E. Shere, *EPA's Practice of Regulation by Memo*, 5 NAT. RESOURCES & ENV'T 3 (1990).

65. This practice is documented in Robert A. Anthony, "Well, You Want the Permit, Don't You?": *Agency Efforts to Make Nonlegislative Documents Bind the Public*, 44 ADMIN. L. REV. 31 (1992). See also James T. Hamilton & Christopher H. Schroeder, *Strategic Regulators and the Choice of Rulemaking Procedures: The Selection of Formal vs. Informal Rules in Regulating Hazardous Wastes*, 57 L. & CONTEMP. PROBS. 111 (1994).

determinations in even less likely places, such as preambles to Federal Register notices or private letters to regulated parties.⁶⁶

Of course, these various sources of authoritative agency statements are not all alike. We might infer that someone who violates a clear statutory mandate is more culpable than one who violates an agency's informal, unpublished interpretation of a statute.⁶⁷ Likewise, while all regulatory requirements may be susceptible to differing interpretations, we are more willing to place the risk of being wrong on the defendant when the regulatory requirement has the force of law (statutes and rules) than when it does not (informal policies and interpretations). Proponents of the complexity critique argue that by assuming that violations are intentional (and, therefore, deterrable) the rational polluter model often ignores the very real possibility that violators were caught unaware of changing interpretations of regulatory requirements in this way. Courts have grappled with the problem of informal agency interpretations, and have erected some limited protections for regulated parties. In particular, some courts have specified that "interpretive rules" do not bind regulated firms,⁶⁸ and that new agency interpretations that run counter to past practice cannot be applied retroactively without raising constitutional due process concerns.⁶⁹ Critics charge

66. Stoll, *supra* note 54, at 705, 735 (describing examples of interpretation of rules that seem to run counter to the rules' plain meaning contained in private letters and federal preambles to federal register notices).

67. See *infra* note 358 (describing the effects of EPA's recent changed interpretation of its new source review rules under the Clean Air Act).

68. It is the general rule that interpretive rules, which are not promulgated through notice and comment procedures, do not have the force of law, even though courts often defer to an agency's interpretive rule. See *National Latino Media Coalition v. FCC*, 816 F.2d 785, 788 (D.C. Cir. 1987). For a discussion of this sometimes confusing subject, see Tom J. Boer, *Does Confusion Reign at the Intersection of Environmental and Administrative Law?: Review of Interpretive Rules and Policy Statements Under Judicial Review Provisions Such as RCRA Section 7006(a)(1)*, 26 B.C. ENVTL. AFF. L. REV. 519 (1999). See also Robert A. Anthony, *Which Agency Interpretations Should Bind Citizens and the Courts?*, 7 YALE J. ON REG. 1, 12-14, 55-56 (1990).

69. See *General Electric Corp v. EPA*, 53 F.3d 1324, 1328, 1333 (D.C. Cir. 1995) (holding that because "[d]ue process requires that parties receive fair notice before being deprived of property," the EPA could not penalize General Electric for asserted regulatory violations when General Electric lacked "fair warning of [EPA's] interpretation of the regulations"); see also *Shell Offshore Inc. v. Babbitt*, 238 F.3d 622 (5th Cir. 2001) (concluding that because the Interior Department's change in the way it calculated offshore oil leases constituted a change in a longstanding interpretation of the Department's existing rules, the new policy required notice and comment). The boundaries of this prior notice rule are unclear. *General Electric* is in accord with some prior case law. See, e.g., *Energy West Mining Co.*, 17 FMSHR 1313, 1317 (August 1995) (due process requires that a regulation give "fair warning of the conduct it prohibits or requires.") (quoting *Gates & Fox Co. v. Occupational Safety and Health Review Comm'n*, 790 F.2d 154, 156 (D.C. Cir. 1986)). See also *Phelps Dodge Corp. v. Federal Mine Safety and Health Review Comm'n*, 681 F.2d 1189, 1193 (9th Cir. 1982) (a regulation cannot be construed "to mean what an agency intended but did not adequately express.") (quoting *Diamond Roofing Co. v. Occupational Safety and Health Review Comm'n*, 528 F.2d 645, 649 (5th Cir. 1976)). However, contrast these lower court opinions with the Supreme Court's *Chenery* rule, which seems to give agencies latitude to apply new interpretations retroactively without prior warning. *SEC v. Chenery Corp.*, 332 U.S. 194 (1947). While *Chenery* involved policies developed through adjudication rather

that despite these protections, the task of compliance is unreasonably difficult in such a rule-bound environmental regulatory system.

Thus, the complexity critique challenges the very possibility of rationality in environmental compliance. The rational polluter can be deterred only if (non)compliance is a rational choice. However, because environmental regulation relies on numerous, fluid, vague, and difficult-to-find rules, say critics, most firms do not know what constitutes perfect compliance and so cannot achieve it. Therefore, most noncompliance is neither rational nor a choice. If environmental regulation were more cooperative and less rule-bound and adversarial, say critics, it would be both more fair and more effective.⁷⁰

B. Responses to Complexity: Doctrinal and Reform Debates

These criticisms have not fallen on deaf ears. To the contrary, they have provoked a series of doctrinal disputes, reform proposals, and associated debates in the academic literature that continue in full force today. These debates underscore the interdependence between the economic and political sides of the rational polluter model. Defenders of the status quo see proponents of the complexity critique as tools of industry bent on capturing the regulatory process,⁷¹ a charge that blurs the distinction between opposition to the rational polluter model and opposition to environmental protection.⁷² Of course, criticism of the rational polluter model does not imply anti-environmentalism,⁷³ but for adherents to the rational polluter

than interpretive rulemaking, some commentators see the *Chenery* rule trumping the *General Electric* rule even in the latter context, as long as the agency is not applying "quasi-criminal" sanctions for violating the new interpretation. See, e.g., Harold J. Krent, *Reviewing Agency Action for Inconsistency with Prior Rules and Regulations*, 72 *CHI.-KENT L. REV.* 1187, 1222 (1997).

70. E.g., John A. Pendergrass & John A. Pendergrass III, *Beyond Compliance: A Call for EPA Recognition of Voluntary Efforts to Reduce Pollution*, 21 *ENVTL. L. REP.* 10,305, 10,305 (1991) (calling voluntary compliance "the bedrock" of regulation, and urging EPA to encourage it through incentives rather than penalties).

71. See Lisa Heinzerling, *Reductionist Regulatory Reform*, 8 *FORDHAM ENVTL. L.J.* 459, 460-61 (1997) (coupling the 1994 "Contract with America" with risk-based regulatory reform); Clifford Rechtschaffen, *Deterrence vs. Cooperation and the Evolving Theory of Environmental Enforcement*, 71 *S. CAL. L. REV.* 1181, 1190 (1998) (arguing that the enforcement reform effort "originates in part from those who dislike effective enforcement").

72. Resources for the Future's Paul Portney has labeled these efforts "cartoon reform." See Paul R. Portney, *Cartoon Caricatures of Regulatory Reform*, *RESOURCES*, Fall 1995, 21, 21-24. Thus, the efforts of the Competitiveness Council and some parts of the 1995 House Republicans' environmental agenda fall into this category, as well. It is worth noting that some critics of reform do not make this distinction and/or suspect that most regulatory reform is a disguised attempt at regulatory relief.

73. Defenders of the rational polluter model routinely confuse these distinct ideas, or argue that businesses' support for anti-environmental legislation necessarily implies a willingness to violate the law. E.g., Rechtschaffen, *supra* note 71, at 1194. For an argument that "law-abidingness" is not simply a function of agreement with the law's objectives, see discussion of the work of Amartya Sen and John Scholz, *infra* notes 250-252 and accompanying text. For an argument about the importance of this means-ends distinction in regulatory reform, see Spence & Gopalakrishnan, *supra* note 30, at 603-05 ("The distinction between regulatory relief and regulatory reform is a distinction between ends and

model, all reform proposals may look like thinly veiled attempts at capture, as the following debates illustrate.

1. Civil Enforcement

While EPA and DOJ enforcers seem dedicated to the deterrence-based approach to civil enforcement dictated by the rational polluter model, judges, state and local officials, and commentators seem less so. Some courts are reluctant to apply EPA penalty policies aggressively or impose penalties that approach statutory maxima.⁷⁴ Others have followed the EPA's lead in imposing penalties that are intended to represent the economic benefit of noncompliance, but that seem to clearly exceed the actual economic benefit captured by the polluter.⁷⁵ The application of civil penalty policy rules by administrative law judges is yet more uneven.⁷⁶ It is not clear whether this relative judicial timidity reflects discomfort with the theory of deterrence-based enforcement. However, some critics charge that the EPA's civil penalty policies call for unreasonably high penalties for relatively minor violations.⁷⁷ That argument is based, in part, on the

means—between simply reducing the regulatory burden on industry by lowering standards, and addressing the question of how best to achieve a given standard.”)

74. *E.g.*, *Sierra Club v. Cedar Point Oil Co., Inc.*, 73 F.3d 546 (5th Cir. 1996) (describing a Clean Water Act citizen suit for multiple permit violations in which the court imposed no penalty beyond the economic benefit to the violator, despite the defendant's repeated violations and noncooperative attitude toward regulators). *See also* David L. Markell, *The Role of Deterrence-Based Enforcement in a 'Reinvented' State/Federal Relationship*, 24 HARV. ENVTL. L. REV. 1 (2000) (expressing this same view); and Winston Harrington, *Enforcement Leverage When Penalties Are Restricted*, 37 J. PUB. ECON. 29 (1988) (using dated information, but supporting this same view).

75. *See, e.g.*, *United States v. Mun. Auth. of Union Township*, 150 F.3d 259, 267-68 (3d Cir. 1998) (holding that although there had been no direct economic gain produced by the non-compliance, Dean Dairy would have suffered an economic loss by reducing production in order to comply and therefore retained an economic benefit by avoiding loss).

76. For an interesting comparison of the variety of approaches, compare *In re Zaclon Inc.*, R.C.R.A. - V-W-92-R-9, a RCRA penalty proceeding involving failure to comply with post-closure requirements for a hazardous waste treatment, storage, and disposal facility, in which the ALJ reduced the penalty assessed on the defendant from \$81,000 to \$9,000, noting that he was not obligated to follow the EPA's penalty policy, with *In re Bil-Dry Corp.*, RCRA-III-264, upholding an EPA penalty for a series of similar RCRA violations of \$103,400. Both opinions can be found at <http://www.epa.gov/aljhome/orders.htm>.

77. *E.g.*, Robert H. Fuhrman, *Improving EPA's Civil Penalty Policies—And Its Not-So-Gentle BEN Model*, 25 Env't Rep. (BNA) 874, 875 (Sept. 9, 1994) (charging that the EPA's method of calculating economic benefits overstates them on a regular basis, and that its policies for calculating the gravity component of penalties “enable plaintiffs to demand multimillion dollar penalties . . . even in the absence of verifiable damages to human health and the environment”); Philip Saunders, Jr., *Civil Penalties and the Economic Benefits of Noncompliance: A Better Alternative for Attorneys than EPA's BEN Model*, 22 ENVTL. L. REP. 10,003 (1992) (arguing that the model's use of standard assumptions misestimates economic benefits for individual defendants in both directions); Jasbinder Singh, *Countering the Dean Dairy 'Hammer' with a Unified Theory of Economic Benefit of Noncompliance*, 29 Env't Rep. (BNA) 2096 (Feb. 19, 1999) (criticizing the way EPA estimates the benefit of non-compliance in situations where defendants actually lose money by violating regulatory requirements). *Cf.*, Charles Garlow & Jay Ryan, *A Brief Argument for the Inclusion of an Assessment of Increased Market Share in the Determination of Civil Penalty Liability for Environmental Violations: Letting*

difficulty of complying with a complicated, fluid set of environmental regulations.⁷⁸

More importantly, the EPA's dedication to the rational polluter model has led it into a running battle with the states over state enforcement actions that depart from the EPA's penalty policies. A 1999 case concerning "overfiling"⁷⁹ by the EPA, *Harmon Industries, Inc. v. Browner*,⁸⁰ illustrates this point nicely. The Eighth Circuit described the underlying facts of the case as follows:

In November 1987, Harmon's personnel manager discovered that maintenance workers at Harmon routinely discarded volatile solvent residue behind Harmon's Grain Valley plant. This practice apparently began in 1973 and continued until November 1987. Harmon's management was unaware of its employees' practices until the personnel manager filed his report in November 1987. Following the report, Harmon ceased its disposal activities and voluntarily contacted the Missouri Department of Natural Resources (MDNR). The MDNR investigated and concluded that Harmon's past disposal practices did not pose a threat to either human health or the environment. The MDNR and Harmon created a plan whereby Harmon would clean up the disposal area. Harmon implemented the clean up plan.⁸¹

Based on Harmon's voluntary disclosure of the violation and cooperation with the agency, the MDNR elected not to impose a civil penalty on Harmon. The EPA, however, brought its own enforcement action against Harmon seeking more than two million dollars in civil penalties.⁸² The case

Corporations Share the Regulatory Burden of Policing Their Markets, 22 B.C. ENVTL. AFF. L. REV. 27, 27-28 (1994) ("The ability to deter effectively pollution through burdensome civil penalties is based on simple financial considerations: it should be more cost efficient to comply with environmental regulations than it would be to pay fines for non-compliance."); Rechtschaffen, *supra* note 71, at 1194-98 (defending the current enforcement system based on the "pleasure-pain calculus" and attributing efforts to change the system to "those who dislike effective enforcement").

78. One regulatory compliance officer for a major paper company charged that EPA civil enforcement methods "often punish well-intended behavior and fail to get at the underlying causes of noncompliance. . . ." *Civil Enforcement Fails to Address Causes of Noncompliance, Conference Told*, 26 ENV'T REP. (BNA) 1402, 1402 (1995) [hereinafter *Civil Enforcement Fails*].

79. EPA has long claimed the right to overfile, or to bring additional enforcement actions when it deems the state's enforcement response to be inadequate. See Memorandum from Alvin L. Alm, EPA Deputy Administrator, to Regional Administrators (June 26, 1984) (discussing State/Federal enforcement "agreements"); Memorandum from Francis S. Blake, EPA General Counsel, to Administrator William Reilly (May 19, 1986) (discussing the effect of EPA enforcement action taken by state with approved RCRA program). For a general description of EPA overfiling practices that predates the Eighth Circuit's *Harmon* opinion, see William Daniel Benton, *Application of Res Judicata and Collateral Estoppel to EPA Overfiling*, 16 B.C. ENVTL. AFF. L. REV. 199 (1988) (arguing that res judicata and collateral estoppel principles limit overfiling), and E. Blaine Rawson, *Overfiling and Audit Privileges Strain EPA-State Relations*, 13 NAT. RESOURCES & ENV'T 483 (1999).

80. 191 F.3d 894 (8th Cir. 1999).

81. *Id.* at 896-97.

82. *Id.* at 897.

eventually reached the Eighth Circuit on the question of whether the underlying statute barred EPA enforcement in the face of the state's enforcement proceeding. At the urging of both Harmon and numerous amici, including industry groups and state agencies, the court decided against the EPA, resting its decision on both its interpretation of the statute and principles of res judicata.⁸³

From the EPA's perspective, the MDNR's measured response to the Harmon violations departed from the dictates of the rational polluter model in two ways. First, it failed to recapture the economic benefit of noncompliance.⁸⁴ Irrespective of the MDNR's desire to reward Harmon for disclosing the violations and cooperating during settlement discussions, it is easy to see how the EPA would view the settlement as an invitation to other regulated firms to violate the law, since no fine was imposed on Harmon.

Second, in the EPA's view, any enforcement sanction that is more lenient than necessary also raises the specter of capture. Indeed, one major reason why the EPA reserves the right to overfile is to guard against situations in which state enforcers have been rendered less than vigilant by the political influence of regulated firms.⁸⁵ Disputes like those between Missouri and the EPA in the *Harmon* case are relatively common and are precipitated by differing levels of allegiance to the rational polluter model.⁸⁶

83. RCRA provides that when states are delegated the authority to administer RCRA, the state program operates "in lieu of" the federal program and that the state program has "the same force and effect" as the federal program. 42 U.S.C. § 6926(d) (Supp. 2000). The court interpreted this language to prohibit EPA's enforcement action, and concluded that Missouri res judicata standards compelled the same result. *Harmon*, 191 F.3d. at 900-02 (1999). Unlike RCRA, neither the Clean Air Act nor the Clean Water Act contain the "in lieu of" language on which the *Harmon* court relied. But the delegation of regulatory authority to states in the latter two statutes is otherwise very similar. In *United States v. ITT Rayonier, Inc.*, 627 F.2d 996, 1002-04 (9th Cir. 1980), the court concluded that a state Clean Water Act enforcement action was binding on the EPA on res judicata grounds. The Sixth Circuit has reached a similar conclusion in the context of the Clean Air Act. *See* *Buckeye Power, Inc. v. EPA*, 481 F.2d 162 (6th Cir. 1973).

84. The administrative law judge ruled that Harmon received an economic benefit of \$6,072 by failing to dispose of its solvent residues through an appropriate off-site disposal facility, though EPA claimed that Harmon's economic benefit was much greater. *Harmon Indus., Inc. v. Browner*, 19 F. Supp. 2d 988 (W.D. Mo. 1998) (noting the ALJ's assessment of \$586,716, of which \$580,644 represented the value of the harm caused by the noncompliance, and the balance, \$6,072, which represents the economic benefit to Harmon).

85. One unnamed EPA official offered this take on the Harmon ease:

[S]uppose also that the state environmental commissioner owed a favor to the governor, who owed a favor to (or wanted to please) the company in question. The state could bring its own case, and demand a fine of only a few thousand dollars. If the Harmon precedent holds, the EPA could do nothing about it.

Robert Worth, Clinton Administration Fails to Enforce Our Environmental Laws, 3 Clean Water Action Council Newsletter (Nov. 1999) at <http://www.cwac.net/news1999nov1.html>.

86. See Benton, *supra* note 79, for a summary of the case law. For a good example of the argument for overfiling that follows the logic of the rational polluter model, see Markell, *supra* note 74

Citizen enforcement is also plagued by a split, rooted in the debate over the rational polluter model, between the model's implication that citizen enforcement is a necessary check against capture on the one hand, and the need for flexibility and discretion in environmental enforcement implied by the complexity critique on the other.⁸⁷ In other words, while light-handed enforcement may be an appropriate response to inadvertent violations, it may also be an indicator of regulatory capture. The recent Supreme Court case *Friends of the Earth, Inc. v. Laidlaw Environmental Services (TOC), Inc.*⁸⁸ offers an example of how an influential firm might collude with lax enforcers to subvert the spirit of the environmental laws. Most environmental statutes bar citizen suits from proceeding if the government is diligently prosecuting the violations in question.⁸⁹ *Laidlaw* concerned a defendant who had repeatedly violated the terms of its Clean Water Act permit. After receiving notice that the plaintiff intended to bring a citizen suit against it, Laidlaw sought to bar the citizen suit by persuading the state agency to institute a sham enforcement action covering the permit violations.⁹⁰ Laidlaw drafted the state agency's complaint, paid the filing fee, and settled the state enforcement action by agreeing to a relatively modest fine and vaguely promising to address the source of the violations.⁹¹ Laidlaw then argued that because the Clean Water Act bars citizen suits in the face of diligently prosecuted government enforcement actions, the plaintiffs' citizen suit ought to be dismissed. At the urging of plaintiffs and the EPA, the District Court rejected that claim, stating that the state enforcement action was not the kind of "diligent prosecution" that

at 86-88 (noting that while overfiling is an "anathema" to the states and that being sued twice is unpleasant to violators, it increases deterrence by increasing violators' "anxiety").

87. Michael S. Greve, *Private Enforcement Private Rewards: How Environmental Citizen Suits Became an Entitlement Program*, in ENVIRONMENTAL POLITICS: PUBLIC COSTS, PRIVATE REWARDS 105-27 (Michael S. Greve & Fred L. Smith eds., 1992) (arguing that citizen enforcement is not motivated by the desire to provide public benefits); Frank B. Cross, *Rethinking Environmental Citizen Suits*, 8 TEMP. ENVTL. L. & TECH. J. 55 (1989) (arguing that the risk of citizen suits inhibits the negotiation of settlements by government enforcers, thereby undermining the reasonable exercise of enforcement discretion).

88. 528 U.S. 167 (2000).

89. Section 505 of the Clean Water Act bars the citizen suit if the government "commenced and is diligently prosecuting" its own enforcement action. 33 U.S.C. § 1365(b)(1)(B) (1994). See also Resource Conservation and Recovery Act, 42 U.S.C. § 6972(b)(1)(B) (Supp. 2000); Clean Air Act, 42 U.S.C. § 7604(b)(1)(B) (Supp. 2000).

90. See *infra*, note 91.

91. The Supreme Court in *Laidlaw* put it this way:

Laidlaw's lawyer then contacted DHEC to ask whether DHEC would consider filing a lawsuit against Laidlaw. . . . DHEC agreed to file a lawsuit against Laidlaw; the company's lawyer then drafted the complaint for DHEC and paid the filing fee. On June 9, 1992, the last day before FOE's 60-day notice period expired, DHEC and Laidlaw reached a settlement requiring Laidlaw to pay \$100,000 in civil penalties and to make 'every effort' to comply with its permit obligations.

528 U.S. at 176-77.

could bar citizen suits under the statute.⁹² Proponents of the rational actor model point to situations like this one as evidence that vigorous citizen enforcement is necessary to prevent (or circumvent) public enforcers being weakened by capture.

The debate between defenders and critics of the rational polluter model has also spawned doctrinal disputes over citizen suit standing, an issue with which courts have struggled during most of the modern environmental era. Much of the early Supreme Court standing case law dealt with the question of how citizens groups might satisfy the Article III⁹³ standing requirement that a plaintiff demonstrate a real injury resulting from the defendant's conduct.⁹⁴ These cases often split the Court along ideological lines, and larger policy disagreements over the proper role of citizen enforcement no doubt played a role in dividing the Court.⁹⁵ However, these disagreements came most clearly to the fore in another line of citizen suit cases focusing on redressability as an element of standing.

In *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Foundation, Inc.*⁹⁶ the Court interpreted the citizen suit provision of the Clean Water Act to prohibit suits based on "wholly past violations" of the Act but to permit actions based on good faith allegations of continuing violations.⁹⁷ Justice Scalia concurred in the result, joined by Justices Stevens and O'Connor, but disputed the conclusion that a mere good faith allegation of continuing violations was sufficient to satisfy the statutory requirement that the

92. Laidlaw's appeal to the Supreme Court did not challenge the District Court's conclusion.

93. Standing doctrine has its origins in the Article III jurisdiction to real "cases and controversies." U.S. CONST. art. III, § 2. The three-pronged test for satisfying this constitutional requirement is that the plaintiff demonstrate: (1) injury in fact, (2) caused by the action complained of, that is (3) redressable by the court. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). A fourth requirement, that the plaintiff's interest be within the zone of interests the underlying statute was designed to protect, is a jurisprudential standard that sometimes arises in environmental citizen suits. See, e.g., *Bennett v. Spear*, 520 U.S. 154, 162 (1997) (discussing origins of the "zone of interests" test in connection with a citizen suit brought under the Endangered Species Act).

94. E.g., *Lujan*, 504 U.S. 555 (denying standing to plaintiffs who had not alleged definite plans to visit the area to be affected by the planned project); *Lujan v. National Wildlife Fed'n*, 497 U.S. 871 (1990) (denying standing to a group challenging a Bureau of Land Management policy decision because no injury will be suffered unless and until the policy is implemented on a case-by-case basis); *United States v. Students Challenging Regulatory Agency Procedures*, 412 U.S. 669 (1973) (granting standing to a student group alleging environmental injuries resulting from Interstate Commerce Commission rate tariffs); *Sierra Club v. Morton*, 405 U.S. 727, 735 (1972) (holding that while a non-economic injury can support standing, that injury must be a real one actually suffered by the plaintiff).

95. For example, Justice Douglas's dissent in *Morton*, favoring a standing rule that "allowed environmental issues to be litigated . . . in the name of the inanimate object about to be despoiled, defaced, or invaded . . ." reflects a far different view of the role of citizen enforcement than that of the majority. 405 U.S. at 741.

96. 484 U.S. 49 (1987).

97. *Id.* at 64. That is, the Court had concluded that (1) the Congress' use of the present tense in the statute's citizen suit provision implied that citizen suits were a tool for combating ongoing violations only, and (2) a good faith allegation that violations were likely to continue was sufficient to satisfy this statutory requirement. *Id.*

violations be ongoing.⁹⁸ Noting the existence of a factual dispute over whether the violations were ongoing, Scalia raised the issue of standing:

If it is undisputed that the defendant was in a state of compliance when this suit was filed, the plaintiffs would have been suffering no remediable injury in fact that could support suit. The constitutional requirement for such injury is reflected in the statute itself, which defines "citizen" as one who has "an interest which is or may be adversely affected."⁹⁹

By this reasoning, citizen plaintiffs would lack standing once violations had been corrected since their injuries would not be redressable by the courts. Scalia's minority view finally garnered a majority eleven years later in *Steel Co. v. Citizens for a Better Environment*,¹⁰⁰ a citizen suit challenging the defendant's failure, over a period of years, to submit reports detailing toxic chemical usage as required by federal law.¹⁰¹ Writing for the majority, Justice Scalia concluded that no redressable injury existed because the overdue forms were filed after the notice of intent to sue was submitted but before the complaint was filed. Like other environmental citizen suit provisions, plaintiffs were not entitled to damages under the statute. None of the relief sought by plaintiffs, which included the imposition of fines and an award of attorneys' fees, would redress the plaintiffs' injury, which was the loss of availability of the required information during the period in which the reports were overdue.¹⁰²

It is clear from *Steel Co.* that both the underlying dispute and the split amongst members of the Court reflect very different views of the role that citizen suits should play in environmental enforcement. Plaintiffs argued that given their unique role as guardians of the public interest, a judicial declaration that defendant had violated the law (along with the imposition

98. *Id.* at 68. In retrospect, it appears that the plaintiffs' allegations of ongoing violations were accurate. In 1997, the EPA announced the imposition of a \$12 million fine against Smithfield for thousands of permit violations at the same facility. See John H. Stam, *Appeals Court Upholds Smithfield Liability, Fine for Illegal Discharges into Virginia River*, 30 *Env't Rep.* (BNA) 935 (1999).

99. *Gwaltney*, 484 U.S. at 70 (citation omitted).

100. 523 U.S. 83 (1998). Interestingly, Justice Stevens, who had joined Scalia in the *Gwaltney* dissent, concurred in *Steel Co.* on other grounds.

101. Specifically, the defendant neglected to file annual emergency and hazardous chemical inventory forms and toxic chemical release forms, as required by the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001-11050 (1995 & Supp. V 1998). *Steel Co.*, 523 U.S. at 86-87.

102. Civil penalties are paid to the Treasury and so, said the Court, cannot provide plaintiffs with redress. *Id.* at 106. Scalia concluded that the various declaratory orders plaintiffs sought, a declaratory judgment that petitioner violated EPCRA, an order allowing plaintiffs to periodically inspect petitioner's facility, and an order requiring petitioner to provide respondent copies of all compliance reports submitted to the EPA, did not "serve to reimburse respondent for losses caused by the late reporting, or to eliminate any effects of that late reporting upon respondent." *Id.* at 105-06. Nor could the request for attorneys' fees satisfy the redressability requirement absent some independent basis for standing. *Id.* at 107.

of fines) would serve to redress the injury of seeing the law disregarded with impunity. On behalf of the Court, Justice Scalia disagreed:

[R]espondent seeks not remediation of its own injury—reimbursement for the costs it incurred as a result of the late filing—but vindication of the rule of law—the “undifferentiated public interest” in faithful execution of [the statute]. This does not suffice. JUSTICE STEVENS thinks it is enough that respondent will be gratified by seeing petitioner punished for its infractions and that the punishment will deter the risk of future harm. . . . Obviously, such a principle would make the redressability requirement vanish.¹⁰³

Ironically, it appears that Scalia’s victory on redressability might have been short-lived. In *Laidlaw*,¹⁰⁴ the Court seemed to retreat from parts of the *Steel Co.* analysis of redressability by permitting a citizen suit to continue even though the violations had ceased before the trial court reached a decision.¹⁰⁵ Clearly, the Court’s disagreements over redressability issues are consistent with differing levels of adherence to the rational polluter model in at least two ways. First, by allowing citizens’ groups to seek redress for less direct, less quantifiable injuries like the need to deter future noncompliance, the *Laidlaw* majority increases the probability that noncompliance will be detected and punished, thereby further deterring noncompliance by rational polluters. Second, if government is indeed susceptible to capture by regulated interests, why not let citizens groups act to vindicate the “rule of law” and the “undifferentiated public interest,” as the *Steel Co.* plaintiffs sought to do? Indeed, who better to vindicate the

103. *Id.* at 106 (citations omitted).

104. *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., Inc.*, 528 U.S. 183 (2000). In *Laidlaw*, the Court distinguished *Steel Co.* by noting that in the latter case the violations, which had been cured before a verdict was reached, continued at the time the complaint was filed. On the other hand, the *Steel Co.* analysis of redressability would seem to offer the plaintiffs in *Laidlaw* no constitutionally recognizable redress, an issue the majority opinion (by Justice Ginsburg) quickly sidesteps. *Id.* at 202.

105. Scalia’s dissent in *Laidlaw* highlights the inconsistency between the *Laidlaw* and *Steel Co.* majority opinions:

[T]he remedy petitioners seek is neither recompense for their injuries nor an injunction against future violations. Instead, the remedy is a statutorily specified “penalty” for past violations, payable entirely to the United States Treasury. Only last Term, we held that such penalties do not redress any injury a citizen plaintiff has suffered from past violations. *Steel Co. v. Citizens for a Better Environment*, 523 U.S. 83, 106-107 (1998). The Court nonetheless finds the redressability requirement satisfied here, distinguishing *Steel Co.* on the ground that in this case the petitioners allege ongoing violations; payment of the penalties, it says, will remedy petitioners’ injury by deterring future violations by *Laidlaw*. It holds that a penalty payable to the public “remedies” a threatened private harm, and suffices to sustain a private suit. . . . [But] a generalized remedy that deters all future unlawful activity against all persons cannot satisfy the remediation requirement, even though it deters (among other things) repetition of this particular unlawful activity against these particular plaintiffs. . . . In seeking to overturn that tradition by giving an individual plaintiff the power to invoke a public remedy, Congress has done precisely what we have said it cannot do: convert an “undifferentiated public interest” into an “individual right” vindicable in the courts.

528 U.S. at 202-05.

public interest when government enforcers are dissuaded from doing so by politically influential polluters?¹⁰⁶ Scalia, on the other hand, seems less concerned about the possibility of capture and more concerned about protecting the primary role of government enforcers, reserving for citizens groups only a supplemental role.¹⁰⁷ If the complexity critique is correct, stringent enforcement is not the appropriate response to every violation of environmental law. Government enforcers may sometimes choose not to impose penalties when noncompliance is inadvertent, and Scalia's view may reflect the belief that citizen suits can undermine that kind of prosecutorial discretion.¹⁰⁸

As a result, it remains to be seen how the Court will treat redressability issues in future cases.¹⁰⁹ No doubt, the resolution of this issue will be influenced by the justices' respective views of the rational polluter model.

2. Criminal Enforcement

This same ideological divide over the accuracy of the rational polluter model drives the current debate over environmental criminal enforcement. Under the major environmental statutes, it is a felony to "knowingly violate" most regulatory and permit requirements,¹¹⁰ and a misdemeanor to

106. Hence the qualification that environmental citizen suit provisions bar citizen suits only when government enforcers are "diligently prosecuting" their own enforcement actions. See *supra* note 89. This kind of provision arguably reflects a congressional endorsement of the "private attorney general" view of citizen suits by explicitly acknowledging the possibility that government enforcement will be unreasonably lax.

107. Indeed, some find an inconsistency between allowing citizen groups to step into the shoes of government enforcers and an environmental regulatory system based on strict standards and high penalties, arguing that in such a system the need to preserve prosecutorial discretion is paramount. See Cross, *supra* note 87, at 71-75 (making this very argument).

108. See remarks of Michael S. Greve, *Transcript of The Goldwater Institute and the Federalist Society: Federalism and Judicial Mandates, Phoenix, Arizona on November 3rd and 4th, 1995* 28 ARIZ. SR. L.J. 17, 125 (1996) (saying that "prosecutorial discretion" is important in environmental enforcement, and that "the way you exercise that discretion when enforcement power has been delegated to private deputies is to allow the Attorney General to step in. Modern citizen suit provisions, of course, do not allow this."). But cf. Barton H. Thomson, Jr., *Innovations in Environmental Policy: The Continuing Innovation in Citizen Enforcement*, 2000 U. ILL. L. REV. 185, 192 (2000) (taking a contrary view).

109. In *Steel Co.*, Scalia was joined in the majority by Thomas, Rehnquist, O'Connor, and Kennedy. None of the other justices in the majority challenged Scalia's reasoning on redressability. In *Laidlaw*, Scalia was abandoned by all but Thomas, though Kennedy did file a concurrence explaining that the issue of redressability is "best reserved for a later case" because "the petition for certiorari did not identify these issues with particularity; and neither the Court of Appeals in deciding the case nor the parties in their briefing before this Court devoted specific attention to the subject." *Id.* at 197. Rehnquist and O'Connor signed on to the majority opinion, which simply distinguished *Steel Co.* by noting that, unlike in *Laidlaw*, the violations in *Steel Co.* did not continue beyond the date the citizen suit was filed. 528 U.S. at 188.

110. See, e.g., Clean Water Act, 33 U.S.C. § 1319 (c)(2)(2000) ("Any person who . . . knowingly violates § 1311, 1312, 1316, 1317, 1318, 1321(b)(3), 1328, or 1345 of this title, or any permit condition or limitation . . . shall be punished by a fine . . . or by imprisonment for not more than 3 years, or by both."); see also Clean Air Act, 42 U.S.C. § 7413 (c) (1994) (penalty provision) ("Any person who

negligently or recklessly violate the law.¹¹¹ Courts and commentators have focused most of their attention on environmental felony prosecutions, and they differ over precisely what knowledge is, or ought to be, required for a felony conviction.

In *U.S. v. Weitzenhoff*,¹¹² the Ninth Circuit upheld convictions of a sewage treatment plant operator who discharged untreated sewage into the ocean, intentionally bypassing the sewage treatment plant's monitoring system in the process. The court concluded that the "knowingly violates" language of the Clean Water Act did not require a demonstration that the defendant acted with knowledge of the illegality of his actions.¹¹³ Rather, all that is required is that the defendant understand those acts the statute makes criminal,¹¹⁴ not that those acts violated the Clean Water Act or the applicable permit.¹¹⁵

knowingly violates any requirement or prohibition of an applicable implementation plan . . . of § 7411(e) . . . , § 7412 . . . , 7414 . . . , 7429 . . . ,” etc., “shall, upon conviction, be punished by a fine . . . or by imprisonment not to exceed 5 years, or both.”); Resource Conservation and Recovery Act, 42 U.S.C. § 6928(d) (1994). This Act states:

Any person who . . . knowingly transports . . . hazardous waste . . . , knowingly treats, stores, or disposes of any hazardous waste . . . , knowingly omits material information or makes any false material statement . . . knowingly generates, stores, treats, transports, disposes of . . . hazardous waste [without a permit] shall, upon conviction, be subject to a fine . . . or imprisonment not to exceed two years.

Id. The Resource Conservation and Recovery Act authorizes imprisonment of five years in certain cases. *Id.*

111. See, e.g., Clean Water Act, 33 U.S.C. § 1319 (c)(1) (2000) (“Any person who . . . negligently violates § 1311, 1312, 1316, 1317, 1318, 1321(b)(3), 1328, or 1345 of this title, or any permit condition or limitation . . . shall be punished by a fine . . . or by imprisonment for not more than 1 year, or by both.”); see also Clean Air Act, 42 U.S.C. § 7413 (c)(4) (2000) (penalty provision) (“Any person who negligently releases into the ambient air any hazardous air pollutant . . . [that] negligently places another person in imminent danger . . . shall, upon conviction, be punished by a fine . . . or by imprisonment for not more than 1 year, or both.”).

112. 35 F.3d 1275 (9th Cir. 1993).

113. The *Weitzenhoff* defendants argued that knowledge of the law was relevant because they believed the permit authorized “bypass” of the treatment facilities in emergencies, and that the emergency exception applied here. In this case, the operators claimed that problems at the plant presented them with the choice of shutting down the plant, or bypassing it. In that sense, their misunderstanding of the authoritative interpretation of that language, or of the law, caused the violation. 35 F.3d at 1287. Based on the record of the case, the claim of ignorance appeared to be disingenuous at best. Regardless, the court concluded that even if the defendants misunderstood the permit, they could still “knowingly violate” the Clean Water Act as long as they understood the nature of their actions. *Id.* at 1289.

114. That is, the defendant must act volitionally, but need not have understood the meaning of the law when he acted. See the discussion of general vs. specific intent in connection with the *Ahmad* case, *infra* note 117, and in connection with Richard Lazarus’ argument for a “mistake of law” defense for environmental crimes, *infra* notes 133-137 and accompanying text.

115. *Weitzenhoff* at 1284-86 (citing *United States vs. Int’l Minerals Corp.*, 402 U.S. 558, 560-62 (1971)). The *Weitzenhoff* court applied the “public welfare offense” doctrine from *International Minerals*, which states that where a statute regulates dangerous or deleterious products, the probability of regulation is so great that anyone who is aware of his possession of such products is presumed to be aware of the regulation. *Weitzenhoff* at 1284.

While other courts concur with the *Weitzenhoff* court that ignorance of the law is no defense in felony prosecutions for knowing violations,¹¹⁶ that concurrence belies substantial disagreement over how exactly to define the mens rea requirements that apply in environmental enforcement. For example, does the “knowingly violated” statutory language require knowledge of only the first element of the crime, or is knowledge of each element necessary?¹¹⁷ Courts disagree over this issue. Likewise, some courts treat environmental laws as public welfare statutes, and apply the public welfare offense doctrine¹¹⁸ to impute the requisite knowledge to the defendant absent evidence rebutting that presumption.¹¹⁹ Other courts expressly decline to do so.¹²⁰

116. See, e.g., *United States v. Tomlinson*, No. 99-30020, 1999 U.S. App. Lexis 28976, at *9-10 (9th Cir. July 16, 1999) (Clean Air Act prosecution in which the court spoke approvingly of a jury instruction used by the district court in *Weitzenhoff* which stated “the government is not required to prove that the defendant knew that his act or omissions were unlawful.”); *United States v. Sinskey*, 119 F.3d 712, 716 (8th Cir. 1997) (concluding that legislative history of CWA supported holding that knowledge of illegality was not required); *United States v. Hopkins*, 53 F.3d 533, 537-38 (2nd Cir. 1995) (inferring from public welfare statutes and precedent that Congress never intended that defendants must know actions were unlawful).

117. This issue was presented most directly in *United States v. Ahmad*, 101 F.3d 386, 387 (5th Cir. 1996), *reh'g denied* 108 F.3d 335 (5th Cir. 1997). On appeal of his felony conviction under the Clean Water Act, Ahmad argued that the district court should have instructed the jury that the statutory mens rea requirement applied to each element of each offense, not just to the discharge or operation of a source of pollution. The government maintained that the words “knowingly violates” requires it to prove only the defendant’s knowledge of the nature of the acts and that the defendant performed those acts intentionally. 101 F.3d at 389. The Court sided with Ahmad on this issue. Compare *United States v. Wilson*, 133 F.3d 251, 253, 263-64 (4th Cir. 1997), in which the Fourth Circuit concluded that the government needed to prove that defendant knew of facts constituting each essential element of the substantive offense. *But cf.* Brenda S. Hustis & John Y. Gotanda, *The Responsible Corporate Officer: Designated Felon or Legal Fiction*, 25 *LOY. U. CHI. L.J.* 169, 180-81 (1994) (summarizing RCRA criminal prosecutions and concluding that “[t]he majority of courts . . . have held that the knowledge requirement does not attach to every element of the crime”).

118. The public welfare offense doctrine is a judicially-created rule that permits the court to infer the requisite mental state in certain situations. In *United States v. Dotterweich*, 320 U.S. 277 (1943), the Supreme Court recognized that Congress had the authority to create public welfare offenses, or “regulatory offenses,” which require a reduced level of criminal intent as a predicate to their violation. The Court reasoned, “[s]uch legislation dispenses with the conventional requirement for criminal conduct—awareness of some wrongdoing. In the interest of the larger good it puts the burden of acting at hazard upon a person otherwise innocent but standing in responsible relation to a public danger.” *Id.* at 281. More recently, the Supreme Court applied the doctrine in upholding a conviction for knowing violation of regulations governing the shipping of hazardous materials in *United States v. International Minerals & Chemical Corp.*, 402 U.S. 558 (1971), reasoning that when hazardous materials are involved, “the probability of regulation is so great that anyone who is aware that he is in possession of them or dealing with them must be presumed to be aware of the regulation.” *Id.* at 565.

119. See, e.g., *United States v. Sinskey*, 119 F.3d 712, 716 (8th Cir. 1997); *United States v. Hopkins*, 53 F.3d 533, 534 (9th Cir. 1995); *United States v. Weitzenhoff*, 35 F.3d 1275 (9th Cir. 1993). All three of those cases were felony prosecutions in which the courts concluded that the Clean Water Act is a public welfare statute. See also *United States v. Hanousek*, 176 F.3d 1116, 1121 (9th Cir. 1999) (reaching the same conclusion in the context of a misdemeanor prosecution).

120. See *United States v. Ahmad*, 106 F.3d 386, 391 (5th Cir. 1996) (expressly declining to treat the Clean Water Act as a public welfare statute).

Moreover, the potential use of the so-called “responsible corporate officer doctrine” in prosecutions involving public welfare offenses raises the stakes of this debate.¹²¹ The responsible corporate officer doctrine provides that a corporate officer may be criminally liable for a subordinate’s act if the officer “had, by reason of his position in the corporation, responsibility and authority either to prevent . . . or promptly to correct, the violation . . . and . . . failed to do so.”¹²² The Supreme Court has applied the responsible corporate officer doctrine in misdemeanor prosecutions involving violations of the Food, Drug, and Cosmetic Act of 1938, upholding convictions in the absence of proof that the defendant officer had actual knowledge of the facts constituting the violation.¹²³ It is not clear whether the Court would permit this rationale to be used to impose strict criminal liability in felony prosecutions under the environmental laws.¹²⁴ Some isolated lower federal court decisions suggest that application of the doctrine is a possibility,¹²⁵ and both the Clean Water Act and the Clean Air Act include the term “responsible corporate officer” in their statutory definitions of “persons” against whom the statutes may be enforced.¹²⁶ These facts, coupled with the Department of Justice’s stated preference for prosecuting officers rather than front-line personnel, has caused worry in the

121. For a straightforward discussion of the doctrine and its applicability in environmental cases, see Barry M. Hartman & Charles A. DeMonaco, *The Present Use of the Responsible Corporate Officer Doctrine in the Criminal Enforcement of Environmental Laws*, 23 ENVTL. L. REV. 10,145 (1993).

122. *United States v. Park*, 421 U.S. 658, 673-74 (1975).

123. *See id.* (prosecution of company president for contamination of food in violation of statute); *United States v. Dotterweich*, 320 U.S. 277 (1943) (prosecution of company president for mislabeling drugs shipped in interstate commerce). The *Dotterweich* court seems to offer a tort-like rationale for imposing liability in the absence of traditional mens rea, stressing that the defendant was in the best position to guard against the risk of harm. 320 U.S. at 285. The *Park* court, by contrast, focuses on the defendant’s omission, concluding that it was reasonable to impute knowledge to the defendant where he was responsible for knowing the facts. 421 U.S. at 672-74.

124. Some commentators contend that the responsible corporate officer doctrine and/or the public welfare offense doctrine are limited to misdemeanor prosecutions. *See* Hustis & Gotanda, *supra* note 117 (denying that the responsible corporate officer doctrine has been or should be extended to environmental crimes); Richard J. Lazarus, *Meeting the Demands of Integration in the Evolution of Environmental Law: Reforming Environmental Criminal Law*, 83 GEO. L.J. 2407, 2483 (1995) [hereinafter Lazarus, *Meeting the Demands of Integration*] (suggesting that the Supreme Court’s opinion in *United States v. Staples*, 511 U.S. 600 (1994), implies that the public welfare offense doctrine should be limited to misdemeanor prosecutions). In *Staples*, the Court held that the government must prove that a defendant charged with possession of a machine gun knew that the weapon in question had the characteristics that brought it within the statutory definition.

125. *See, e.g., United States v. Iverson*, 162 F.3d 1015, 1025 (9th Cir. 1998) (upholding a jury instruction imposing liability if the defendant had the “authority and capacity to prevent” the violation).

126. *See* Clean Water Act, 33 U.S.C. § 1319(c)(6)(2000); Clean Air Act, 42 U.S.C. § 7413(c)(6)(2000). *But see* Hartman & DeMonaco, *supra* note 121, at 10,148-9 (arguing that Congress intended that the doctrine apply to the Clean Water Act when it amended the statute in 1977, but that felony penalties were added later and “[i]t is anything but clear that Congress would have intended to impose felony sanctions. . . on any person who did not have actual knowledge of the wrongdoing”).

environmentally regulated community.¹²⁷ However, the Clinton Administration had a policy of prosecuting only individuals with actual knowledge of environmental crimes,¹²⁸ and as of this writing there have been no cases in which courts have used the responsible corporate officer doctrine to obtain convictions under environmental laws absent a reasonable inference that the defendant had actual knowledge of the wrongful conduct.¹²⁹

In a variety of ways, the courts seem divided over the question of how to apply the rules of mens rea in the environmental context. That division may reflect concern over the prospect of creating mens rea standards that would allow courts to convict morally blameless violators of environmental laws.¹³⁰ Indeed, the majority decision in *Weitzenhoff* prompted a vigorous response from five Ninth Circuit judges, who cited precisely these concerns in dissenting from the denial of rehearing of the decision en banc.¹³¹ Whether or not the concerns motivating this mens rea debate within the Ninth Circuit reflect the concerns motivating splits on these questions elsewhere, they certainly echo the debate among scholars, some of whom argue for the application of an especially high mens rea threshold for environmental crimes.¹³²

127. See, e.g., Keith A. Onsdorff & James M. Mesnard, *The Responsible Corporate Officer Doctrine in RCRA Enforcement: What You Don't Know Can Hurt You*, 22 ENVTL. L. REP. 10,099, 10,099 (1992) (arguing that this danger of officers being prosecuted is real). Citing an internal EPA memorandum, Barry Hartman and Charles DeMonaco report that 68% of all environmental criminal prosecutions between 1983 and 1992 were brought against individuals rather than corporations, 80% of whom were officers and managers of corporations. See Hartman & DeMonaco, *supra* note 121, at 10,146.

128. See *Intent, Knowledge Key to Prosecution of Corporate Officers*, DOJ Official Says, 24 Env't Rep. (BNA) 633 (1993) (quoting Charles DeMonaco of the DOJ environmental crimes unit to that effect); see also ABA, NATURAL RESOURCES, ENERGY, AND ENVIRONMENTAL LAW 141 (1993) (Annual Report of the Special Committee on Environmental Crimes, commentary by Carol M. Browner, Webster L. Hubbell & Lee Fisher) (reflecting the same enforcement policy).

129. Kathleen F. Brickey makes this argument in *The Rhetoric of Environmental Crime: Culpability, Discretion, and Structural Reform*, 84 IOWA L. REV. 115, 123-25 (1998) [hereinafter Brickey, *The Rhetoric of Environmental Crime*].

130. For example, in *United States v. Plaza Health Labs, Inc.*, 3 F.3d 643 (2d Cir. 1993), the court declined to impose criminal liability on a defendant whose conduct was not only deliberate and intentional, but posed a high risk of harm as well. The defendant had placed vials of Hepatitis-B contaminated blood in the Hudson River on several occasions. The vials subsequently washed ashore and were found by school children. Citing the rule of lenity in criminal prosecutions, the court interpreted the statute's ambiguous definition of "point source" to exclude the defendant in this case. *Id.* at 646.

131. 35 F.3d at 1293 (Reinhardt, J., dissenting); see also *infra* note 308 and accompanying text (additional discussion of dissent).

132. Their arguments implicate larger debates among criminal law scholars about how best to balance the desire to maximize deterrence with the desire to ensure that only blameworthy defendants are convicted of crimes. For summaries of this debate, see Sharon L. Davies, *The Jurisprudence of Willfulness: An Evolving Theory of Excusable Ignorance*, 48 DUKE L.J. 341, 350-56 (1999); John Shepard Wiley, Jr., *Not Guilty By Reason of Blamelessness: Culpability in Federal Criminal Interpretation*, 85 VA. L. REV. 1021, 1022-25 (1999).

For example, Richard Lazarus and others have argued against using the public welfare offense doctrine in favor of a more circumscribed set of mens rea requirements in the context of environmental criminal prosecutions.¹³³ Lazarus notes that in environmental criminal prosecutions, the legal status of an action (such as whether the defendant is dealing with a “pollutant” under the statute) is often an element of the offense. Thus, knowledge of the elements of the offense implies knowledge of the law as well. In an argument that echoes the complexity critique of the rational polluter model, Lazarus argues for the creation of a limited mistake of law defense in the environmental context.¹³⁴ Other commentators worry about the overinclusiveness of environmental crimes provisions.¹³⁵ Opponents, such as Kathleen Brickey, note that the rules and practice of environmental criminal prosecutions are consistent with criminal prosecutions in other areas of the law.¹³⁶ Not only is general intent rather than specific intent the

133. Richard J. Lazarus, *Mens Rea in Environmental Criminal Law: Reading Supreme Court Tea Leaves*, 7 FORDHAM ENVTL. L.J. 861, 866 (1996) (arguing that the rationale for applying the public welfare offense doctrine does not apply to many environmental crimes) [hereinafter Lazarus, *Mens Rea in Environmental Criminal Law*]; Lazarus, *Meeting the Demands of Integration*, *supra* note 124, at 2512 (“environmental law’s complexity . . . suggests that criminal felony offenses should include a heightened mens rea element.”); Susan F. Mandiberg, *The Dilemma of Mental State in Federal Regulatory Crimes: The Environmental Example*, 25 ENVTL. L. 1165 (1995) [hereinafter Mandiberg, *The Dilemma of Mental State*]; Susan F. Mandiberg, *Moral Issues in Environmental Crime*, 7 FORDHAM ENVTL. L.J. 881 (1996) [hereinafter Mandiberg, *Moral Issues in Environmental Crime*]; see also Hartman & DeMonaco, *supra* note 121, at 10, 147; Kevin A. Gaynor & Thomas R. Bartman, *Specific Intent Standard for Environmental Crimes: An Idea Whose Time Has Come*, 25 Env’t Rep. (BNA) 2206 (March 10, 1995) (arguing against analogizing environmental crimes to public welfare offenses, and suggesting an analogy with the equally complex and arcane tax code, for which criminal conviction requires a showing of specific intent); *Criminal Enforcement Action No Longer Limited to “Midnight Dumpers,” Lawyer Tells Conference*, 22 Env’t Rep. (BNA) 2406 (1992) (quoting Richard M. Hall as remarking to the 1992 ALI/ABA annual conference, “The environmental laws are about as close as you can get in a criminal context to strict liability”).

134. See Lazarus, *Meeting the Demands of Integration*, *supra* note 124, at 2513 (suggesting that the mistake of law defense makes sense given “a very real possibility of good faith and reasonable mistakes of law” in the environmental context); see also Mandiberg, *Moral Issues in Environmental Crime*, *supra* note 133, at 881 (discussing the moral underpinnings of environmental criminal law); Mandiberg, *The Dilemma of Mental State*, *supra* note 133, at 1242 (suggesting the need to attend to the moral justification for imposing environmental criminal liability).

135. See, e.g., Benjamin S. Sharp, *Environmental Enforcement Excesses: Overcriminalization and Too Severe Punishment*, 21 ENVTL. L. REP. 10,658, 10,659 (1991) (arguing that environmental statutes are “a complex web of regulatory prohibitions,” and that the violation of any single one of these prohibitions can be criminal given the requisite intent).

136. Brickey, *The Rhetoric of Environmental Crime*, *supra* note 129, at 115 n.1 (claiming that theories like Lazarus’s run counter to longstanding traditions of American criminal law); Kathleen Brickey, *Environmental Crime at the Crossroads: The Intersection of Environmental and Criminal Law Theory*, 71 TUL. L. REV. 487, 487 (1997) [hereinafter Brickey, *Environmental Crime at the Crossroads*] (making similar arguments); see also Lawrence Friedman & H. Hamilton Hackney, III, *Questions of Intent: Environmental Crimes and Public Welfare Offenses*, 10 VILL. ENVTL. L.J. 1, 3 (1999) (discussing the application of the public welfare offense doctrine in Clean Water Act cases).

primary rule in criminal law, but requiring specific intent also violates a central tenet of the criminal law: ignorance of the law is no excuse.¹³⁷

This debate also raises issues of constitutional interpretation, since mens rea requirements have a constitutional foundation in the due process clause.¹³⁸ Given the Supreme Court's inability or unwillingness to define the boundaries of constitutional mens rea requirements, commentators have stepped into the void with a series of conflicting interpretations of what the Constitution requires and how those requirements apply to environmental enforcement.¹³⁹ Since it is not difficult to imagine a situation in which a morally blameless person, acting with general intent, might violate an environmental law, the resolution of this debate over what the Constitution requires has important implications for environmental criminal prosecutions.

Thus, the debate over criminal enforcement of environmental laws is being waged not only over doctrine, but also over how to interpret doctrine. In the context of environmental enforcement, is general intent criminal liability unusual? Is it constitutional? Is it fair? This last question motivates the other two, at least in part. Most would agree that something is seriously amiss if relatively innocent conduct can result in criminal liability.¹⁴⁰ The

137. Brickey, *The Rhetoric of Environmental Crime*, *supra* note 129, at 115; Brickey, *Environmental Crime at the Crossroads*, *supra* note 136, at 487. For a forceful defense of the maxim that ignorance of the law is no excuse, see Davies, *supra* note 131, at 398-99 (arguing that courts should apply the maxim firmly unless Congress clearly intended otherwise). *Cf.* Lazarus, *Mens Rea in Environmental Criminal Law*, *supra* note 133, at 877 (noting that the Supreme Court has said that the "ignorance of the law is no excuse" maxim does not apply when legal status is an element of the offense (citing *Liparota v. United States*, 471 U.S. 419 (1985))).

138. *Morrisette v. United States*, 342 U.S. 246, 250 (1952) (holding "that an injury can amount to a crime only when inflicted by intention is . . . as universal and persistent in mature systems of law as belief in freedom").

139. Indeed, the muddiness of the Court's jurisprudence is illustrated by two recent articles purporting to explain it. Alan Michaels concludes that the Court will uphold the constitutionality of strict criminal liability whenever "the intentional conduct covered by the statute could be made criminal by the legislature." Alan C. Michaels, *Constitutional Innocence*, 112 HARV. L. REV. 828, 834 (1999). Davies offers a similar argument in defense of a default rule requiring general intent (rather than specific intent) absent a clear legislative choice to the contrary. *See* Davies, *supra* note 131, at 359-60. Michaels explains the responsible corporate officer doctrine cases this way, since the legislature has the power to regulate commerce in food and drugs. Michaels, *supra* note 139, at 847-48. John Wiley, on the other hand, sees the Court's case law as united by a very different rule: namely, a "rule of mandatory culpability," according to which the Court will not uphold convictions of the morally blameless and will interpret statutory terms to prevent that possibility. Wiley, *supra* note 131, at 1023 (outlining the Court's application of the rule); *see also* Mandiberg, *Moral Issues in Environmental Crime*, *supra* note 133, at 884 ("The Court's compass point seems to be the notion that a felony conviction presumes moral culpability").

140. John Wiley argues for a criminal law jurisprudence based on

an old and simple ideal: We do not convict blameless people. This ideal has radiant beauty. Few places or times of human civilization have mustered this proud boast. Yet within our technical criminal doctrine it is remarkably difficult to find plain support for this ideal. In fact, the opposite view is easier to document.

Wiley, *supra* note 131, at 1022. For a general discussion of connection between constitutional limitations and environmental crimes, see Mandiberg, *Moral Issues in Environmental Crime*, *supra* note 133, at n.15.

split between judges and commentators over the requisite mental state in environmental criminal prosecutions may be traceable, then, to differences of opinion and perception over the extent of that risk. In this way, the debate is partly empirical,¹⁴¹ and hinges on an estimate of how likely or how often the innocent might “knowingly” violate an environmental statute under existing mens rea rules. In other words, it is a debate over the relevance and applicability of the rational polluter model.

3. *Environmental Auditing and Management*

Critics of the rational polluter model argue that regardless of a firm’s motivations to comply with environmental regulations, for many compliance is a fairly complicated and costly proposition.¹⁴² That is, firms must devote substantial resources and effort to the task of understanding and complying with the law. The EPA has acknowledged this fact by stressing the importance of encouraging firms to perform “environmental audits” to evaluate their compliance status.¹⁴³ In the last two decades, the use of environmental auditing has become routine in many industries, creating a sizeable consulting industry for environmental auditing.¹⁴⁴

Recognizing the enormous potential of environmental audits to promote compliance and produce environmental improvement, the EPA and the states have been grappling with the question of how best to encourage their use. That process, in turn, has produced a vigorous debate over two specific issues: (i) whether environmental audit reports ought to be privileged from disclosure to regulators or litigants; and (ii) whether violators of environmental regulations ought to be granted full or partial immunity

141. See *infra* Part III.

142. For a fuller discussion of this argument and those who advance it, see *supra* notes 46-70 and accompanying text.

143. As the name implies, an “environmental audit” is a systematic assessment of the extent to which a firm (or a particular facility) is complying with applicable environmental regulatory requirements. The EPA has had an official policy encouraging auditing since the mid 1980s. See The Environmental Auditing Policy Statement, 51 Fed. Reg. 25,004 (1986).

144. A recent Price Waterhouse survey found that seventy-five percent of respondents reported performing environmental audits regularly. See *Despite Lack of Confidentiality Laws, Companies Conducting Audits, Lawyer Says*, 26 Env’t Rep. (BNA) 13, 13 (1995). That figure is probably higher now. While most firms develop tailored environmental auditing processes, either on their own or with consultants, there are some well-known environmental auditing and management protocols, such as the Chemical Manufacturer’s Association “responsible care” program, the ISO 14000 environmental management system certification process, and the European EMAS system. For a discussion of the EMAS system, see Orts, *supra* note 52, at 1252-1311; for a discussion of the relationship between regulation and the ISO 14000 standards, see Eric W. Orts & Paula C. Murray, *Environmental Disclosure and Evidentiary Privilege*, 1997 U. ILL. L. REV. 1, 54-61 (1997). The latter two systems represent more than mere auditing protocols; both are comprehensive environmental management systems that go beyond auditing. The prevalence of auditing is illustrated by the fact that a keyword search on the web using the term “environmental auditing” now produces pages of company web sites, as well as several trade and other associations focusing on environmental auditing. Indeed, the Yahoo! web site now has a category for environmental auditing. http://dir.yahoo.com/Social_Science/Economics/Accounting_and_Auditing/Environmental/ (last visited May 27, 2001).

from penalties for violations discovered and disclosed as the result of an environmental audit. This debate, which has driven a wedge between the EPA and the states and continues to produce sparring between the two sides, is traceable to disagreements over the validity of the rational polluter model.

As of this writing, more than half the states have enacted laws designed to encourage environmental auditing through the creation of a privilege, a grant of immunity, or both.¹⁴⁵ Nearly every other state in the union has toyed with the idea.¹⁴⁶ The rationale behind these statutes is fairly straightforward: by providing tangible incentives for firms to discover and correct violations of environmental regulations, state legislatures hope to produce tangible environmental benefits and bring previously unregulated firms and operations into the regulatory regime.¹⁴⁷ While these various state statutes differ significantly from one another,¹⁴⁸ all provide either an evidentiary privilege for audit reports or full or partial immunity from penalties for violations disclosed, reported, and corrected as the result of an environment audit.¹⁴⁹ These statutes borrow from the common law the rationale for a privilege against disclosure of self-critical analyses, such as manufacturers' investigations of design defects in their products. The privilege is based on the familiar idea that disclosure will have a chilling effect on an industry's performance of self-critical analyses; in order to encourage their performance, then, it is necessary to protect those in the industry from disclosure to regulators and litigants.¹⁵⁰ It is not clear, however, that the common law privilege extends to environmental audits.¹⁵¹ Therefore, states have attempted to fill this gap with state created privileges.

145. See John A. Lee & Bertram C. Frey, *Environmental Audit Immunity Laws: A State-by-State Comparison*, 28 *Env't Rep. (BNA)* 331 (1997).

146. See *id.*

147. See *id.*

148. For summaries and comparisons of these state statutes, see *id.* The Arent Fox environmental audit legislation website can be found at <http://www.arentfox.com/quickguide/businessLines/environ/environrelatedarticles/faq/faq.html> (last visited Apr. 4, 2001).

149. For a comparison of the various state approaches to grants of immunity in the statutes, see Lee & Frey, *supra* note 145. The specific circumstances under which immunity would be granted, and the kind of immunity granted, vary greatly in the statutes. Some grant immunity from civil and criminal penalties, though most limit the grant of immunity to civil penalties. In addition, many limit grants of immunity to situations that do not involve serious environmental harm, intentional misdeeds, or actions by firms with a history of non-compliance. *Id.*

150. For good discussions of the self-critical analysis privilege in the common law, see Lisa Koven, *The Environmental Self-Audit Evidentiary Privilege*, 45 *UCLA L. REV.* 1167 (1998); Jon-Mark Stensvaag, *The Fine Print of State Environmental Audit Privileges*, 16 *J. ENVTL. L.* 69 (1997).

151. For a thorough explanation of the limits of the common law privilege, and why they may exclude environmental audit reports from the privilege, see Koven, *supra* note 150, 1179-81 (summarizing case law in which courts declined to apply common law self-critical analysis privileges to "routine" self-critical analyses).

The EPA has adopted a strong stand against both evidentiary privileges for environmental audit reports and grants of immunity for violations discovered as a result of an audit. The EPA's position is detailed in its 1995 policy statement on environmental auditing,¹⁵² which explains that the agency "remains firmly opposed to the establishment of a statutory evidentiary privilege for environmental audits."¹⁵³ The EPA argues that a privilege "invites secrecy," undermines enforcement of environmental laws, "breeds litigation,"¹⁵⁴ and is unnecessary because its audit policy reaffirms the agency's stated intention to refrain from requesting audit reports in the context of its investigations, and because other tangible incentives to perform audits and disclose violations exist.¹⁵⁵ For example, the EPA may reduce gravity-based penalties for violations voluntarily disclosed as the result of an audit,¹⁵⁶ or recommend that no criminal prosecution be undertaken for voluntarily disclosed violations discovered through an audit.¹⁵⁷ However, contrary to state audit laws, the EPA reserves the right to collect penalties representing the economic benefit of non-compliance to the violator, reasoning that any other policy would offer an incentive to violate the law and afford a competitive advantage for violators in relation to compliers.¹⁵⁸

The split between the EPA's approach to auditing and the approach of state environmental auditing legislation mirrors the split between defenders and critics of the rational polluter model. If most noncompliance is inadvertent rather than intentional or negligent, then state privilege and immunity laws make sense. In that event, regulators should be willing to go further to promote auditing, since auditing promotes greater awareness and understanding of regulatory requirements. Moreover, since penalties will not deter inadvertent violations, strict adherence to the penalty policies will not have the desired effect. On the other hand, if most noncompliance results from some form of expected value calculation by polluters (actual or de facto), then the EPA's approach makes more sense because there is little benefit gained by promoting auditing and a greater risk that firms will abuse the privileges and immunities granted by the state laws.

152. EPA, Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 60 Fed. Reg. 66,706 (1995).

153. *Id.* at 66,710.

154. *Id.*

155. Those tangible incentives include penalty reductions for violations voluntarily disclosed as the result of an audit. *Id.*

156. *Id.* at 66,711. In the usual case, voluntarily disclosed and corrected violations that meet all the other criteria imposed in the audit policy will qualify for a 75% percent reduction in the gravity-based portion of the penalty. The policy does permit 100% reduction of the gravity-based portion of the penalty in unusual circumstances.

157. *Id.*

158. *Id.* at 66,712.

Reflecting the strength of its commitment to the rational polluter model, the EPA has vigorously defended its approach to auditing. The EPA has threatened to impose a variety of sanctions on states whose environmental auditing laws offend the agency's sensibilities. In particular, the EPA has threatened to revoke or withhold the authority to administer federal environmental regulatory programs from states that grant broad immunity for violations disclosed and corrected as the result of an environmental audit.¹⁵⁹ The EPA has used its leverage to induce changes in state legislation, which in turn has provoked opposition from state officials and industry alike.¹⁶⁰ Nonetheless, it seems clear that this conflict will continue and that it is based on fundamental disagreements about the applicability of the rational polluter model to real world compliance decisions.

Interestingly, despite its opposition to general immunity, the EPA has experimented with grants of immunity under more limited and controlled circumstances. One of the EPA's many recent pilot programs, the now defunct Environmental Leadership Program ("ELP"),¹⁶¹ offers an illustrative example. The object of the program was to recognize and learn from "environmental leaders," companies whose environmental management and compliance systems were particularly forward thinking and sophisticated. In June 1994, the EPA announced the creation of the ELP and invited proposals for pilot projects that would demonstrate state of the art compliance management systems and produce knowledge that could be transferred to other facilities and settings.¹⁶² The program was limited to companies that: (i) had a good compliance history and sophisticated environmental management systems; (ii) regularly used environmental auditing; (iii) were willing to share their expertise with others; and (iv) would involve both employees and the general public in their environmental management systems. The twelve private facilities selected for the first pilot phase of the

159. Most of the states that have been the object of EPA attention have ultimately acquiesced to the EPA. For example, legislators in Texas, Utah, and New Hampshire have, with "little enthusiasm," adopted changes in their environmental auditing legislation in response to pressure from EPA. Rick Valliere, *State Audit Privilege Law Amended to Address Criminal Cases, Penalty Waivers*, 30 Env't Rep. (BNA) 271, 271 (1999). Apparently, the EPA has not only threatened to revoke delegated authority to run environmental programs, but also threatened to withhold federal money unless the desired legislative changes were made. *See id.*

160. The agency's attempts to induce Colorado to change its audit law led Colorado's Senator Wayne Allard to delay a vote on confirmation of the nominee to be EPA's Chief Financial Officer in 1998. *See* Angela M. Baggetta, *Harper Confirmation as Agency CFO Still Stalled by EPA-Colorado Audit Dispute*, 21 Env't Rep. (BNA) 1421 (1998); *see also* *States Question EPA Commitment to Partnership after Administrator Criticizes Enforcement Efforts*, 27 Env't Rep. (BNA) 1838 (1997) (describing a letter from the Environmental Council of the States (ECOS) to EPA administrator Carol Browner objecting to the way EPA dealt with state audit laws).

161. The program has been superseded by the so-called "Performance Track" program, described *infra* notes 167-170 and accompanying text.

162. *See* EPA, *Environmental Leadership Program: Request for Pilot Project Proposals*, 59 Fed. Reg. 32,062 (1994).

program were owned by large, sophisticated organizations with substantial environmental compliance experience.¹⁶³

In the pilot phase, teams of company representatives and regulators (both EPA officials and state officials) planned and executed comprehensive environmental audits of the covered facilities with an eye towards identifying procedures, processes, and systems that were particularly effective. The pilot phase involved an intensive exchange of information, including information about the facility's compliance status. As an incentive for participation, the EPA adopted specific "enforcement response guidelines" for the ELP which specified that no enforcement action would be taken in response to violations discovered during the environmental auditing process if the participating company would report and promptly correct all such incidents of noncompliance.¹⁶⁴

After completing these intensive environmental audits, the participating project teams gathered to share information and itemize the lessons learned in the process.¹⁶⁵ These lessons would then be used in the formulation of a second phase of the program under which wider participation could be solicited. According to most reports, the Phase I process was a resounding success in that companies and regulators alike benefited from the information exchanged. Regulators reported that they learned valuable information about the environmental auditing process and about environmental management systems that can be used in their future regulatory and enforcement efforts.¹⁶⁶

Another EPA program, operated out of EPA Region I,¹⁶⁷ takes a similar approach to cooperative regulation. Like the ELP, Region I's "Star Track" program tries to expand and reward regulated firms who use compliance audits and environmental management systems. Firms apply to enter the program and agree to perform annual environmental audits using Region I's Star Track audit protocol, and to share the results with the outside world. Star Track offers a narrower, qualified penalty amnesty for violations discovered and promptly corrected during these audits, an incentive that follows the EPA's audit policy more closely than the ELP

163. For a list of the twelve facilities selected, see *ELP Summary of the 1995-96 Pilots*, at <http://es.epa.gov/elp/pilots.html> (last visited Oct. 12, 1999). The list included two publicly owned defense department facilities: McClennan Airforce Base and Puget Sound Naval Base.

164. The enforcement response guidelines for the ELP are reproduced at <http://es.epa.gov/elp/erg.html> (last visited April 13, 2001).

165. Each project team produced a facility report, outlining the auditing process and the lessons learned therefrom. These reports are posted on the web at <http://es.epa.gov/elp/finalreports.html> (last visited April 13, 2001).

166. See, e.g., Kira Jacobs, *The Environmental Leadership Program: A Case Study of an EPA Pilot Project (1997)* (Unpublished Master's Thesis, Duke University Nicholas School of the Environment) (on file with author) (reporting on the successes of the Duke Power ELP project); discussion *infra* notes 373-379 and accompanying text.

167. EPA Region I is the EPA regional office for the New England region, headquartered in Boston.

enforcement guidelines did. Star Track participants must also develop an environmental management system (“EMS”) based on Region I’s Star Track EMS protocol¹⁶⁸ and, unlike the ELP, the Star Track program provides for third-party certification of participating firms’ auditing and management systems. Successful participation in Star Track also entitles participants to other benefits not offered through ELP, such as qualified preferences in the routine agency inspection process and so-called “express lane” treatment in the permitting process. As with the ELP, the Star Track program began with a pilot program involving nine initial participants, and has grown slowly since. The ELP and Star Track have produced benefits to date among a very small subset of regulated firms, and until recently the EPA had not decided whether or how to move forward from these early pilot programs. However, in June 2000 the EPA announced its new “Performance Track” program,¹⁶⁹ which is an outgrowth of both ELP and Region I’s Star Track.¹⁷⁰ Like both earlier programs, Performance Track emphasizes the development of environmental management systems that go beyond those required by law.¹⁷¹ Like Star Track, the Performance Track program offers incentives for participation such as reduced inspection frequency, streamlined monitoring and reporting, and certification as an environmental high-achiever. However, unlike the ELP, Performance Track offers no penalty immunity incentives beyond those offered in the EPA’s audit policy, which reflects the continuing influence of the rational polluter model on the agency’s policies.¹⁷²

4. *Bargaining-Based Experiments in Collaborative Regulation*

Another set of EPA experiments addresses the part of the complexity critique that focuses on the rigidity of EPA rules, and the ossification and inefficiencies that result from over-reliance on these rules. One prescription for the ossification problem is the increased use of bargaining between interested stakeholders to identify better, more adaptive rules.¹⁷³ Compared with more adversarial and formal procedures, informal bargaining enables stakeholders to share information and build trust, thereby producing better

168. The Region I EMS protocol is based, in turn, on ISO 14000, the international environmental management standard.

169. The press release is available online at <http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/56c6db7ccd8ac0fd8525690a004c5ae5?OpenDocument> (last visited Apr. 25, 2001).

170. The program is described generally at the EPA web site, <http://www.epa.gov/performancetrack/> (last visited Apr. 4, 2001).

171. See National Environmental Achievement Track Program Description, at <http://www.epa.gov/performancetrack/about/achiev.htm> (last visited Apr. 4, 2001).

172. *Id.* at 12-16.

173. For a discussion of the problem generally, see Orts, *supra* note 52 and Sunstein, *supra* note 50. For a more in-depth analysis of this issue in the context of the bargaining prescription, see Spence & Gopalakrishnan, *supra* note 30.

outcomes, or so the argument goes.¹⁷⁴ The EPA has experimented with bargaining in several ways. Some methods are designed to enable the agency to produce better rules in the first place (negotiated rulemaking).¹⁷⁵ Other methods are designed to identify situations in which rules produce inefficient or irrational outcomes, and to negotiate changes or waivers to rules to promote more efficient outcomes (EPA's Project XL and Common Sense Initiative¹⁷⁶). The EPA uses both negotiated rulemaking¹⁷⁷ and case-specific bargaining programs like Project XL, and these bargaining-based approaches seem to provide real benefits in some instances.¹⁷⁸ Nevertheless, the EPA uses bargaining-based regulation sparingly and cautiously. For example, negotiated rules comprise a miniscule percentage of the

174. See Freeman, *supra* note 50, at 71 (defending collaborative processes generally as superior to more formal, legalistic regulatory processes); Philip J. Harter, *Fear of Commitment*, 46 DUKE L.J. 1389, 1403 (1997) (arguing that the "rules that emerge through [negotiation] reflect a shop-floor insight and expertise . . . [and they] take account of issues that would likely escape the attention of an agency in a traditional rulemaking"); Spence & Gopalakrishnan, *supra* note 30, at 639-47 (arguing that potentially-beneficial collaboration within EPA's Project XL program is hampered by the strategic bargaining of environmental interests); Laura Langbein & Cornelius Kerwin, *Regulatory Negotiation Versus Conventional Rulemaking: Claims, Counter-claims, and Empirical Evidence*, 10 J. PUB. ADMIN. RES. & THEORY 599, 601 (2000) (outlining some difficult to quantify benefits of negotiated rulemaking); Jody Freeman and Laura Langbein, *Regulatory Negotiation and the Legitimacy Benefit*, 9 N.Y.U. ENVTL. L.J. 60, 63-64 (2000) (explaining how regulatory negotiation builds trust among stakeholders).

175. The Administrative Procedures Act contemplates negotiated rulemaking. See 5 U.S.C. §§ 561-570 (1994 & Supp. IV 1999). For a good discussion of the rationale behind negotiated rulemaking, see Philip J. Harter, *Negotiating Regulations: A Cure for Malaise*, 71 GEO. L.J. 1 (1982). See also D. Michael Rappoport & John F. Cooney, *Visibility at the Grand Canyon: Regulatory Negotiations under the Clean Air Act*, 24 ARIZ. ST. L.J. 627 (1992) (case study of EPA negotiated rulemaking); Ellen Siegler, *Regulatory Negotiations: A Practical Perspective*, 22 ENVTL. L. REP. 10,647 (Oct. 1992) (prescriptive lessons drawing on author's experience in negotiated rulemaking); Lawrence Susskind & Gerard McMahon, *The Theory and Practice of Negotiated Rulemaking*, 3 YALE J. ON REG. 133 (1985) (examining two EPA negotiated rulemakings).

176. These programs were designed to identify situations where alternative approaches to regulation would promote both efficiency and environmental benefits for firms. Project XL invites firms to propose changes in the regulatory status quo that accomplish these goals and sometimes allows waivers from existing regulatory requirements. The Common Sense Initiative, by contrast, addressed some of these same issues on a broader scale by exploring ways in which the regulation of entire industrial sectors could be changed to promote efficiency. For a description of both of these programs, see Spence & Gopalakrishnan, *supra* note 30, at 616-20.

177. For a summary of the EPA and other agencies' use of negotiated rulemaking, see generally Cary Coglianese, *Assessing Consensus: The Promise and Performance of Negotiated Rulemaking*, 46 DUKE L.J. 1255, Appendices A & B (1997). For a summary of the EPA's negotiated rulemaking experience, see Langbein & Kerwin, *supra* note 174 at 605-08.

178. Langbein and Kerwin report that participants in negotiated rulemaking believed that the process was beneficial and improved the final product. Langbein & Kerwin, *supra* note 174, at 522-23 (contending that the negotiated rulemaking process produces "better" rules irrespective of the probability of subsequent litigation because participants are more satisfied with negotiated rules and clarify more disputed issues through negotiated rulemakings). Likewise, participants in Project XL bargaining made similar observations. See Freeman, *supra* note 50, at 7 (arguing that "multi-stakeholder collaboration" facilitates innovation that increases the "quality" of regulation). And Project XL agreements produced tangible environmental improvements as well. See Spence & Gopalakrishnan, *supra* note 30, at 639-46.

rulemaking proceedings in which the EPA engages each year,¹⁷⁹ and the Clinton Administration's most trumpeted bargaining-based reforms, Project XL and the Common Sense Initiative, have not produced the quantity of agreements their proponents envisioned.¹⁸⁰ Why have bargaining-based approaches not been more widely applied? There is an ongoing debate over the answer to this question; but at the root of that debate lies a familiar disagreement over the accuracy of the rational polluter model.

Critics of bargaining-based regulation have attacked it on many grounds. Bargaining processes are resource intensive for the EPA, they say so much so that transaction costs may provide a powerful disincentive for the agency to use bargaining on a broader scale.¹⁸¹ Academics,¹⁸² environmental groups,¹⁸³ and even members of EPA¹⁸⁴ have argued that these programs simply do not achieve their stated objectives of reducing conflict and litigation and producing more widely-supported rules.¹⁸⁵ Others believe

179. Coglianesse, *supra* note 177, at 1271.

180. For some descriptions of the way Project XL and CSI have failed to meet expectations, see, for example, Miller, *infra* note 183, at 116 (describing Project XL as off to a "disastrous start"); Susan Bruning, *Browner Touts Reinvention Progress*, 28 *Env't Rep. (BNA)* 2529-30 (1998) (describing criticisms of CSI); Spence & Gopalakrishnan, *supra* note 30, at 617-20.

181. Coglianesse makes this point about negotiated rulemaking. See Coglianesse, *supra* note 177, at 1285-86. The same charge has been leveled at Project XL. U.S. General Accounting Office, Environmental Protection: Challenges Facing EPA's Efforts to Reinvent Environmental Regulations, GAO/RCED-97-155, at 6 (July 2, 1997) (concluding that XL has been hampered by a failure to secure "buy-in" from EPA staff). Another study by Resources for the Future focused on Project XL's transactions costs, dividing them into several categories. The most important of these categories were: (i) those costs related to the "lack of coordination among EPA offices" and (ii) those costs related to the lack of clarity of the superior environmental performance criterion. Allen Blackman & Jan Mazurek, *The Cost of Developing Site-Specific Environmental Regulations: Evidence from EPA's Project XL*, Resources for the Future Discussion Paper # 99-35, at 16 (Apr. 1999).

182. See Coglianesse, *supra* note 177 (arguing that negotiated rulemaking's benefits are overstated and that it entails important costs); William Funk, *Bargaining Toward the New Millennium: Regulatory Negotiation and the Subversion of the Public Interest*, 46 *DUKE L.J.* 1351 (1997) (criticizing collaborative processes on democratic theory grounds); Heinzerling, *supra* note 71 (criticizing collaborative regulation as contrary to the purposes of environmental law); Rena Steinzor, *Reinventing Environmental Regulation: The Dangerous Journey from Command to Self-Control*, 22 *HARV. ENVTL. L. REV.* 103 (1998) [hereinafter Steinzor, *Reinventing Environmental Regulation*] (criticizing collaborative regulation generally, but particularly EPA's Project XL program).

183. See William H. Miller, *Washington Wreck*, *INDUSTRY WK.*, August 18, 1997, at 116 (concluding that Project XL "has gotten off to a disappointing—some critics would say disastrous—start"); Cyndi Skrzycki, *Critics See a Playground for Polluters in EPA's XL Plan*, *WASH. POST*, January 24, 1997, at D1 ("Environmental and citizens' groups have their own names for what the Environmental Protection Agency's Project XL stands for: Instead of Excellence and Leadership, they call it 'Extra Leniency'").

184. An internal EPA newsletter quoted an unidentified EPA staffer as saying that "if it isn't illegal, it isn't XL." This quotation has been reproduced in a number of places. See, e.g., Rena Steinzor, *Regulatory Reinvention and Project XL: Does the Emperor Have Any Clothes?*, 26 *ENVTL. L. REP.* 10,527 [hereinafter Steinzor, *Regulatory Reinvention*] (citing *What's up with Project XL—Week of 3/11/96, Project XL update*).

185. See, e.g., Coglianesse, *supra* note 177, at 1321 (arguing that there is little or no difference in the likelihood that a negotiated rule will be challenged in court compared with a traditionally promulgated rule, and that promulgating negotiated rules consumes no fewer resources than traditional

collaborative processes lack legitimacy, either because the processes cede policymaking initiative to stakeholder groups or because they are used to explore the possibility of waiving existing regulatory requirements.¹⁸⁶ For all their faults, more traditional and formal policymaking processes have two key advantages, say their defenders. First, rules are transparent; when applied uniformly they enable observers to know with certainty what the law is in any given situation.¹⁸⁷ Second, rules are the product of accepted (and therefore legitimate) political processes; informal bargaining is neither transparent nor democratically legitimate.¹⁸⁸ While the critics of bargaining do not deny that rules are inefficient sometimes, they see the bargaining cure as worse than the disease.

But many of these criticisms ring hollow. It is difficult to see how negotiated rulemaking, for example, is any less transparent than traditional notice and comment rulemaking, since the EPA retains ultimate decision-making authority and remains subject to the requirements of the Administrative Procedures Act. To the contrary, defenders of more collaborative processes make a strong case that they are qualitatively and democratically superior to traditional processes: bargaining promotes deliberation, trust, and compromise by bringing adversaries deeper into the EPA's decision-making process.¹⁸⁹ Rather, opposition to collaborative regulation among academics and policymakers may have deeper roots that can be traced to

notice and comment rulemaking); *see also* Charles C. Caldart & Nicholas Ashford, *Negotiation as a Means of Developing and Implementing Environmental Policy 10-11* (1998) (Unpublished Working Paper, MIT) (on file with author) (arguing that negotiated rulemaking has not delivered on its primary promised benefits of reduced rulemaking time and reduced litigation).

186. *See* Funk, *supra* note 182, at 1374 (arguing that the Administrative Procedures Act "reflects the notion of an agency acting consequentially, not politically, in an exercise of instrumental rationality," and that consensus-based processes contradict that notion); Elizabeth Glass Geltman & Andrew E. Skroback, *Reinventing the EPA to Conform with the New American Environmentalism*, 23 COLUM. J. ENVTL. L. 1, 33-34 (1998) (contending that Project XL operates "contrary to" the law); Steinzor, *Reinventing Environmental Regulation*, *supra* note 182, at 134-36; Bradford C. Mank, *The Environmental Protection Agency's Project XL and Other Regulatory Reform Initiatives: The Need for Legislative Authorization*, 25 Ecology L.Q. 1, 24-28, 70-88 (1998) (arguing that the XL program lacks the statutory authority to waive regulatory requirements and urging legislative reform to authorize XL). Other commentators go further, seeming to take offense at the very notion that a rule might be waived in any given circumstance. Marianne Lavelle, for example, calls Project XL a "wink and a nod" arrangement and describes the program this way: "Anheuser-Busch Co., Inc., 3M Co. and a handful of other corporations want the opportunity to break some federal laws in the coming months. And surprisingly, the federal government has offered its blessing." *See* Marianne Lavelle, *Bending the Rules*, NAT'L L.J., June 10, 1996, at A1.

187. Steinzor, *Reinventing Environmental Regulation*, *supra* note 182, at 135.

188. Funk argues that while the Administrative Procedures Act has "accommodated" negotiated rulemaking, "it has done so in an insidious way, by having agency preamble writers make up rationalizations for decisions made on other grounds." This process, he says, "masks the reality of bargained for exchanges." Funk, *supra* note 182, at 1382; *see also* Freeman, *supra* note 50, at 82, for a summary of the legitimacy critique of collaborative approaches to policymaking, including this argument.

189. *See* Freeman, *supra* note 50, at 7, 18-19; Harter, *supra* note 174, at 1403; Langbein & Kerwin, *supra* note 174; Spence & Gopalakrishnan, *supra* note 30, at 649-50.

opponents' faith in the rational polluter model.¹⁹⁰ Successful collaborative regulation requires trust; yet the rational polluter is unworthy of anyone's trust. The rational polluter will violate the law if it makes economic sense to do so¹⁹¹ and will twist the regulatory process to his own ends if given the chance.¹⁹² Collaborative regulatory processes usher the fox into the hen-house: that is, they invite rational polluters to distort the regulatory process.¹⁹³ Firms will be able to exert greater influence in less formal and more numerous regulatory processes, while environmental interests will have difficulty monitoring a large number of ad hoc bargaining processes.¹⁹⁴ Clearly, collaborative regulation is inconsistent with the rational polluter model, which may be one reason why collaborative processes are not yet used widely within the larger regulatory structure.

III

THE EVIDENCE: WHY THE COMPLEXITY CRITIQUE RESONATES

The rational polluter model casts a long shadow over American environmental regulation, but is it an accurate representation of most firms in their dealings with regulators? This is the \$64,000 question of environmental law, not only because of its central importance, but also because scholars have been unable to answer it conclusively, though not for want of trying. For every environmentalist who believes that capture is an omnipresent risk and that most noncompliance is intentional, there is a businessperson who believes the opposite. In Part III, I examine the evidence¹⁹⁵ and conclude that, while there is support within the academic literature for both views, it is clear that for many firms, the complexity critique offers a more accurate description of their relationship with the regulatory system than does the rational polluter model. In other words, the rational polluter

190. Spence & Gopalakrishnan, *supra* note 30, at 625-52.

191. See, e.g., Steinzor, *Reinventing Environmental Regulation*, *supra* note 182, at 156-62 (arguing that business' claims of support for environmental protection are usually disingenuous, and systematically so); see also Rechtschaffen, *supra* note 71, at 1186.

192. See Funk, *supra* note 182, at 1384; Heinzerling, *supra* note 71, at 485; and Rechtschaffen, *supra* note 71, at 1194.

193. Rena Steinzor argues, for example, that programs like Project XL invite firms to propose "innovations" that may mask hidden environmental harm. Steinzor, *Reinventing Environmental Regulation*, *supra* note 182, at 112.

194. Steinzor says that environmental groups cannot effectively monitor collaborative processes, which results in a "regulatory free for all." *Id.* at 138. Funk calls collaborative regulation a "perversion" of the public interest. Funk, *supra* note 182, at 1384.

195. My summary of the literature on compliance was aided by two recent, and much more complete, reviews of that literature. Mark Cohen provides a very thorough review of the literature on compliance and enforcement from economics. See Cohen, *Monitoring and Enforcement of Environmental Policy*, Owen School of Management, Vanderbilt University (1998) at <http://www.vanderbilt.edu/VCEMS/papers/enforcement.pdf> (last visited Oct. 1, 1999). Clifford Rechtschaffen's recent review of this literature touches on the law review treatments as well. Rechtschaffen, *supra* note 71. My purpose in this Part is to provide a general summary of the scholarly thinking on these issues, rather than a comprehensive literature review.

model overstates the risk of capture and misunderstands the causes of non-compliance.

A. *Politics: Capture in Theory and Practice*

The notion of agency capture, which is drawn almost entirely from academic theory and anecdote, has lost influence in recent years.¹⁹⁶ Nevertheless, the logic of this notion is intuitive: smaller groups will have an easier time organizing to be heard, because they face fewer transaction costs when organizing and acting.¹⁹⁷ Businesses, in particular, have a clear economic incentive to organize and pursue policies that will provide them with pecuniary benefits.¹⁹⁸ Once organized, these groups influence regulators directly (by their disproportionately greater presence in agency proceedings)¹⁹⁹ or indirectly (by exerting influence over the regulators' legislative overseers).²⁰⁰ Despite its logic, there are a number of problems with this argument.

The most important defect of capture theory is that it is unsupported by the evidence. While it seems clear that industry is richer and better organized than environmental groups, there is no evidence that industry has used those advantages to capture the EPA. The only evidence offered in support of capture theory consists mostly of (i) dated case studies of pre-New Deal agencies like the Interstate Commerce Commission,²⁰¹ or (ii) studies attempting to measure the influence of political overseers and interest groups on agency decisions.²⁰² The former category seems contradicted by more recent research.²⁰³ In the latter category, it is true that there is

196. See, e.g., KAY LEHMAN SCHLOZMAN & JOHN T. TIERNEY, *ORGANIZED INTERESTS AND AMERICAN DEMOCRACY* 344 (1986) (reporting that capture "is not by any means the norm, and where capture occurs, it does not always last"); Ian Ayres & John Braithwaite, *Tripartism: Regulatory Capture and Empowerment*, 16 *LAW & SOC. INQUIRY* 435, 436 (1991) (observing that "capture has not seemed to be theoretically or empirically fertile to many sociologists and political scientists working in the regulation literature . . ."); Jonathan R. Macey, *Transaction Costs and the Normative Elements of the Public Choice Model: An Application to Constitutional Theory*, 74 *VA. L. REV.* 471, 513 (1988) (declaring that "interest group capture of administrative agencies . . . is unusual"). *But cf.* Rechtschaffen, *supra* note 71, at 1222 ("Regulators who become so cozy and closely identified with regulated entities will overlook important violations and bend over too far in the direction of lenient treatment.").

197. OLSON, *supra* note 26, at 33.

198. *Id.* at 141-46; HARDIN, *supra* note 27, at 107.

199. See BERSTEIN, *supra* note 29; Ferejohn, *supra* note 29; KOLKO, *supra* note 29.

200. See CATER, *supra* note 29; FREEMAN, *supra* note 29; Stigler, *supra* note 29.

201. KOLKO, *supra* note 29, at 54.

202. For recent summaries of the literature on political control of the bureaucracy, see Steven J. Balla, *Administrative Procedures and Political Control of the Bureaucracy*, 92 *AM. POL. SCI. REV.* 663 (1998) and Spence, *Managing Delegation*, *supra* note 29 (analyzing the effects of political controls on decision making in the Federal Energy Regulatory Commission).

203. See, e.g., MARK A. SMITH, *AMERICAN BUSINESS AND POLITICAL POWER: PUBLIC OPINION, ELECTIONS, AND DEMOCRACY* (2000) (concluding that contrary to capture theory, businesses' resource and cohesiveness advantages typically do not translate into political influence because businesses focus on highly salient political issues in which public counterpressure is greatest); see also *infra* notes 210-

ample evidence that industry has a disproportionately greater presence in agency decision processes,²⁰⁴ and that politicians can influence agency decisions.²⁰⁵ Most of the work in this field has focused on agencies other than the EPA.²⁰⁶ However, some studies have demonstrated that (i) the EPA does respond to political influence from above,²⁰⁷ and (ii) the overwhelming majority of comments on EPA hazardous waste rules came from industry.²⁰⁸ Yet not even the authors of these studies conclude that industry has captured the EPA.²⁰⁹

Why does capture theory fail to explain the environmental policy process? Because it underestimates the ability of environmentalists, and mass interests generally, to organize and to exert influence through means other than group pressure. Of course, environmental groups have formed to press their interests on the government; and they have also grown by leaps and bounds.²¹⁰ But membership in environmental groups may still underrepresent societal support for environmental protection numerically;²¹¹

216 and accompanying text (additional explanation of how mass interests overcome well-heeled business lobbying groups).

204. See Balla, *supra* note 202, at 666 (illustrating that medical professionals represented the overwhelming majority of commenters on medicare rate reimbursement rules); Cary Coglianese, *Challenging the Rules: Litigation and Bargaining in the Administrative Process* (1995) (unpublished manuscript, Harvard Univ.) (on file with author) (demonstrating that industry represents the large majority of commenters on EPA hazardous waste rules).

205. Jonathan Bendor & Terry M. Moe, *Agenda Control, Committee Capture, and the Dynamics of Institutional Politics*, 80 AM. POL. SCI. REV. 1187 (1986); Michael E. Levine & Jennifer L. Forrence, *Regulatory Capture, Public Interest, and the Public Agenda: Toward a Synthesis*, 6 J.L. ECON. & ORG. 167 (1990); Matthew D. McCubbins & Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols Versus Fire Alarms*, 28 AM. J. POL. SCI. 165 (1984); Spence, *Managing Delegation*, *supra* note 29; Barry R. Weingast & Mark J. Moran, *Bureaucratic Discretion or Congressional Control Regulatory Policymaking by the Federal Trade Commission*, 91 J. POL. ECON. 765 (1983).

206. Balla, *supra* note 202 (examining decision making at the Health Care Financing Administration); Spence, *Managing Delegation*, *supra* note 29 (examining decision making at the Federal Energy Regulatory Commission); Weingast & Moran, *supra* note 205 (examining the Federal Trade Commission).

207. Evan J. Ringquist, *Political Control and Policy Impact in EPA's Office of Water Quality*, 39 AM. J. POL. SCI. 336, 340 (1995) (noting examples of changed agency behavior after attempts by politicians to influence the agency).

208. Coglianese, *supra* note 204, at 47-51 (documenting industry's far greater participation levels in notice and comment rulemakings).

209. To the contrary, most commentators argue just the opposite. See James R. Buckley, *The Political Economy of Superfund Implementation*, 59 S. CAL. L. REV. 875, 896 (arguing that "the antagonistic relationship that exists between the EPA and the Industry . . . disproves the suitability of the capture theory"); see also *supra* note 196 and accompanying text.

210. See, e.g., Mitchell, *supra* note 39, at 91-93 (describing a study which tracked the membership of the major environmental organizations through the 1980s, and finding that most groups experienced significant growth, ranging between 9% and 67% annually); see also Robert Gottlieb & Helen Ingram, *The New Environmentalists*, THE PROGRESSIVE, Aug. 1988, at 14 (tracking rise of grass roots environmental organizations).

211. Russell Hardin and Paul Johnson suggest that this is so. See HARDIN, *supra* note 27, at 106; See also Paul E. Johnson, *An Agent-Based Model of the Exchange Theory of Interest Groups* (1998)

nevertheless, it does not follow that environmental interests are under-represented in the policy process. Why? Because group membership is only one avenue of influence in the modern political process; one that can be bypassed by "political entrepreneurs," politicians who seize upon popular issues, assume the transaction costs of organizing, and thereby mobilize otherwise latent mass movements.²¹² Political scientist Mark Smith has documented this phenomenon most recently, looking beyond the environmental context and concluding that contrary to the logic of capture, legislators have been most responsive to public opinion on the salient issues that tend to unite business interests.²¹³

Within the field of environmental politics, Chris Schroeder refers to political entrepreneurship as the "republican moment" explanation for environmental laws.²¹⁴ For example, despite the enormous gap in lobbying resources between industry and environmentalists, the Clean Air Act of 1970 and Superfund in 1980 became law because of the political entrepreneurship of politicians like Senator Edmund Muskie and Representative James Florio, respectively.²¹⁵ Likewise, the political entrepreneurship of moderate Republican legislators prevented the 1995 Gingrich House of Representatives from enacting a variety of anti-environmental bills, although industry held far more influence in Congress at that time than did environmental groups.²¹⁶ In each of these cases, politicians recognized the electoral benefits of championing environmental causes, thereby enabling less organized and less wealthy environmental interests to exert influence in the legislative process.

Of course, elected politicians have a direct (electoral) incentive to identify and capitalize on political entrepreneurship opportunities. Unelected agency officials do not. Does this mean that agency officials are more susceptible than legislators to capture? Not necessarily, for three

(Unpublished paper, 1998 Annual Meeting of the American Political Science Association) (on file with author).

212. See WALKER, *supra* note 24, at 51-103 (providing a detailed analysis of this route to influence); see also HARDIN, *supra* note 27, at 35-37 (describing an analysis of political entrepreneurship).

213. See SMITH, *supra* note 203, at 114 ("Democracy does not cease to exist when business unifies. To the contrary, democracy begins to approach its potential during instances of business unity.").

214. Christopher H. Schroeder, *The Political Origins of Modern Environmental Law: Rational Choice Versus Republican Moment-Explanations for Environmental Laws, 1969-73*, 9 DUKE ENVTL. L. & POL'Y F. 29, 39-43 (1998).

215. Muskie's leadership helped see the Clean Air Act through to passage, as did Florio's leadership in the House during consideration of Superfund. For a brief description of the legislative effort to create the original Clean Air Act crediting Muskie as its "leading proponent," see GARY C. BRYNER, *BLUE SKIES, GREEN POLITICS: THE CLEAN AIR ACT OF 1990 AND ITS IMPLEMENTATION* 98-101 (1995). For a brief description of the legislative effort to create Superfund crediting Florio as "author of the House bill," see Harold C. Barnett, *TOXIC DEBTS AND THE SUPERFUND DILEMMA* 67-71 (1994).

216. See Portney, *supra* note 72, for an analysis of some of these battles.

reasons. First, while monitoring the agency decision process is inherently difficult, political entrepreneurs (elected politicians) can design agencies that are resistant to agency capture by making careful decisions about the agency's mission, its organizational structure, and the like.²¹⁷ Career bureaucrats provide the expertise and effort that enables an agency to do its job, making politicians' attempts to steer the agency in another direction costly and difficult. Alfred Marcus argues that this is precisely what Congress did to the EPA, creating an agency populated by career bureaucrats who are dedicated to the mission of environmental protection and adept at resisting capture.²¹⁸ The EPA's successful resistance to the perceived capture threat posed by the first EPA Administrator of the Reagan Administration, Anne Burford,²¹⁹ validates Marcus's analysis. The Burford episode also illustrates a second reason why capture is difficult. Even if an agency has trouble resisting capture on its own, when that agency does deviate from popular wishes, it provides politicians with political entrepreneurship opportunities. That is, politicians who are hostile to that agency will be more likely to try to reverse agency decisions, and are more likely to be successful when the agency decision runs counter to the popular will.²²⁰ The Burford regime's efforts to slow down enforcement of hazardous waste regulations during the early 1980s provided congressional opponents with just such an opportunity, prompting congressional oversight hearings, a contempt of Congress citation for Burford, and a full retreat by the Reagan administration on the policy issues then in dispute.²²¹

Third and finally, courts are cognizant of the risk of capture, and use judicial review of agency action to guard against that risk as well.²²² The

217. For a discussion of the advantages and disadvantages associated with the use of these so-called "structural controls" to influence agency behavior generally, see Spence, *Managing Delegation*, *supra* note 29 at 415-17.

218. Lawrence Susskind and Joshua Secunda contend that the EPA "was designed to carry out a quasi-military mission...." Lawrence E. Susskind & Joshua Secunda, *The Risks and the Advantages of Agency Discretion: Evidence from EPA's Project XL*, 17 *UCLA J. ENVTL. L. & POL'Y* 67, 68 (1998). Two good general chronicles of this trend are ALFRED A. MARCUS, *PROMISE AND PERFORMANCE* (1980) and RICHARD A. HARRIS & SIDNEY M. MILKIS, *THE POLITICS OF REGULATORY CHANGE: A TALE OF TWO AGENCIES* 128-33 (1996).

219. Of course, Burford came to EPA with an anti-regulatory reputation. Her oversight of the EPA's hazardous waste program, in particular, was interpreted as an attempt to subvert the program. Careerists in the agency and Democratic members of Congress combined to thwart Burford's efforts, resulting in her censure by Congress and resignation under fire, along with the eventual criminal conviction of one of her deputies. For an account of this episode, see *Investigation of Six Former EPA Officials Ends; Justice Says No Prosecutions Merited*, 14 *Env't Rep. (BNA)* 650 (1983) and *Burford Resigns Post: Promises Dingell All Subpoenaed Superfund Documents*, 13 *Env't Rep. (BNA)* 2027 (1983).

220. For a more detailed analysis of why this is so, see Spence & Cross, *supra* note 42, at 128.

221. See *supra* note 219.

222. This trend in administrative law is well documented. See, e.g., Jonathan R. Macey, *Separated Powers and Positive Political Theory: The Tug of War over Administrative Agencies*, 80 *Geo. L.J.* 671 (1992) (noting that courts sometimes help less powerful groups fight capture); Thomas W. Merrill,

“transformation” of administrative law²²³ of the 1960s and 1970s coincided with public concern over the risk of capture, prompting changes in the ways courts reviewed agency actions. Developments like the “hard look” doctrine and other judicially-imposed procedural constraints on agency behavior changed the very architecture of judicial review of agency action,²²⁴ making capture difficult to achieve in practice.²²⁵

Thus, the risk that the EPA will be captured seems miniscule, in part because the EPA was designed to resist capture, but also because the agency has a relatively high profile. As an organ of the national government, the EPA’s actions invite attention while serving a national constituency that is clearly pro-environment.²²⁶ All of this suggests that attempts to capture the national environmental policy process would be a fool’s errand.

B. Economics: Compliance in Theory and Practice

The enormous literature on compliance and enforcement has produced no consensus on the rational polluter model. However, a careful review of the evidence allows the following conclusions, each of which I explain in this section. First, it appears that while most firms comply most of the time, a significant level of noncompliance persists. Second, scholars who study how firms make compliance decisions have proposed myriad and conflicting explanations of this process, some consistent with the rational polluter model and others with the complexity critique. Third, despite the

Capture Theory and the Courts: 1967-1983, 72 CHI.-KENT L. REV. 1039 (1997) (making similar observations).

223. Richard B. Stewart, *The Reformation of American Administrative Law*, 88 HARV. L. REV. 1669, *passim* (1975).

224. *Id.* at 1712 (“Faced with the seemingly intractable problem of agency discretion, courts . . . [assured] fair representation for all affected interests in the exercise of the legislative power delegated to agencies.”).

225. For a fuller discussion of the issue of capture and regulation, see Spence, *Public Choice Progressivism*, *supra* note 24, at 4, 121-23.

226. At the state level, however, either or both of these factors may be absent in any given case. To the extent that state officials operate out of the glare of the limelight, they may be more receptive to the exercise of back-channel influence by special interests, since the risk of detection is lower. We might infer, therefore, that the risk of capture is greater at the state level. We have no systematic studies to affirm or disprove this hypothesis. Anecdotal evidence is mixed. Situations like those described in *Friends of the Earth v. Laidlaw*, 528 U.S. 167 (2000), suggest that state environmental agencies can be captured. Recall that in *Laidlaw*, the state undertook a sham enforcement action at the defendant’s behest; the defendant then argued that that action precluded citizen enforcement. The facts of *Laidlaw* are described, *supra*, notes 88-92 and accompanying text. On the other hand, a recent survey of corporate counsel by Arthur Andersen indicate that more companies are working toward meeting environmental goals than using political influence to subvert them. See Lavelle, *supra* note 46, at S8 (“[W]hen asked what was the most important advice [corporate counsel] would give their CEOs regarding environmental law, only 10 percent offered opinions aimed at avoiding the mandates The vast majority . . . would give counsel aimed at working toward environmental goals.”). In the absence of definitive studies addressing this risk systematically, we can only speculate over the representativeness of situations like that presented in *Laidlaw*.

lack of a consensus on the validity of the complexity critique, recent evidence suggests that, at least for heavily-regulated firms, the complexity critique offers a more accurate explanation of noncompliance than does the rational polluter model.

1. *How Much (Non)Compliance Occurs?*

What have scholars had to say about how often, or how much, firms violate environmental laws? Surprisingly, there are relatively few studies addressing this question in a systematic way, perhaps because compliance rates are so difficult to measure. For more than two decades the U.S. General Accounting Office has attempted to measure rates of noncompliance with Clean Water Act rules by publicly-owned sewage treatment plants and privately-owned industrial dischargers, estimating noncompliance rates of between twenty and forty percent.²²⁷ This comports generally with Wes Magat and Kip Viscusi's 1990 study of Clean Water Act compliance in the paper industry, which estimated a seventy-five percent compliance rate with effluent limitations.²²⁸ Looking beyond the Clean Water Act context, John Brehm and James Hamilton's 1996 study of compliance with the Emergency Planning and Community Right-to-Know Act of 1986²²⁹ found similar compliance rates,²³⁰ while an analysis of inspection data by the Massachusetts Department of Environmental Protection in 1997 found that about ten percent of all inspections revealed violations of environmental laws meriting enforcement action.²³¹ The EPA's Sector Facility Indexing Project (SFIP) assembles enforcement data for facilities in several heavy industries including rough measurements of compliance with the Clean Air Act, Clean Water Act, and RCRA. Over eight quarterly periods spanning August 1996 to August 1998, participating facilities averaged at least one "noncompliance event" in 3.8 of those quarterly periods (almost

227. U.S. GENERAL ACCOUNTING OFFICE, REPORT TO THE ADMINISTRATOR, EPA, WASTEWATER DISCHARGERS ARE NOT COMPLYING WITH EPA POLLUTION CONTROL PERMITS (1983); U.S. GENERAL ACCOUNTING OFFICE, COSTLY WASTEWATER TREATMENT PLANTS FAIL TO PERFORM AS EXPECTED (1980); U.S. GENERAL ACCOUNTING OFFICE, MANY VIOLATIONS HAVE NOT RECEIVED APPROPRIATE ENFORCEMENT ATTENTION (1996).

228. Wesley A. Magat & W. Kip Viscusi, *Effectiveness of the EPA's Regulatory Enforcement: The Case of Industrial Effluent Standards*, 33 J.L. & ECON. 331, 343 (1990). However, more recent enforcement data from the EPA's Sector Facility Indexing Project ("SFIP") show that over a recent two-year period about one percent of the Clean Water Act discharge monitoring reports submitted by facilities in several heavily-regulated industrial sectors showed exceedances of permit limitations.

229. This statute, at 42 U.S.C. §§ 11001-11050 (1995 & Supp. V 1998), imposes on businesses a variety of reporting requirements all aimed at making available to the public information about firms' use of toxic or hazardous chemicals.

230. John Brehm & James T. Hamilton, *Noncompliance in Environmental Reporting: Are Violators Ignorant, or Evasive, of the Law?*, 40 AM. J. POL. SCI. 444 (1996).

231. The total number of violations was somewhat higher, since the EPA sometimes issued notices of violation without commencing enforcement actions or imposing penalties. See *State Regulators Find Actionable Violations at Less Than 10 Percent of Sites Inspected*, 27 Env't Rep. (BNA) 2288 (1997).

half the time).²³² Not only are all of these studies fairly consistent with one another, they seem consistent with prior EPA estimates of noncompliance rates.²³³

In sum, compliance occurs, but the incidence of noncompliance remains significant. While this conclusion appears unremarkable on its face, it is more interesting when juxtaposed against two other well-established facts. First, firms devote enormous amounts of effort to the task of compliance.²³⁴ The burgeoning literature on corporate environmentalism suggests that many firms spend considerable resources in an attempt to “green” their operations.²³⁵ Most large companies have adopted company-wide environmental policies, some of which pledge that the firm will not only comply with the law, but also go “beyond compliance” by adopting advanced environmental management or auditing systems, green accounting, product life cycle environmental impact analyses, and the like.²³⁶ Indeed, one of the EPA’s arguments against granting broader accommodations for environmental auditing is that firms are performing audits without those added incentives.²³⁷

Second, it appears that these compliance levels persist despite the apparent fact that the expected cost of noncompliance, pF , is typically very small. A variety of studies, beginning with Russell, Harrington and

232. See <http://es.epa.gov/oeca/sfi/access> (last visited Oct. 12, 1999).

233. See testimony of EPA Administrator Lee Thomas before the Senate Committee on the Environment and Public Works, March 5, 1991 (S. Hrg. 102-62), at 216 (estimating that about twenty-eight percent of regulated facilities suffer from some noncompliance under the Clean Air Act, Clean Water Act, and RCRA).

234. See Lavelle, *supra* note 46, at S1.

235. See *id.* at S1-2; See also Gabriele G. Crognale, *Allocating Corporate Resources for Environmental Compliance*, in *THE GREENING OF AMERICAN BUSINESS: MAKING BOTTOM-LINE SENSE OF ENVIRONMENTAL RESPONSIBILITY* 169-195 (Thomas F.P. Sullivan ed., 1992); *WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT, ECO-EFFICIENT LEADERSHIP FOR IMPROVED ECONOMIC AND ENVIRONMENTAL PERFORMANCE* (1996).

236. *WORLD RESOURCES INSTITUTE, BEYOND COMPLIANCE: A NEW INDUSTRY VIEW OF THE ENVIRONMENT* 1-2 (Bruce Smart ed., 1992); Kurt A. Strasser, *Regulating for Pollution Prevention: Business Strategies* (Unpublished, University of Connecticut Law School, 1995) (on file with author). For a slightly more cautious view, see R. Kirk Davidson, *Straws in the Wind: The Nature of the Corporate Commitment*, in *THE CORPORATION, ETHICS, AND THE ENVIRONMENT* 57-66 (W. Michael Hoffman et al. eds., 1990). But see William S. Laufer, *Corporate Liability, Risk Shifting, and the Paradox of Compliance*, 52 *VAND. L. REV.* 1343, 1382-97 (1999) (attributing the rise of the “good citizen corporation movement” to the trend toward imposition of criminal penalties on individuals rather than corporate entities).

237. According to the EPA,

Eighteen months have failed to produce any evidence that a privilege is needed. Public testimony on the interim policy confirmed that EPA rarely uses audit reports as evidence. Furthermore, surveys demonstrate that environmental auditing has expanded rapidly over the past decade without the stimulus of a privilege. Most recently, the 1995 Price Waterhouse survey found that those few large or mid-sized companies that do not audit generally do not perceive any need to; concern about confidentiality ranked as one of the least important factors in their decisions.

60 Fed. Reg. 66,706, 66,710.

Vaughn's 1986 analysis,²³⁸ indicate that EPA resource limitations hamper monitoring efforts, and that the frequency of inspection is often less than once a year. Even the most heavily regulated industries are inspected relatively infrequently: the 600 industrial facilities tracked in the EPA's SFIP program faced an average of 3 Clean Air Act compliance inspections, 2.4 Clean Water Act inspections, and 1.5 RCRA inspections over a two year period.²³⁹ Moreover, not only is the probability of detecting a violation low, but the average fines imposed by the EPA tend to be well below the statutory maxima.²⁴⁰ One recent study finds that the median administrative fine imposed by the EPA was a mere \$4000, though the average fine is significantly more than that,²⁴¹ and that figure appears to be higher in heavily-regulated industries.²⁴² In sum, one wonders why firms are trying so hard to comply, when the expected costs of noncompliance are so low; and why they can't come closer to perfect compliance, given the levels of effort they expend.

238. CLIFFORD S. RUSSELL ET AL., ENFORCING POLLUTION CONTROL LAWS (1986).

239. These data include inspections from state and federal regulators. *Id.* The infrequency of inspection invites the inference that detected noncompliance represents a small fraction of actual noncompliance. That may be true in the sense that some types of detected noncompliance may have arisen long before their detection. However, since participants have no prior notice of inspections, it seems understandable that inspections detect a reasonable percentage of the amount of noncompliance that occurs.

240. Relatively low average fines may be attributable to a number of factors and are not inconsistent with the notion that the EPA adheres to its penalty policies. Very minor violations can produce very small fines under the EPA penalty policies. Likewise, where the fine is the product of a settlement with industry, the EPA's decision to accept the fine may reflect any number of considerations, including the availability of agency resources, the strength of the agency's case against the firm, or other factors. See also the average fine data for heavily-regulated industries, discussed *infra*, note 242.

241. K. K. Lear, An Empirical Examination of EPA Administrative Penalties (Working Paper, Kelley School of Business, Indiana University, 1998) (on file with author). Data compiled by the American Bar Association reports a total of about \$25 million in administrative penalties imposed by EPA in fiscal year 1998. ABA, SECTION ON NATURAL RESOURCES, ENVIRONMENT, AND ENERGY LAW, 1998 ANNUAL REPORT 250 (1999). Assuming historical levels of enforcement activity, that total reflects an average penalty of well below \$10,000.

242. In the SFIP database, which includes information on fines imposed between August 1997 and August 1999, average fines were much higher, ranging from \$14,200 in the lead industry to more than \$400,000 in the petroleum refining industry. These data are skewed, however, by some very large fines, and median figures are lower. See <http://es.epa.gov/oeca/sfi/access> (last visited Oct. 12, 1999). Higher fines in these dirty industries may reflect the seriousness of the violations, or the size of the firms involved, or other factors taken into consideration under the EPA's penalty policies. Several studies demonstrate that average penalties in Clean Water Act enforcement are very low. See SUSAN HUNTER & RICHARD W. WATERMAN, ENFORCING THE LAW: THE CASE OF THE CLEAN WATER ACTS 54 (1996); PETER C. YEAGER, THE LIMITS OF LAW: THE PUBLIC REGULATION OF PRIVATE POLLUTION 278-80 (1991). However, this may be because the Clean Water Act program regulates (as permittees) far more publicly owned discharge facilities than either the Clean Air Act or RCRA programs.

2. *The Question of Why*

If the quantity pF is indeed vanishingly small for most firms, why do firms invest so much in compliance through auditing, environmental management systems, and the like? Why is there as much compliance as there is?²⁴³ Proponents of the rational polluter model attribute compliance to firms' tendency to overestimate $E(NC)$, either because they do not understand how small the probability of detection (p) is, or how small actual fines (F) typically are. For example, one study found that firms overestimate the probability of being inspected, and therefore, the probability of detection (p).²⁴⁴ Others point to a different kind of external incentive to explain compliance. Even if firms know that F is small and $E(NC) > 0$, firms may fear other costs not encompassed by the expected value equation, such as the embarrassment associated with detection, and may assign a much higher value to that embarrassment than to any fine imposed.²⁴⁵ That embarrassment, in turn, may lead to more tangible forms of indirect costs, if shareholders or customers are sufficiently unhappy with the firm's environmental violations.²⁴⁶ For example, a firm charged with violating environmental laws can expect unfriendly news coverage, public opprobrium, and a possible drop in its share price, all of which may be much more powerful deterrents than government-imposed fines.

243. A recent, more sophisticated rational actor model offered by Polinsky and Shavell indicates that for white collar criminals (which includes most individual environmental crime defendants), a system like the American environmental criminal system in which the probability of detection (p) is very small and the penalty (F) is large is more efficient than one in which p is large and F is not as large. See A. Mitchell Polinsky & Steven Shavell, *On the Disutility and Discounting of Imprisonment and the Theory of Deterrence*, 28 J. LEGAL STUD. 1, 2 (1999).

244. The study surveyed managers of hazardous waste facilities. See JAMES K. HAMMITT & PETER REUTER, *MEASURING AND DETERRING ILLEGAL DISPOSAL OF HAZARDOUS WASTE: A PRELIMINARY ASSESSMENT* (1988).

245. See *Regional Administrator Julie Belaga Sees Changing Attitudes on Compliance*, 23 Env't Rep. (BNA) 742, 742 (1992) (quoting an EPA regional administrator who argues that social pressure to comply is powerful, and that firm decision makers want to be good "environmental neighbors").

246. Several studies have examined the effect of environmental performance on business performance. See JERALD BLUMBERG ET AL., *ENVIRONMENTAL PERFORMANCE AND SHAREHOLDER VALUE*. WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT (1997); David R. Chittick, *Financial Implications of Environmental Compliance*, in *THE GREENING OF AMERICAN BUSINESS: MAKING BOTTOM-LINE SENSE OF ENVIRONMENTAL RESPONSIBILITY* 127-43 (Thomas F.P. Sullivan ed., 1992); Rolf Bommer, *Environmental Policy and Industrial Competitiveness: The Pollution-Haven Hypothesis Reconsidered*, 7 REV. OF INT'L ECON. 342 (1999); James T. Hamilton, *Pollution as News: Media and Stock Market Reactions to the Toxics Release Inventory Data*, 28 J. ENVTL. ECON. & MGT. 98 (1995) (finding that pollution levels had a significant effect on share value); Katherine Campbell et al., *Disclosure of Private Information and Reduction of Uncertainty: Environmental Liabilities in the Chemical Industry* (Unpublished 1996) (on file with author); Mark A. Cohen, et al., *Environmental and Financial Performance: Are They Related?*, at <http://www.vanderbilt.edu/VCEMS/papers/braden.html> (1995) (last visited April 4, 2001). See also Cohen, *supra* note 195, at § 4.4, for a summary of the literature examining the effect of catastrophic environmental events on firm performance.

On the other hand, firms may comply with environmental regulations because of a variety of internal motivations unrelated to external rewards and punishments.²⁴⁷ Decision makers may comply because it is the right thing to do; that is, they internalize the goals represented by regulations and pursue them because they believe they are important.²⁴⁸ There is considerable evidence to support the idea that most Americans value environmental protection for its own sake.²⁴⁹ While that does not necessarily imply that such a belief would guide compliance decisions, scholars like Amartya Sen and John Scholz, working outside the context of environmental regulation, suggest that values often do trump self-interest as determinants of action.²⁵⁰ Similarly, irrespective of whether business people believe in environmental values, they may comply because they see themselves as law-abiding.²⁵¹ That is, individuals and firms may choose to comply with the law whether the law in question is reasonable or not.²⁵² A complier's pecuniary incentive to violate the law, then, must overcome values like environmentalism and "law-abidingness" to cause actual noncompliance.

Nor is it always clear that the actual decision makers within a firm face a pecuniary incentive to violate the law at all, even if p and F are small. Principal-agent models of the firm illustrate how owners' interests and employees' interests can diverge, causing agency losses in the firm's decision-making hierarchy.²⁵³ That is, owners (shareholders in the case of a corporation) of the firm may understand that $E(NC) > 0$, and therefore prefer noncompliance. Top-down pressure to cut costs may be a manifestation of this otherwise latent preference. Yet employees who make actual compliance decisions do not share that incentive, and may choose to comply

247. See generally Cheryl E. Wasserman, *Federal Enforcement: Theory and Practice*, in *INNOVATION IN ENVIRONMENTAL POLICY* 21 (Thomas H. Tietenberg ed., 1992) (claiming that norms of professionalism and moral values also influence compliance decisions).

248. See IAN AYRES & JOHN BRAITHWAITE, *RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE* 22-23 (1992) (arguing that companies are often motivated to do what is right).

249. See *supra* note 39.

250. Sen argues that "commitment . . . drives a wedge between personal choice and personal welfare . . ." such that many choices are not guided mainly by self-interest. Amartya K. Sen, *Rational Fools: A Critique of the Behavioral Foundations of Economic Theory*, 6 *PHIL. & PUB. AFF.* 317, 329 (1977). Scholz's work echoes Sen's and focuses on "heuristics" that favor cooperation even when self-interest would imply noncooperation. I discuss Scholz's work in detail *infra* at notes 318-324 and accompanying text. Michael Harris suggests that businesses do internalize these environmental values. Michael Ray Harris, *Promoting Corporate Self-Compliance: An Examination of the Debate Over Legal Protection for Environmental Audits*, 23 *ECOLOGY L.Q.* 663, 711 (1996).

251. See AYRES & BRAITHWAITE, *supra* note 248, at 22 (stressing company leaders' desire to be law-abiding citizens).

252. See Sen, *supra* note 250; see also discussion of Scholz's duty heuristic, *infra* notes 318-321 and accompanying text.

253. This is a well-documented (but sometimes overlooked) problem within economics and organization theory. Perhaps the first influential illustration of this argument was RICHARD M. CYERT & JAMES G. MARCH, *A BEHAVIORAL THEORY OF THE FIRM* (1963). For a particularly well-reasoned recent demonstration of the limits of incentive systems as instruments of control, see GARY J. MILLER, *MANAGERIAL DILEMMAS: THE POLITICAL ECONOMY OF HIERARCHY* (1992).

irrespective of the owners' wishes. They may be guided by any of a host of other motives commonly ascribed to shirking employees within behavioral law and economics.²⁵⁴ This dynamic suggests a relationship between compliance levels and firm size, assuming that front line decision makers are less likely to be owners in larger firms. That is, in smaller firms the organizational distance between owners and employees who make actual compliance decisions is shorter, offering fewer opportunities for these kinds of agency losses.²⁵⁵ According to this logic, we would expect to see more noncompliance among smaller firms than larger ones.²⁵⁶

Which brings us to the corollary question: why do firms violate the law? Of course, the rational polluter model offers an answer to this question, one that predicts noncompliance if $E(NC)$ is positive: that is, if $S > pF$. Since pF is very small, noncompliance happens. This view is the starting point for most of the social scientific literature on compliance and enforcement, and is a relative of Nobel laureate Gary Becker's analysis of criminal enforcement. Becker's model focuses on regulators' manipulation of p and F to produce an "efficient level of crime."²⁵⁷ As we have seen, the rudiments of this approach have been adopted by the modern American environmental enforcement regime²⁵⁸ and by numerous scholars studying environmental enforcement.²⁵⁹ The rational polluter model suggests that the quantity pF is small because self-interested regulated entities exercise political influence. Capture theorists emphasize an agency's desire to maximize its political support²⁶⁰ as a reason why agencies will under-enforce

254. These motives may include altruistic and other "other-regarding" preferences, as well as decision-making heuristics that favor "law-abidingness," doing one's duty, and the like. While these ideas are not new (see CYERT & MARCH, *supra* note 253), they have gained renewed vigor with the recent work marrying cognitive psychology and economics within law and political science scholarship. For a discussion of this marriage within legal scholarship, see Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998).

255. Compare Cohen and Alexander's argument that this kind of shirking can occur in exactly the opposite way, causing underlings to ignore management's directives to comply, discussed *infra* at notes 272-273 and accompanying text. Their argument offers an alternative to the complexity critique's explanation for noncompliance.

256. Indeed, this is what we do find. Brehm & Hamilton, *supra* note 230, at 490 (finding that smaller firms are less likely than larger firms to have complied with the Emergency Planning and Community Right-to-Know Act).

257. See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 191-93 (1968). The general law and economics literature on crime and deterrence remains vibrant.

258. See discussion *supra* Part I.

259. See, e.g., Maureen L. Cropper & Wallace E. Oates, *Environmental Economics: A Survey*, 30 J. ECON. LIT. 675 (1992) (surveying the various permutations of the rational polluter model in the academic literature); Paul B. Downing & William D. Watson, *The Economics of Enforcing Air Pollution Controls*, 1 J. ENVTL. ECON. & MGT. 219 (1974) (examining, in theory, the reaction of firms to different levels of p and F).

260. See, e.g., Mary E. Deily & Wayne B. Gray, *Enforcement of Pollution Regulations in a Declining Industry*, 21 J. ENVTL. ECON. & MGT. 260 (1991) (noting that larger firms are inspected less frequently than smaller ones and suggesting that a self-interested agency would not enforce the law vigorously against well-connected firms because doing so will increase political opposition to the

against powerful firms.²⁶¹ Indeed, some scholars focusing on the problem of capture-induced under-enforcement suggest increased reliance on self-reporting, combined with stringent penalties for violating reporting rules, as one solution to this problem.²⁶²

The complexity critique suggests another explanation for noncompliance. Noncompliance may be due to industry ignorance of the existence of regulatory requirements, or misunderstandings, or disagreements about their meaning. Indeed, only thirty percent of corporate counsel surveyed in 1993 "believed that full compliance . . . was possible."²⁶³ This is the essence of the complexity critique. While scholars have debated the implications of these forms of ignorance in the criminal enforcement context,²⁶⁴ the issue receives little attention in the civil enforcement context.²⁶⁵ Nevertheless, the violator's state of mind is relevant to the question of why firms violate environmental regulations. Even adherents of the rational polluter model have acknowledged the possibility of this kind of "stochastic" or unintentional noncompliance,²⁶⁶ though they dispute the assertion that ignorance plays a large role in noncompliance.

Few scholars have attempted to measure the role of ignorance directly, at least in systematic ways. Brehm and Hamilton's study of compliance with toxic chemical reporting found that ignorance of the legal requirements accounted for a large portion of the noncompliance with that requirement and was a much stronger predictor of noncompliance than either evasion or the costliness of compliance.²⁶⁷ Their conclusion meshes nicely with the oft-repeated axiom that even the most conscientious,

agency); D. Gavrie & A. Keeler, *Incomplete Enforcement with Endogenous Regulatory Choice*, 55 J. PUB. ECON. 141 (1994) (explaining low penalties as a way for an agency to minimize political resistance); Peltzman, *supra* note 29. *But cf.* Eric Helland, *The Enforcement of Pollution Control Laws: Inspections, Violations, and Self-Reporting*, 80 REV. ECON. & STAT. 141 (1998) (suggesting that the frequency of inspections is a function of past regulatory performance).

261. There are more sophisticated versions of this argument that specify the complexity of the agency's enforcement motivations. Some focus on the difference between maximizing compliance and maximizing environmental benefits, or social welfare. *See, e.g.*, Mark A. Cohen, *Optimal Enforcement Strategy to Prevent Oil Spills: An Application of a Principal-Agent Model with Moral Hazard*, 30 J.L. & ECON. 23 (1987) (arguing that penalties aim to produce not an optimal level of pollution, but an optimal level of pollution control effort by the regulated firm); A. Mitchell Polinsky & Steven Shavell, *Should Liability Be Based on Harm to the Victim or the Gain to the Injurer?*, 10 J.L. ECON. & ORG. 427 (1994) (arguing for harm-based penalties as the better deterrent).

262. This is a large literature that is well summarized in Cohen's recent literature review. *See* Cohen, *supra* note 195, at 20-21. Echoing the argument between states and the EPA over the proper treatment of self-reported violations, some scholars suggest a fine hierarchy that punishes self-reported violations less stringently than other violations; other scholars disagree. *Id.*

263. Lavelle, *supra* note 46, at S1; *see also* *Civil Enforcement Fails*, *supra* note 78.

264. *See* discussion *supra* Part II(B)(2).

265. *But see* Margaret N. Strand, *The "Regulatory Confusion" Defense to Environmental Penalties: Can You Beat the Rap?*, 22 ENVTL. L. REP. 10,330 (1992) (discussing ambiguity of regulations as a possible defense to civil liability).

266. Cropper & Oates, *supra* note 259, at 677.

267. Brehm & Hamilton, *supra* note 230, at 467.

heavily regulated firm cannot achieve perfect compliance.²⁶⁸ It also offers yet another explanation for the proposition that smaller companies are more likely to run afoul of environmental laws. If smaller companies lack the resources or sophistication to keep themselves apprised of complicated, changing regulatory requirements, they are more likely than well-heeled sophisticated companies to violate rules unintentionally.²⁶⁹ To date there have been no studies aimed at assessing the role played by another kind of ignorance-based noncompliance: namely, inadvertent violations caused not by ignorance of the existence of the requirement, but by ignorance of their meaning, or the meaning given them by regulators. Firms may understand a regulatory requirement to mean one thing; regulators may understand it to mean another. While we have anecdotal evidence of this phenomenon,²⁷⁰ we have no systematic measurement of it as a determinant of noncompliance. However, since courts give deference to regulators' interpretations of the rules, it is easy to see how this sort of inadvertent violation might arise.²⁷¹

Yet another possible explanation for noncompliance focuses on agency losses within the firm. Mark Cohen and Cindy Alexander suggest that noncompliance may occur in the face of management's preference for compliance, which presents noncompliance as one kind of shirking behavior.²⁷² Front line employees or departmental managers may see this kind of shirking as a way to move up in the company by cutting costs, reasoning that it will go undetected by their principal (management).²⁷³ While Cohen and Alexander's argument is the mirror image of the argument that shirking causes compliance when owners would prefer noncompliance, it offers a different way to reconcile the rational polluter model with the literature documenting the rise of corporate environmentalism by suggesting one reason why corporate environmentalism does not necessarily beget increased levels of compliance.

268. See, e.g., California District Attorney's Association, *The Complete Guide to Hazardous Materials Enforcement and Liability*, Section I-1 (1992) ("No facility of moderate complexity . . . can be expected to be in full compliance at all times."); see also Lavelle, *supra* note 46, at S1.

269. Of course, this explanation competes with other explanations of small firm noncompliance, such as the argument that because owner control is easier in smaller firms, the owner's incentive to violate the law exerts more influence over firm behavior. See discussion *supra*, notes 253-256 and accompanying text.

270. For examples of this phenomenon, see Stoll, *supra* note 54, at 6, discussing the many ways in which one might misinterpret RCRA hazardous waste rules; see also the discussion of the Environmental Leadership Program and the Root Cause Project, *infra* notes 274-285 and accompanying text, in which the same sorts of misunderstandings arose.

271. See *supra* Part I for a more complete discussion of this problem.

272. Cindy R. Alexander & Mark A. Cohen, *Why Do Corporations Become Criminals? Ownership, Hidden Actions, and Crime as an Agency Cost*, 5 J. CORP. FIN. 271, 290-99 (1999).

273. *Id.*

TABLE 1:
EXPLANATIONS OF (NON)COMPLIANCE

<i>Why Violate?</i>	<i>Why Comply?</i>
<i>Recognition that pF is very small, and that $E(NC) > 0$</i>	<i>Mistaken belief that pF is not very small, and that $E(NC) < 0$</i>
<i>Ignorance of the law:</i> <ul style="list-style-type: none"> ■ ignorance of rule's existence ■ misunderstanding of rule ■ disagreement with regulator about rule's meaning 	<i>Fear of intangible (bad publicity) or indirect (shareholder or customer punishment) costs of noncompliance</i>
	<i>Internal motivations:</i> <ul style="list-style-type: none"> ■ belief in value of the rule ■ belief in abiding by law
<i>Agency Losses: Employee/Agent disobeys Manager/Principal's order to comply</i>	<i>Agency Losses: Employee/Agent disobeys Owner/Principal's order to violate</i>

3. *Reassessing the Evidence*

Table I summarizes the major explanations for compliant and non-compliant behavior offered by scholars. While scholars have been unable to produce a single coherent explanation of how and why (non)compliance occurs, the evidence offers little support for defenders of the rational polluter model. The model attributes noncompliance to firms' ability to correctly calculate that the expected value of compliance is less than the expected value of noncompliance. Yet faced with high rates of compliance coupled with the evidence that the cost of noncompliance (the quantity pF) is very small, defenders of the rational polluter model conclude that firms overestimate p , the probability that noncompliance will be detected. At the same time, the model assumes that while firms cannot accurately measure the probability that a violation will be detected, they can understand the labyrinth of changing regulatory requirements. These are, at the very least, difficult claims to reconcile.

In fact, the model has it exactly backwards. Firms know from experience that p , and therefore, $E(NC)$, is small. However, more recent, less-systematic evidence demonstrates that even experienced, sophisticated

firms have difficulty understanding, and therefore complying with, environmental regulations. Two recent EPA-industry partnership initiatives, the aforementioned Environmental Leadership Program and the Root Cause Project,²⁷⁴ reveal persuasive evidence that: (i) perfect compliance is almost impossible to achieve even for sophisticated and conscientious firms; and (ii) many violations result from sincere disagreements or differing interpretations of what EPA regulations mean.

During the pilot phase of the ELP, audits were carefully planned in advance and designed to allow participating firms to demonstrate their sophisticated environmental management and auditing systems to the EPA. The audits included regulators and representatives of the firms, and each firm knew ahead of time when the audit would take place and had ample time to prepare. Nevertheless, in nearly every environmental audit performed under the ELP, violations were discovered.²⁷⁵ Consistent with the special EPA enforcement policy devised for ELP participants, the violations were corrected, and no penalties were imposed. But, the important point is this: even with time to prepare and an incentive to perform well, these sophisticated firms did not achieve perfect compliance.

It is possible, of course, that the availability of immunity from penalties during the ELP process led participating firms to be less conscientious during and leading up to these audits than they might otherwise have been. Yet that is unlikely for several reasons. First, the ELP enforcement response guidelines did not provide unconditional immunity for violations discovered in the program.²⁷⁶ Rather, the grant of immunity was limited; it excluded serious violations, criminal violations, and violations occurring under a host of other circumstances that could lead to the imposition to penalties. Second, participants reported that firms were initially reticent about performing joint audits and eager to have their facilities perform well during the auditing process.²⁷⁷ Participating firms were trying to achieve perfect compliance, and their failures were apparently due to differences with regulators over the interpretation of regulatory requirements,²⁷⁸ or to simple inadvertence. Furthermore, EPA participants in the project reported that the joint audits gave the agency a better appreciation for the amount of effort and resources that firms devoted to the task of compliance.²⁷⁹ Still,

274. The Root Cause Project was a joint study performed by the EPA and the chemical industry. See U.S. EPA & CHEMICAL MANUFACTURERS ASS'N, EPA/CMA ROOT CAUSE ANALYSIS PILOT PROJECT: AN INDUSTRY SURVEY (1999) [hereinafter ROOT CAUSE PROJECT].

275. Interview with Debra Thomas, Deputy Director of the Environmental Leadership Program, in Washington, D.C. (Nov. 5, 1999).

276. See Enforcement Response Guidelines at <http://www.epa.gov/earth1r6/6wq/npdes/tx/delegatn/pdf/apndx6a4.pdf> (last modified June 26, 1998).

277. Interview with Debra Thomas, *supra* note 275; see also Jacobs, *supra* note 166 at 14-17.

278. EPA representatives also supported this notion. Interview with Debra Thomas, *supra* note 275.

279. See Jacobs, *supra* note 166, at 14-17.

those efforts were apparently insufficient to avoid numerous, though minor, instances of noncompliance by the participants.

The Root Cause Project ("RCP") offers further support for the notion that many instances of noncompliance, even instances that have been the subject of agency enforcement actions, result from unintentional, non-negligent conduct. Under the RCP, the EPA and the Chemical Manufacturer's Association ("CMA") sponsored a survey of CMA member companies who had been the subject of recent enforcement actions under any of several environmental laws. The purpose of the survey was to determine the root causes of non-compliance.²⁸⁰ While the survey addressed a tiny and unrepresentative fraction of the universe of enforcement actions,²⁸¹ it reached some interesting conclusions. Though the survey did not focus explicitly on intentional versus unintentional causes, it is clear from the data that a significant percentage of violations were inadvertent. For example, in three of the four major categories of violations,²⁸² a leading root cause cited was the lack of awareness of, or ambiguity associated with, the legal requirement.²⁸³ Other unintentional causes were cited as well, including equipment design and breakdown problems²⁸⁴ and communication problems with regulators.²⁸⁵ The most telling aspects of the report were the respondents' perspectives on ways that compliance could be improved. Respondents' suggestions included more compliance assistance from

280. ROOT CAUSE PROJECT, *supra* note 274, at 2 ("One way to help improve compliance and environmental performance is to understand why there is difficulty complying with environmental laws This report presents an overview of survey responses from industry representatives about the root and contributing causes of noncompliance").

281. The survey responses represented 47 enforcement actions at 27 different facilities. Because these surveys were sent only to CMA members, all of the respondents were chemical manufacturers, and the average facility had more than 100 employees. *Id.* at 5-7.

282. The four most frequently reported categories of non-compliance were: (1) reporting violations; (2) permit exceedances; (3) operation and maintenance violations; and (4) record-keeping violations. *Id.* at 10.

283. The cause categories used in the survey separate intentional from unintentional violations only imperfectly. Two of the most frequently cited causes were (1) "[h]uman error," which was defined to include both intentional and negligent noncompliance as well as "lack of knowledge...[or] technical expertise," and (2) "[r]egulations and permits," which was defined to include ignorance of, misunderstandings of, or differing interpretations of regulatory requirements. The cause category "Regulations and permits" was the second most commonly cited root cause for reporting violations (about 27% of the total), the third most cited cause for operation and maintenance violations (18%), and the most cited (tied with human error, at 38%) cause of record keeping violations. Human error was the leading cause category cited for both reporting and record-keeping violations, comprising 35% and 38% of those violations, respectively. *Id.* at 12-14.

284. This was the leading cause of permit exceedances, comprising 41% of the total. *Id.* at 12. Interestingly, 70% of all equipment failures cited involved violations of the Clean Water Act. *Id.* at 22.

285. The root cause "communication difficulties" included both intraorganizational communications problems and problems involving communication between the organization and the regulatory agency. Consequently, it is impossible to further subdivide those responses. *Id.* at 22 ("Communications difficulties was identified as a root cause of 7 percent of the noncompliance events. Specifically, *difficulties between facility and regulatory agency* was identified frequently.") (emphasis in original).

regulators, the use of “technical assistance inspections”²⁸⁶ in addition to enforcement inspections, and a series of recommendations involving the simplification of regulatory requirements and the replacement of prescriptive rules with performance standards.²⁸⁷

The Root Cause Project and the ELP underscore the difficulty of the compliance task. Both involved particularly sophisticated companies acting in an environment conducive to compliance: the CMA provided its members with a kind of continuous compliance education, making them uncommonly well-versed in the details and nuances of the regulatory scheme; ELP participants were chosen because they exhibited that same level of expertise. Yet both sets of firms ran afoul of the regulations. Unless reports like these are nothing more than another part of an elaborate ruse designed to facilitate capture of the regulatory process, they suggest that complexity does indeed inhibit efforts to comply with environmental regulations.

IV

WHY THE COMPLEXITY CRITIQUE MATTERS

Defenders of the rational polluter model might argue that even if the rational polluter model is sometimes wrong, it is still the best operating assumption we have. Even Oliver Wendell Holmes, though acknowledging that his “bad man” was a mere construct that might not describe most people accurately, argued that the law ought to direct its attention to regulating the bad man so as to protect the rest of society.²⁸⁸ In other words, the good will be good in any case; the bad will be deterred by the threat of penalties. After all, the primary goal of the environmental regulatory system is environmental protection, not the happiness of the regulated.²⁸⁹ Thus, there are Holmesian responses to each of the various components of the complexity critique. For example, because even morally blameless violators benefit economically from noncompliance, enforcers reserve the right to recapture that economic benefit in the form of civil fines. Likewise, we emphasize deterrence in criminal prosecutions because we know that in order for a morally blameless defendant to be convicted, the prosecution must overcome numerous opportunities to detect and reverse errors, beginning with the exercise of prosecutorial discretion and ending with the final

286. That is, participants suggested more plant inspections in which regulators explain to representatives of the firm their views of how environmental rules apply to the firm's operations without the risk that penalties will be imposed.

287. *Id.* at 32-34. The term “performance standards” refers to rules that merely specify the regulatory goal, not the means of achieving it.

288. Holmes, *supra* note 45, at 992.

289. See, e.g., Steinzor, *Reinventing Environmental Regulation*, *supra* note 182, at 105 (stressing the need to remain cognizant of the EPA's “overarching mission” of environmental protection); Lisa Heinzerling, *Reductionist Regulatory Reform*, 8 *FORDHAM ENVTL. L.J.* 459, 460 (1997) (noting that “the express purpose of the laws regulating pollution in this country is the protection of human health and natural resources”).

review at the last stage of appeal.²⁹⁰ And in the political context, the persistence of rigid or inefficient approaches to regulation is a small price to pay for protecting the regulatory system from capture. These Holmesian defenses of the rational polluter model boil down to this: the system may not be perfect; but if it errs, let it err on the side of environmentalism.

The rejoinder to this argument is that the long-term health of our environmental regulatory regime depends upon its ability to achieve its stated goals of minimizing environmental pollution by maximizing compliance. Of course, there is “slippage”²⁹¹ in every legal system, but slippage occurs in both directions. If the system treats innocent violators like criminals, it fails to meet the expectations of the regulated industries; if it allows well-connected firms to capture the enforcement process, it fails to meet the expectations of the environmental community. While the rational polluter model guards against the latter form of slippage, it promotes the former. For this reason, over-reliance on the rational polluter model poses a threat to the regulatory system’s legitimacy, a threat that is implicated in current doctrinal and policy controversies within environmental law.

A. *Legitimacy, Survival and Effectiveness*

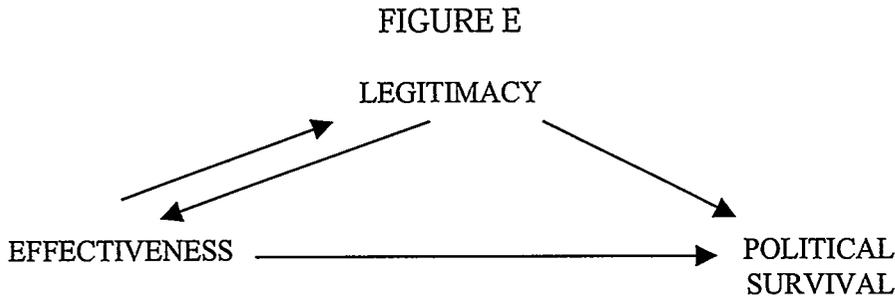
Although Americans have not been attentive traditionally to the risk of undermining the legitimacy of our regulatory system, there are good reasons to worry about it.²⁹² In particular, the survival and the effectiveness of the environmental regulatory system are each partly a function of the

290. This is one of the pillars of Kathleen Brickey’s defense of traditional environmental criminal enforcement. See Brickey, *Environmental Crime at the Crossroads*, *supra* note 136, at 505-06; see also *infra* notes 343-344 and accompanying text.

291. Dan Farber uses the term “slippage” as a way to conceive of the gap (or, more accurately, gaps) between how people expect the environmental regulatory system to perform, and how it actually performs. Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297, 298 (1999).

292. By legitimacy, I mean sociological legitimacy, not philosophical legitimacy. The former term refers to the notion that people will support the system and treat it as authoritative. I do not refer here to any deeper philosophical justification for the regulatory system. Thanks to Brian Leiter for helping me clarify this distinction.

system's legitimacy. That is, we can imagine a series of relationships like these:



The kind of slippage caused by over-reliance on the rational polluter model can threaten these relationships, at least theoretically. Look first at the left side of Figure E. The goal of environmental regulation is to minimize violations of the law, thereby minimizing pollution. As we have seen, the system's effectiveness depends upon a great deal of undetected and undetectable compliance.²⁹³ For example, regulated firms that question the legitimacy of the system might be less likely to comply in the usual absence of a credible threat of enforcement. Turning to the right side of Figure E, if enough voters view the system as illegitimate, and if public preferences influence policy, the system's very survival may be threatened. Indeed, the American environmental system seems to have survived attacks from the right, even within the Republican-dominated Congresses of the 1990s, precisely because voters perceive it as legitimate.²⁹⁴ In this sense, the long-term survival of the system is a function of the degree to which the voters view it as legitimate. If voters support the system, or are unaware of or do not care about regulated firms' dissatisfaction with it, its continued survival is likely.

Do these concerns pose a real, long-term risk to environmental regulation? Certainly the survival of the deterrence-based regulatory system seems assured, at least for the foreseeable future. Americans of almost all political stripes support environmental protection as a goal, and reject attempts to repeal or weaken the regulations in place. Does this mean that voters do not care about over-reliance on the rational polluter model? Is the complexity critique merely a form of sour grapes from the interest groups whose interests have been defeated in the policy process? Not necessarily. The fact that the complexity critique has not captured the imagination of most voters, who know little about the day-to-day workings of the

293. See *supra* Part III.B.1.

294. See *supra* notes 212-216 and accompanying text.

environmental regulatory system, does not mean that regulators can over-rely on the rational polluter model.

Voters do not want government simply to follow the opinion polls, but rather to produce the policies that voters would produce if they had the time and resources to become fully informed on each issue.²⁹⁵ This idea is central to the American form of republican democracy, forming the core of the Edmund Burke's concept of representation,²⁹⁶ James Madison's defense of the constitution,²⁹⁷ Woodrow Wilson's defense of the administrative state,²⁹⁸ and modern public choice scholars' analyses of popular sovereignty.²⁹⁹ Indeed, much of our politics focuses on disagreements over whether particular policymakers have achieved this goal. Thus, if legislators produce policies that well-informed voters would not like, they provide an incentive for interest groups and opposing candidates to educate the public about this fact.³⁰⁰ To the extent that legislators perceive such a risk in their policymaking decisions, that risk disciplines them from straying too far from the well-informed preferences of their constituents.³⁰¹ Likewise, regulatory agencies know that when they deviate from voters' preferences, their opponents will work to make voters aware of that deviation.³⁰² This ongoing dynamic disciplines agencies not to stray too far from voter preferences over the long run.³⁰³ The EPA's ambivalent,

295. See Spence & Cross, *supra* note 42, at 106 (explaining and making the case for the Burkean view of the government).

296. See, e.g., Edmund Burke Speech to the Electors of Bristol (November 3, 1774), in BURKE'S POLITICS 115 (Ross Hoffman & Paul Levack eds. 1949) ("Your representative owes you, not his industry only, but his judgement; and he betrays, instead of serving you, if he sacrifices it to your opinion. . . . [G]overnment and legislation are matters of reason and judgement, and not of inclination . . .").

297. Madison's contributions to the Federalist papers stress the importance of creating a government that is not too responsive to immediate "passions," lest the government be prone to "temporary errors" and "delusions"; rather, government must be able to deliberate so as to be responsive to the true or "permanent" interests of the community. 2 THE FEDERALIST No. 63, at 3-4 (Alexander Hamilton or James Madison) (Edward Gaylord Bourne ed., 1901). See also 1 THE FEDERALIST No. 49, at 348 (Alexander Hamilton or James Madison) (Edward Gaylord Bourne ed., 1901) ("[I]t is the reason, alone, of the public, that ought to control and regulate the government. The passions ought to be controlled and regulated by the government.").

298. Woodrow Wilson, *The Study of Administration*, 2 POL. SCI. Q. 197, 207 (1887) (arguing that bureaucratic policymaking is insulated from political considerations).

299. See Spence, *Public Choice Progressivism*, *supra* note 24 (summarizing this literature).

300. For a fuller explanation of the political science literature supporting this claim, see Spence & Cross, *supra* note 42 at 119-21.

301. For an argument that this risk disciplines agencies more often than legislators, see Spence & Cross, *Public Choice Case*, *supra* note 42, at 119-21.

302. That is, opponents believe that voters would be unhappy with the agency's action if they understood the issue and were aware of the agency's choice. Hence opponents work both to educate voters about the choice and to increase the issue's salience. *Id.* at 124-26 (elaborating a formal model of this dynamic).

303. Spence & Cross, *supra* note 42 at 130-31. Spence and Cross argue that agencies have a systematic incentive not to stray too far from the preferences of the hypothetical median voter, because politicians will be more likely to try to sanction the agency in that event, and are more likely to be

experimental departures from the rational polluter model in recent years may represent this dynamic at work. In other words, the EPA may sense the long-term risk associated with routinely treating innocent noncompliers as blameworthy rational actors.

Of course, we do not know how fully informed median voters would feel about the kind of slippage caused by the rational polluter model.³⁰⁴ However, the public's support for stringent standards is not at all inconsistent with criticism of the rational polluter model; that is, voters may support stringent standards, and may want those standards enforced in a fairer, less punitive, and more cooperative way. If voters do want this, it is possible that support for the rational polluter model may be eroding slowly, as more and more firms face, and more voters learn of, unfairness in the enforcement system. Defeated expectations, perceived unfairness, and other forms of slippage may undermine the legitimacy of the system one voter at a time.³⁰⁵ The EPA's many tentative attempts to address the fairness of the enforcement system may reflect concern that a fully informed median voter would be unhappy with the kind of slippage produced by over-reliance on the rational polluter model.³⁰⁶ If that kind of erosion is underway, however, the process will be slow enough to conclude that the slippage poses no immediate threat to the survival of the American environmental regulatory system.

successful. That is, when agencies pursue policies that politicians, and their interest group allies, believe voters will not like, politicians have more to gain by opposing those policies and publicizing their opposition. That process, in turn, produces better-informed voters. If the agency's policy choice is one well-informed voters would probably like, politicians fight that choice at their own risk, even if the choice is unpopular among less-informed voters. This is the elegance of the Madisonian argument: it pits competing interests against one another in ways that tend to serve the more "permanent" interests of the community. For example, one could argue that the evolution of the EPA's Superfund program reflects this dynamic. Initially, the EPA enforced the program in ways that industry and their congressional allies thought were Draconian and patently unfair. Although voters obviously supported the general goals of the program, its opponents persisted in seeking changes in the program throughout most of the life of the program, betting that voters would agree with them if they understood exactly how the program worked. The result was a series of incremental retreats by the EPA, perhaps made to forestall major legislative reform. For a complete summary of these arguments, see David B. Spence, *Imposing Individual Liability as a Legislative Policy Choice: Holmesian "Intuitions" and Superfund Reform*, 93 Nw. U. L. Rev. 389, 438 (1999) [hereinafter Spence, *Superfund Reform*].

304. We do know that critics of the rational polluter model include some who are not fairly categorized as right-wing ideologues. Certainly there is no evidence to suggest that people like the five dissenters in the *Weitzenhoff* case or the proponents of reform within the Clinton EPA oppose environmental protection generally. See *supra* Parts II.A and II.B.2. The same is probably true for most or all of the scholarly proponents of reform.

305. See the discussion of the work of Tom Tyler *infra* notes 309-317 and accompanying text, documenting how this gradual erosion occurs.

306. Another explanation of EPA's recent forays into regulatory reform is that EPA is simply trying to outflank the Republican Congress. That is, EPA proposes reform to take the wind from the sails of reformers in Congress, reducing the likelihood that reforms will be forced upon the agency legislatively. It is certainly true that the EPA has been known to anticipate Congress in this way. See Spence, *Superfund Reform*, *supra* note 303, at 437.

However, the EPA's recent attentiveness to fairness issues in enforcement³⁰⁷ may reflect more than its concern for the system's long-term survival. It may also reflect a tacit acknowledgement that, irrespective of how voters feel, regulated firms' faith in the fairness of the environmental regulation is important; it is a necessary element for the system to operate effectively, that is, to maximize voluntary compliance. Critics of the rational polluter model argue that the disjuncture between the assumed and actual causes of noncompliance threatens to diminish legitimacy in the eyes of the regulated. For example, the dissenters in *Weitzenhoff* openly worried about establishing rules that could punish innocent conduct, arguing that the majority's decision "impairs a fundamental purpose of criminal justice, sorting out the innocent from the guilty... [and that] ... [d]ilution of the traditional requirement of a criminal state of mind, and application of the criminal law to innocent conduct, reduces the moral authority of our system of criminal law."³⁰⁸ There is an analogous risk to legitimacy on the civil enforcement side as well. If the system treats inadvertent noncompliers like rational polluters, firms may comply less as a result.

The work of Tom Tyler illustrates how a loss of faith in the fairness of the system can reduce voluntary compliance.³⁰⁹ Tyler contrasts the instrumental view of compliance, of which the rational polluter model is one example, with what he calls the "normative perspective."³¹⁰ Under the normative view, compliance decisions are influenced by individuals' beliefs about what is "just" and "moral."³¹¹ Tyler reasons that the normative view offers the better explanation of compliance behavior when the probability of detecting non-compliance is near zero.³¹² That is, people internalize legal obligations when they view the law as legitimate, either because they believe that legal requirements are just or because they recognize legal authorities' right to govern their behavior. Because enforcement alone cannot assure high enough levels of compliance, legitimacy of the law is essential to good governance.³¹³

In a series of empirical studies of compliance, Tyler finds substantial support for the normative view.³¹⁴ More important, however, are Tyler's findings about feedback effects, the way individuals' experiences with

307. I am referring here to the EPA's experiments in collaborative regulation begun during the first Clinton Administration, some of which are discussed in Part II.B.

308. *United States v. Weitzenhoff*, 35 F.3d 1275, 1293 (9th Cir. 1993) (Kleinfeld, J., dissenting from rehearing en banc) (opinion joined by Reinhardt, Kozinski, Trot and Nelson).

309. See TOM R. TYLER, *WHY DO PEOPLE OBEY THE LAW* (1990).

310. *Id.* at 4.

311. *Id.* at 4 (suggesting that one obeys the law "because one feels the law is just . . . [or] . . . that the authority enforcing the law has the right to dictate behavior").

312. *Id.* at 23.

313. *Id.* at 25-29 ("Legitimacy is regarded as a reservoir of loyalty on which leaders can draw, giving them the discretionary authority they require to govern effectively.").

314. *Id.* at 24-26.

legal authorities influence their sense of the system's legitimacy. Individuals who believe that the legal system did not treat them fairly see the system as less legitimate.³¹⁵ Tyler's conception of fairness has two components: distributive justice (the fairness of the outcome) and procedural justice (the fairness of the process). Tyler finds that both count in determining an individual's sense of the system's legitimacy.³¹⁶ The implications of this finding are clear and important: "For leaders to gain the benefits of voluntary compliance, they need to understand the public's views of what is fair. This means they must understand both the public's views about fair procedures for decision-making and the public's views about distributive justice."³¹⁷

In other words, a system that treats too many people unfairly can undermine its own legitimacy. In the context of environmental regulation, firms comply voluntarily because they see the system as legitimate. If the system treats them unfairly, they may come to question its legitimacy, which in turn may reduce their willingness to comply voluntarily.

John Scholtz's work on tax compliance casts further doubt on the traditional approach to environmental regulation. Scholtz addresses the legitimacy issue from a slightly different angle. In a series of studies with various co-authors, Scholtz asks why people comply with tax laws given the extremely low probability that non-compliance will be detected.³¹⁸ He models compliance as a problem of collective action; rational citizens want the benefits government provides, but would prefer to free ride off of the taxes paid by others. Scholtz notes that in the usual case, the probability that a noncompliant person will be detected (p) is very small, so the expected value of non-compliance almost certainly exceeds the expected value of compliance in this narrow sense.³¹⁹ Why then, do so many comply? He proposes a series of answers, framed as heuristics, or cognitive coping devices. One such device is the duty heuristic, which refers to taxpayers' sense of duty to obey laws generally.³²⁰ Another such device is the trust heuristic, according to which taxpayers who trust in government and

315. *Id.* at 11.

316. *Id.*

317. *Id.* at 111. See also JOHN BRAITHWAITE, TO PUNISH OR PERSUADE: ENFORCEMENT OF COAL MINE SAFETY 99 (1985) ("Punishment is the best strategy when good will is wanting. . . . Punishment is something we resort to only when we confront a [person] . . . to whose better nature we cannot appeal for compliance . . .").

318. John T. Scholz & Mark Lubell, *Trust and Tax Paying: Testing the Heuristic Approach to Collective Action*, 42 AM. J. POL. SCI. 398 (1998); John T. Scholz & Neil Pinney, *Duty, Fear and Tax Compliance: The Heuristic Basis of Citizenship Behavior*, 39 AM. J. POL. SCI. 490 (1995).

319. See Scholz and Lubell, *supra* note 318, at 400 (noting that "a rational taxpayer [is unlikely] to be caught or to lose benefits even if caught . . .").

320. Scholz says that "the *duty heuristic* biases perceptions relevant to self-interest in a direction consistent with beliefs about duty." Scholz & Pinney, *supra* note 318, at 491 (emphasis in original). Therefore, taxpayers with a strong sense of duty to obey the law overestimate the probability of detection so as to minimize the conflict between collective rationality and individual rationality. *Id.*

in their fellow citizens will be more likely to comply with the law than those who do not.³²¹ Scholz finds empirical support for both of these phenomena and for the proposition that both explain high levels of compliance with tax law.³²²

If people are motivated to comply with the law based on their sense of duty and trust in government, we might infer that violations of that trust can undermine compliance. With respect to the duty heuristic, Scholz concludes that, "intrusive new enforcement activity [may] adversely affect taxpayers' sense of duty," thereby reducing compliance.³²³ He reaches a similar conclusion with respect to trust, reasoning that "[p]ositive experiences in receiving benefits from a collective [read: government] enhance trust and hence the likelihood of complying with obligations to that collective, while negative experiences reduce both trust and compliance."³²⁴

The lesson is obvious, perhaps even intuitive. If a system of laws imposes costs and penalties on the regulated in ways that seem irrational or unfair, it undermines its own effectiveness and, perhaps, its long-term survival.³²⁵ In this way, complexity in the law undermines deterrence. Indeed, even Oliver Wendell Holmes' argument in favor of designing laws to deter "bad men" stressed the importance of making legal rules clear and understandable. Holmes' bad man wants to know only how the law will react to different courses of action. For these reasons, said Holmes, the law should be clear and understandable so as to mete out justice in predictable ways.³²⁶ The complexity critique suggests that environmental law is, frequently enough, neither clear nor understandable. So if the complexity critique is correct, the environmental regulatory system's devotion to the rational

321. That is, the act of paying taxes is like cooperating in a prisoner's dilemma game. By paying taxes, you contribute to the provision of public benefits. That act of cooperation is based, in part, on trust that the government will provide the promised benefits and trust that other citizens will pay their taxes as well. Scholz & Lubell, *supra* note 318, at 400.

322. Scholz & Pinney, *supra* note 318, at 496-505; Scholz & Lubell, *Trust and Tax Paying*, *supra* note 318 at 408-11.

323. Scholz & Pinney, *supra* note 318, at 509. He concludes that this is what motivated the recent IRS reorganization to de-emphasize enforcement and increase service.

324. Scholz & Lubell, *supra* note 318, at 401.

325. Clifford Rechtschaffen dismisses this notion out of hand, noting that it is an untested argument. He also notes that compliance rates among municipal sewage treatment facilities, which benefit from relatively cooperative enforcement, are low. Rechtschaffen, *supra* note 71, at 1203-06. Of course, there are other reasons why municipal sewage treatment facilities may suffer from low compliance rates, including the history of the municipal sewage treatment plant program, the lack of sophistication in environmental compliance, and budgetary peculiarities of local governments. More importantly, given the empirical nature of both Scholz's and Tyler's work, as well as the circumstantial evidence offered by the ELP and Root Cause Project data, Rechtschaffen's response to the critique of the rational polluter model seems insufficient.

326. Holmes says that "our friend the bad man. . . does not care two straws for the axioms [of the law], but . . . he does want to know what the . . . courts are likely to do. . ." Holmes, *supra* note 45, at 994.

polluter model is misplaced. Worse, that devotion may be counter-productive, if people like Scholz and Tyler are to be believed, since the risk of misjudging the regulated is the diminished effectiveness of the regulatory system.

B. *Complexity, Legitimacy, and Current Environmental Policy Debates*

So what exactly does it mean to say that over-reliance on the rational polluter model poses a threat to the legitimacy of the environmental regulatory system? How would the recognition of this risk implicate environmental policy debates? What can be done to guard against this risk without ignoring the possibility of slippage in the other direction? I will now address these questions, examining criminal enforcement, civil enforcement, and cooperative regulation in turn, returning to the debates over enforcement and cooperative regulation.

1. *Criminal Enforcement*

The implications of over-reliance on the rational polluter model are clearest in the criminal law. Scholz's and Tyler's warnings about the relationship between fairness in law enforcement and the legitimacy of the legal system go to the heart of the scholarly debate over environmental criminal law. Such arguments militate in favor of circumscribing the use of the public welfare offense doctrine and the responsible corporate officer doctrine in environmental cases,³²⁷ and in favor of arguments for mens rea rules recognizing a mistake of law defense in some circumstances.³²⁸

Those opposing heightened mens rea rules in environmental criminal law offer the Holmesian argument that criminal liability ought not necessarily to require culpability or blameworthiness of every defendant and that it is reasonable and fair to impute culpability under certain circumstances without requiring its proof in each instance. A distinguished list of scholars supports the presumption of constructive knowledge of the law on the policy grounds that the benefits of such a presumption outweigh the costs. That list includes Holmes,³²⁹ Jerome Hall,³³⁰ and Henry Hart.³³¹ Kathleen

327. See *supra* notes 121-129 and accompanying text for a discussion of the use of both doctrines and arguments in favor of limiting the public welfare offense doctrine to misdemeanor cases. Wiley argues on these grounds that the *International Minerals* and *Dotterweich* cases, *supra* note 118, would be decided differently today. Wiley, *supra* note 132, at 1054, 1060 (noting that under the *International Minerals* decision, "a defendant could fill out a shipping form in utter candor, make a good faith error that was not even negligent, and yet be a criminal"). Cf. Michaels, *supra* note 139, at 844-49 (defending the old rule on the ground that those engaged in the business of shipping the regulated products can be constitutionally charged with constructive knowledge of the law).

328. Lazarus's formulation would recognize a mistake of law defense when legal status is an element of the crime. See Lazarus, *Meeting the Demands of Integration*, *supra* note 124, and Lazarus, *Fairness in Environmental Law*, *supra* note 60, for a discussion of this argument.

329. OLIVER WENDELL HOLMES, *THE COMMON LAW* 48 (1881) ("[t]o admit the excuse at all would be to encourage ignorance where the lawmaker has determined to make men know and obey").

Brickey's admonition that we not hamstring prosecutors of environmental criminals with impossible burdens of proof follows a similar line of reasoning.³³²

However, these scholarly relatives of the modern rational polluter model based their arguments on assumptions not applicable to modern environmental law. For example, Henry Hart argued that lack of knowledge was itself blameworthy only for *malum in se* (intrinsically wrongful conduct) violations, but not for *malum prohibitum* (prohibited but not intrinsically wrongful) offenses, the kind that comprise many environmental violations.³³³ The same is true of Holmes.³³⁴

Indeed, the work of Scholz and Tyler demonstrates how and why the Holmesian approach to environmental criminal enforcement misses the mark. Tyler and Scholz challenge Holmes' view that the good will be good in any event by demonstrating that if the law treats people badly, they will be less likely to be good in the future. Scholz's work examines tax compliance, and the analogies between environmental rules and the tax code are apt. In both cases, the complexity of the rules dwarfs the ability of the regulated to comply; and in both cases, the regulators rely heavily on the

Davies argues that Holmes' view still applies in the modern administrative state. See Davies, *supra* note 131, at 354 n.59 ("To admit the ignorance of law excuse at all would be to encourage ignorance when a host of state and federal legislatures, administrative agencies and courts have determined (although not always consistently with each other) to make us know and obey.").

330. Davies, *supra* note 131, at 355 ("Professor Jerome Hall . . . contended that ignorance of the law claims could not be permitted for to do so would contradict the principle of legality, elevating offenders' perceptions of the law above the law itself.").

331. See Henry M. Hart, Jr., *The Aims of the Criminal Law*, 23 LAW & CONTEMP. PROBS. 401, 413 (1958). For an interesting theory of punishment that seeks to distinguish itself from the Holmes/Hart approach, based on "virtue ethics," see Kyron Huigens, *The Dead End of Deterrence, and Beyond*, 41 WM. & MARY L. REV. 943 (2000) (arguing that we can properly infer fault on the part of individual defendants when their judgment departs from certain kinds of social norms).

332. See Brickey, *The Rhetoric of Environmental Crime*, *supra* note 129, at 123.

333. Hart, *supra* note 331, at 413. Of course, today midnight dumping and other serious environmental offenses might be properly characterized as *malum in se*; however, the environmental law criminalizes a vast number of violations that are technical in nature whose harm is not patently obvious, as the complexity critique emphasizes. Davies argues against drawing distinctions between *malum in se* and *malum prohibitum* offenses because "although the application of a *malum prohibitum* statute without proof of an accused's knowledge of it may be harsh when considered on an individual basis, broader social objectives secured by the maxim's application would seem to justify such a result." Davies, *supra* note 132, at 393.

334. That is why the Holmesian approach in criminal law, which arose prior to the development of the administrative state, has fallen out of scholarly favor. Susan Mandiberg concludes that while nineteenth century courts tried to shoehorn criminal regulatory offense cases into common law patterns, the modern approach is for courts to attend more to the moral underpinnings of regulatory crimes. Mandiberg, *The Dilemma of Mental State*, *supra* note 133, at 1179, 1188. John Wiley agrees, arguing that the Supreme Court's "renewed concern for the ideal of justice" has led it away from the Holmesian approach, and to a modern practice of interpreting criminal statutes so as to ensure that "morally blameless people" could not be convicted under them. Wiley, *supra* note 132, at 1023.

voluntary compliance of the regulated.³³⁵ In the tax context, regulators and lawmakers acknowledge the dangers of an overly stringent and adversarial enforcement philosophy; hence the need for reforms designed to make agency enforcement less heavy-handed and more cooperative.³³⁶ Congress and judges recognize this by requiring the presence of specific intent before imposing criminal liability.³³⁷ Because it is easy to run afoul of the tax code innocently, and because the IRS enjoys and depends upon high levels of voluntary compliance, we choose not to impose criminal liability absent specific intent.

The same forces are at work in environmental regulation.³³⁸ Indeed, virtually any violation of environmental laws that is based upon a misunderstanding or misinterpretation of the rules, including the violations uncovered during the ELP pilot phase³³⁹ or the Root Cause Project,³⁴⁰ can form the subject of a criminal prosecution under standard scienter requirements. Hence, the *Weitzenhoff* dissenters' concerns over the effect of environmental criminal prosecutions on the moral authority of criminal law,³⁴¹ and some scholars' suggestions that we apply tax law-like scienter rules to

335. See Lazarus, *Meeting the Demands of Integration*, *supra* note 124, at 2407 (noting that "nonsensical twists of policy abound in the double-helix of statutory enactments and corresponding regulatory schemes that make up environmental law," and arguing that environmental crimes should recognize a mistake of law defense just as tax law does). See also Gaynor & Bartman, *supra* note 133, at 2212 ("Environmental regulation has now exceeded the invasiveness, burdensomeness, and reach into activities of businesses and individuals of the Tax Code."). Cf. Davies, *supra* note 131, at 367-71 (disputing the logic of the culpability rule in tax prosecutions and its application beyond the tax law context).

336. See Peter Hutchinson & David Osborne, *Winning Compliance; Regulatory Agencies Are Shifting from Going after Those Who Break the Rules to Encouraging Voluntary Compliance*, GOV'T EXECUTIVE, June 2000, at 53.

337. Congress defined the standard of criminal culpability in tax cases as "willful" rather than just "knowing." See *Cheek v. United States*, 498 U.S. 192, 199-200 (1991) (stating that special treatment of criminal tax offense is due to complexity of tax laws).

338. One industry representative complained that perfect compliance is impossible in such a complex regulatory environment, noting that "it's worse than the IRS." See remarks of Milt Jones of Pacific Gas Co. in *Civil Enforcement Fails*, *supra* note 78, at 1402.

339. See discussion *supra* notes 161-166 and accompanying text.

340. See discussion *supra* notes 280-287 and accompanying text.

341. *United States v. Weitzenhoff*, 35 F.3d 1275 (9th Cir. 1993). John Coffee has argued persuasively against the Holmesian approach to criminal law. He maintains that "the dominant development in substantive federal criminal law over the last decade has been the disappearance of any clearly definable line between civil and criminal law," and that "this blurring of the border between tort and crime predictably will result in injustice, and ultimately will weaken the efficacy of the criminal law as an instrument of social control." John C. Coffee, *Does Unlawful Mean Criminal?: Reflections on the Disappearing Tort/Crime Distinction in American Law*, 71 B.U. L. REV. 193, 193 (1991). However, Coffee distinguishes regulatory offenses that society treats as malum in se (like dumping toxic chemicals) from those that are merely malum prohibitum (technical regulatory offenses). *Id.* at 200.

environmental crimes.³⁴² These arguments all mirror Tyler and Scholz's warnings about the erosive effects of unfairness on legitimacy.

The rejoinder to all this is that the actual risk of convicting innocent defendants is vanishingly small. While formal scienter requirements may allow unfairness in theory, they do not allow unfairness in practice since we can depend upon prosecutorial discretion and judicial oversight to prevent this kind of slippage from occurring.³⁴³ Brickey makes a persuasive case that the environmental criminal law as applied is fair since environmental criminal cases litigated to a decision have almost always involved unsympathetic and culpable defendants.³⁴⁴ But even if the asserted fail-safes do ensure that only the culpable are ever convicted of environmental crimes, the mere potential for the unfair imposition of criminal liability can nevertheless undermine the moral authority of the criminal law.

This potential for unfairness can manifest in two ways. First, prosecutorial discretion is not always effective. As others have noted, prosecutors may be overzealous or face strong incentives to prosecute unpopular defendants, reasoning that the jury will not convict if the defendant is innocent.³⁴⁵ Kevin Gaynor and Thomas Bartman have identified two incidents of this kind of prosecutorial overreaching; both incidents were criminal prosecutions that turned on disagreements over the meaning of environmental regulatory requirements.³⁴⁶ Although the defendants prevailed in both cases, the decision to prosecute imposed significant and unnecessary burdens on the defendants and the courts.³⁴⁷ More recently, a federal district court awarded attorneys fees to a successful environmental

342. This logic applies irrespective of whether the application of lower culpability standards is typical of the criminal law, as Davies and Brickey suggest, or constitutional, as Michaels suggests. See discussion of these arguments, *supra* note 132 and accompanying text.

343. Brickey, *The Rhetoric of Environmental Crime*, *supra* note 129, at 133 (“[P]rosecutorial discretion is a tool that, contrary to critics’ concerns, effectively narrows the universe of environmental violations subject to criminal prosecution.”).

344. *Id.* at 311-17.

345. In the environmental context, see Gaynor & Bartman, *supra* note 133, at 2209-12. On the subject of prosecutorial discretion, see generally Shelby A. Dickerson-Moore, *Questioning the Autonomy of Prosecutorial Charging Decisions: Recognizing the Need to Exercise Discretion—Knowing There Will Be Consequences for Crossing the Line*, 60 LA. L. REV. 371 (2000) (arguing for additional constraints on the exercise of prosecutorial discretion); Margaret E. McGhee, *Twenty-Ninth Annual Review of Criminal Procedure: Introduction and Guide for Users: II. Preliminary Proceedings: Prosecutorial Discretion*, 88 GEO. L.J. 1057 (2000) (discussing courts’ responsibility to protect individuals from prosecutorial conduct that violates constitutional rights or is carried out in bad faith).

346. In one case (*A&W Smelters & Refiners v. Clinton*, 146 F.3d 1107 (9th Cir. 1998)), the issue was whether the corporation’s mining wastes were regulated under RCRA. In the second (*United States v. Miller*, No. 94-03045, bench op. (N.D. Fla. filed Apr. 22, 1994)), the question was whether discharge from a storm sewer fell within Clean Water Act regulatory jurisdiction.

347. According to Gaynor and Bartman, one of the defendants in *Miller* lost his job and his home defending the action, and the judge reprimanded prosecutors for bringing the action in the first place. Gaynor & Bartman, *supra* note 133, at 2208.

defendant,³⁴⁸ calling the prosecution “vexatious” and scolding the EPA and Justice Department for “humiliating” and “harassing” the defendant.³⁴⁹ As critics note, the environmental and criminal law intersect to invite this kind of prosecutorial overreaching.³⁵⁰ If the law permits a criminal conviction upon a showing that the defendant acted intentionally but with a misunderstanding of complicated legal rules, we can expect prosecutors to prosecute some morally blameless defendants.³⁵¹

The second danger of relying on prosecutorial discretion to curb the criminal prosecution of the blameless is that it promotes heavy-handed civil enforcement. We can expect busy EPA attorneys to use the criminal law as leverage in civil enforcement proceedings, since the threat of criminal prosecution is a powerful inducement to settle.³⁵² Even in the absence of the explicit threat, defendants’ legal counsel will advise their clients that their morally blameless conduct is nevertheless potentially criminal. In these ways, regulated firms can come to see that criminal liability does not imply culpability, which in turn undermines the legitimacy of the environmental regulatory system, and the moral authority of the criminal law.³⁵³

348. *United States v. Knott*, 106 F. Supp. 2d 174 (D. Mass. 2000).

349. *Id.* at 180-81. The defendant is now suing the EPA for malicious prosecution. See *Company Sues Agency, Employees after Court Finds Improper Prosecution*, 31 Env’t Rep. (BNA) 1729 (2000).

350. That is the conclusion reached by Gaynor and Bartman, *supra* note 133, at 2212 (arguing that general intent standards in environmental statutes makes prosecutorial decision making more difficult). See also Wiley, *supra* note 132, at 1057 (“The modern Court has been right to reject a once-popular argument that unrestrained faith in prosecutorial discretion eliminates the need for courts to worry about culpability when interpreting criminal statutes.”).

351. Calling reliance on prosecutorial discretion to prevent conviction of the morally blameless “the ‘Al Capone’ model,” Richard Lazarus concludes that “the last few years suggest that the exercise of prosecutorial discretion is [not] an adequate answer.” Lazarus, *Meeting the Demands of Integration*, *supra* note 124, at 2487. John Wiley argues that the Supreme Court has essentially rejected the notion that we can rely on prosecutorial discretion to avoid injustice by insisting that criminal statutes be interpreted to prevent the conviction of even unlikely hypothetical defendants. See Wiley, *supra* note 132, at 1039 (noting that the Court considered just such a series of unlikely hypotheticals when it overturned the conviction in *Liparota v. United States*, 471 U.S. 419 (1985), which prompted Justice White in his dissent to argue that prosecutorial discretion would prevent the prosecution of such defendants).

352. According to one industry representative, the omnipresent threat of criminal liability for innocent conduct poisons the relationship between regulators and the regulated. See *Civil Enforcement Fails*, *supra* note 78, at 1402 (quoting Kenneth Peterson of Columbia Aluminum Co. lamenting the adversarial relationship caused by this threat and the sense that the complexity of the regulatory scheme makes this risk impossible to avoid).

353. Lazarus expresses this concern as well:

[T]here is a very real cost to criminalizing conduct of a far wider scope than society plans to subject to criminal sanction. Even assuming that prosecutors can exercise their prosecutorial discretion in a manner that successfully distinguishes between the “truly culpable” and the “morally innocent” better than the legislature can in the first instance, it remains that both types of conduct are made criminal under the law. Accordingly, many individuals must live in fear of possible criminal prosecution and depend on governmental goodwill to maintain their freedom. Deterrence is achieved, but at a price—the demoralization felt by the many individuals vulnerable to prosecution.

Lazarus, *Meeting the Demands of Integration*, *supra* note 124, at 2487-88 (citations omitted). See also Coffee, *supra* note 341, at 211 (“[The] use of the criminal sanction is easy to defend on utilitarian

2. *Civil Enforcement*

If perfect compliance is prohibitively difficult for heavily regulated firms, the EPA's enforcement policies should not adhere slavishly to rational polluter assumptions. Instead, the EPA should recognize the tension between the two primary functions of rules: rules as aspirational guides to behavior and rules as mandates that allow punishment upon their violation.³⁵⁴ The EPA penalty policies should account for the possibility of inadvertent violations by permitting the agency to eliminate the gravity-based component of the penalty in those circumstances, and the Agency should offer more guidance and fewer sanctions. For example, the EPA could make increased use of notice letters, without penalties, for inadvertent violations that do not result in environmental harm³⁵⁵ or could issue advisory opinions, like IRS opinion letters, to clarify ambiguous regulatory requirements.³⁵⁶ Currently the EPA makes limited use of these advisory tools; it also does not generally permit full reduction of gravity-based penalties in enforcement proceedings, though courts have done so on occasion.³⁵⁷ The complexity critique implies further that courts should be vigilant in limiting enforcement when firms have not had fair warning of the meaning of regulatory requirement, something some courts already do.³⁵⁸

The implications of the complexity critique are less clear for debates over the EPA's policy of requiring recovery of the economic benefit of

grounds [because] it seems to work and is not significantly more costly than civil prosecutions. In short, public authorities get a bigger bang for the buck. [However,] . . . this utilitarian justification for expansion of the criminal category threatens to conflict with the educational and socializing role of the criminal law.") *Id.*

354. Dale Nance explores this tension in Dale Nance, *Guidance Rules and Enforcement Rules: A Better View of the Cathedral*, 83 VA. L. REV. 837 (1997) (offering a formal analysis of how Holmesian legal realism produces undesirable behavioral results).

355. The state of Massachusetts reports that it uses this approach successfully for offenses such as minor paperwork violations. See *State Regulators*, *supra* note 231.

356. The National Environmental Policy Institute has called on the EPA to do just that. See *Fear, Ignorance, Inadequate Guidance Driving Noncompliance, Panelists Declare*, 28 Env't Rep. (BNA) 1351 (1997) ("Companies need 'roadmap of compliance' documents that will tell them in clearer terms what they have to do."); *Report Urges EPA to Issue Advisory Letters Informing Companies About Their Compliance*, 27 Env't Rep. (BNA) 1613 (1996); see also Lavelle, *supra* note 46, at S1 (citing lack of clear guidance from regulators as a cause of noncompliance). While EPA does give out regulatory advice via its program "hotlines," written, published opinion letters would make that advice widely available to all.

357. See discussion of *Sierra Club v. Cedar Point Oil Co., Inc.*, 73 F.3d 546 (5th Cir. 1996), *supra* note 74.

358. This is the issue that will be litigated in the new source review cases the EPA has brought under the Clean Air Act. See *supra* note 63 for discussion. Congress has also expressed concern about this issue, considering legislation last session that would prohibit the imposition of sanctions if the defendant cannot "determine with reasonable certainty what the rule prohibits or requires." See *House Subcommittee Approves Bill to Give Companies 'Fair Warning' of Rules*, 30 Env't Rep. (BNA) 1065 (1999) (quoting language of H.R. 881 as approved by the House Judiciary Subcommittee on Commercial and Administrative Law).

noncompliance. Putting aside the question of whether the EPA measures economic benefit accurately,³⁵⁹ are there circumstances in which the agency should permit settlements that do not recover the economic benefit to the violator? Perhaps, but reasonable people may differ over this question. On one hand, the EPA's insistence that such a policy invites noncompliance is logical if polluters are rational; assuming polluters can calculate the expected value of noncompliance and are guided by the calculation, they may choose noncompliance if they expect to be able to retain the economic benefit of that action. On the other hand, one can also see good reasons why states might want to settle for less than the economic benefit to the violator, reasons that do not imply capture of the regulatory process.

In *Harmon*, for example, the defendant discovered an illegal discharge of wastes violation voluntarily, reported it voluntarily, cooperated with the Missouri agency, and agreed to pay for the remedy ordered by the agency.³⁶⁰ The agency's decision to settle the case without imposing a penalty permitted Harmon to retain the cost savings associated with failure to dispose of the wastes properly. The agency made a decision to reward Harmon for voluntarily disclosing the existence of the problem and for its cooperation. This seems reasonable. Just as an overextended agency uses the imposition of a severe penalty on a bad actor to send a signal to other bad actors, it may use a lenient settlement to send a signal to innocent violators that they should voluntarily disclose their violations. Indeed, that is just what the Missouri agency said it was trying to do in *Harmon*.³⁶¹ The EPA overfiled because it was unhappy with the way the Missouri agency exercised its enforcement discretion. The Eighth Circuit's decision to dismiss the EPA's enforcement action preserves the state's right to exercise that discretion,³⁶² but leaves the EPA with only a blunt remedy (withdrawal of the state's authority to enforce the statute) when it disapproves of the state's actions.³⁶³

It is easier to see why defenders of the rational polluter model are troubled by such a result when we move from the *Harmon* facts to

359. See *supra* note 77 for a description of this debate.

360. *Harmon Industries v. Browner*, 191 F.3d 894, 897 (8th Cir. 1999).

361. *Id.* ("MDNR based its decision to release Harmon on the fact that the company promptly self-reported its violation and cooperated in all aspects of the investigation.")

362. See *supra* note 83 and accompanying text, noting that the Eighth Circuit's decision to dismiss the EPA's enforcement action turned on its interpretation of the underlying statute and the state's res judicata principles, not the reasonableness of the Missouri agency's action.

363. *Harmon*, 191 F.3d at 901 ("[T]he EPA can initiate an enforcement action if it deems the state's enforcement action inadequate. Before initiating such an action, however, the EPA must allow the state an opportunity to correct its deficiency, and the EPA must withdraw its authorization."). Of course, because the EPA delegates to the states the authority to administer the major federal environmental programs, it has the power to revoke that authority. The EPA has used that authority very rarely and has threatened its use infrequently as well.

Laidlaw, where the state agency seemed to have developed a very cozy relationship with the defendant.³⁶⁴ While *Laidlaw* was a citizen suit case, it involved a similar issue: a dispute in which one potential enforcer is dissatisfied with the way another exercised its enforcement discretion. Recall that in *Laidlaw*, the state agency brought a sham enforcement action at the defendant's insistence, after the defendant had received notice that a citizens group intended to sue.³⁶⁵ The Court rejected *Laidlaw*'s claim that the state action barred the citizen suit, noting that the statute bars citizen suits only when the relevant government agency is diligently prosecuting an enforcement action for the same violations. The Court decided that the sham enforcement action did not constitute diligent prosecution under the statute.³⁶⁶

In the citizen suit context, the diligent prosecution requirement invites courts to pass on the adequacy of the government enforcement action before barring the citizen suit action. Courts should continue to use that leverage to bar citizen suits when state enforcement actions seem reasonable, even if they fail to meet the expectations of citizens groups.³⁶⁷ Likewise, the courts should permit, and have permitted, citizen suits in the face of sham enforcement actions that mirror the facts of *Laidlaw*.³⁶⁸ However, in the overfiling context, there is no such qualifying language to permit the continuance of the federal enforcement action when the state enforcement action is a sham. The EPA's remaining remedy, withdrawal of enforcement authority, is not a worthless one, but it is unwieldy and therefore a weaker one. If *Harmon* becomes law beyond the Eighth Circuit,³⁶⁹ the EPA and state agencies may become much more strategic with one another. In their ongoing efforts to provide state enforcers with a disincentive to deviate from EPA enforcement policies, in the way Missouri did in *Harmon*, the

364. *Friends of the Earth, Inc. v. Laidlaw Environmental Services (TOC), Inc.*, 528 U.S. 167, 176-177 (2000). The facts of *Laidlaw* are summarized fully, *infra* Part II.B.1.

365. Not only did the defendant persuade the state agency to bring the enforcement action, it drafted the necessary complaint and other documents and paid the state's court costs. *Laidlaw*, 528 U.S. at 176.

366. *Id.*

367. See, e.g., *Connecticut Fund for the Env't v. Contract Plating Co.*, 631 F. Supp. 1291, 1294 (D. Conn. 1986) ("The mere fact that the settlement reached in the state action was less burdensome to the defendant than the remedy sought in the instant action is not sufficient in itself to overcome the presumption that the state action was diligently prosecuted.")

368. See, e.g., *Connecticut Fund*, 631 F. Supp. 1289 (holding that administrative enforcement action does not constitute diligent prosecution to bar citizen suits). See also *Knee Deep Cattle Co. v. Bindana Inv. Co.*, 94 F.3d 514 (9th Cir. 1996) (settlement by state agency with Clean Water Act permit holder did not bar citizen's suit); *Citizens for a Better Env't-California v. Union Oil Co. of California*, 83 F.3d 1111 (9th Cir. 1996) (settlement by defendant paid to the Regional Water Quality Control Board to avoid enforcement action did not constitute ongoing prosecution barring citizen suit).

369. The EPA opted not to appeal the decision, but it has appealed a similar case in the Tenth Circuit, *United States v. Power Eng'g Co.*, 10 F. Supp. 2d 1145 (1998), and has indicated it will adhere to *Harmon* only within the Eighth Circuit. *USALSA REPORT: Environmental Law Division Notes: DOJ Decides No Supreme Court Review in EPA "Overfile" Case*, 2000 ARMY LAW. 45.

EPA may initiate withdrawals of delegated enforcement authority in order to make its threats seem more credible. Alternatively, the EPA may condition grants of enforcement authority to states on adherence to EPA penalty policies. But without the right to overfile at will, the EPA will presumably focus more on situations that pose a real risk of capture (as in *Laidlaw*) and less on requiring mere adherence to its penalty policies (as in *Harmon*).³⁷⁰ Thus, the *Harmon* decision may have the beneficial effect of forcing the EPA to draw distinctions between real incidences of capture and the mere fear of its presence; however, it also demonstrates how stepping back from over-reliance on the rational polluter model provokes the very fears the model was designed to address. In other words, cases like *Harmon* may increase the risk of one kind of slippage (capture), and decrease the risk of another (over-reliance on the rational polluter model).

3. *Cooperative Regulation*

In some ways, the debate over cooperative regulation is an extension of the debate over civil enforcement. Most of the experiments in cooperative regulation undertaken by the EPA to date indicate that intensive cooperation between regulators and the regulated can produce better regulation, better compliance and therefore better environmental performance.³⁷¹ These programs offer regulators and the regulated an opportunity to share information, to become more familiar with one another's perspectives, and so to improve regulation. In these experiments, familiarity seems to breed trust, not contempt. Thus, the real debate is not about whether cooperative regulation produces benefits, but whether it also entails costs that outweigh those benefits. The answer to that question, so far at least, has remained in the eye of the beholder. The existence of evidence suggesting that perfect compliance is prohibitively difficult to achieve for heavily regulated firms adds weight to the reformers' arguments, for obvious reasons.³⁷² But it does not assuage the fears of capture voiced by defenders of the rational polluter model.

Advocates of more generous grants of privileges and immunities for firms employing environmental auditing argue that this approach benefits regulators by bringing previously undetected violations to firms' and regulators' attention and by bringing previously unregulated firms into the regulatory system.³⁷³ If (i) many violations are inadvertent, and (ii) a privilege against discovery for audit reports and broader penalty immunity

370. The EPA can rely on citizen enforcement to discipline states, but only where competent citizen enforcement groups exist. This tool is further complicated by the uncertainty associated with the question of whether and when citizen suits can proceed if violations are not "ongoing" at the time of suit. See *supra* Part II.B.1 for a full discussion of this issue.

371. See *supra* notes 173-178 and accompanying text.

372. See *supra* Part IV.A.

373. See Lee & Frey, *supra* note 145 (making this point).

for voluntarily disclosed and corrected violations will encourage more auditing and information sharing between regulators and the regulated, then (iii) the decision to grant those privileges and immunities seems a reasonable one. Penalties would not have deterred the violations in question, nor do the violators seem morally blameworthy in that instance. Testimonials from participants in the ELP program suggest that regulators and regulated alike benefited from the information exchanged there³⁷⁴ and that such intensive information sharing would be unlikely to occur absent penalty amnesty.³⁷⁵ If participants are to be believed, the development of trust relationships and intensive information sharing through ELP seem to yield not capture-induced, watered-down regulation, but better environmental performance through improved understanding and improved compliance.

The Project XL experience tells a similar story. Despite high transaction costs and controversy, Project XL seems to have produced the same kinds of intangible benefits for some participants that other collaborative processes have produced, and some tangible benefits as well. The projects have yielded a variety of environmental improvements and cost efficiencies that are measurable, including pollution reductions beyond those required by existing law and flexibility and other cost savings for regulated firms.³⁷⁶ Indeed, some scholars have concluded that but for legal³⁷⁷ and political³⁷⁸ barriers imposed by the traditional system's adherence to the rational polluter model, the Project XL program would likely have produced far more of the same kind of benefits by now.

Presumably, defenders of the traditional model of regulation will continue to argue that even if cooperative regulation provides all these tangible benefits, there are unacceptable process-related dangers, particularly the risk of capture, that are associated with informal cooperation. Reformers

374. One participant in an ELP (Environmental Leadership Program) pilot project described how members of the project team, composed of both EPA and firm representatives, made an effort to get to know one another socially outside the environmental auditing process, a practice to which she attributed some of the groups' successes in the work setting. Jacobs, *supra* 166, at 17.

375. The EPA's Performance Track program, which is intended to supersede the ELP, offers a partial penalty amnesty and has attracted more than 200 applicants in its initial months. The program offers additional benefits as well, including streamlined permitting and reduced inspection frequency. On the other hand, it does not include the kind of intensive information sharing that occurred in the ELP.

376. Spence & Gopalakrishnan, *supra* note 30, at 639-43 (outlining the various benefits XL projects produce).

377. For good analyses of the legal obstacles to wider application of the Project XL model, see Dennis Hirsch, *Bill and Al's XL-ent Adventure: An Analysis of the EPA's Legal Authority to Implement the Clinton Administration's Project XL*, 1998 U. ILL. L. REV. 129 (1998) (arguing that EPA has broad authority to waive its own rules, but urging legislative clarification); Mank, *supra* note 186 (arguing that legislation is needed to enable the EPA to adopt a multimedia approach to regulation).

378. Regarding the political obstacles to Project XL's wider application, see Freeman, *supra* note 50, at 82-85 (detailing the concerns of parties in the bargaining process); Spence & Gopalakrishnan, *supra* note 30, at 639-52 (arguing that strategic behavior by environmental interests has slowed the bargaining process).

cannot prove a negative, and no amount of success with cooperative approaches can prove that capture will never occur. The more formal, adversarial and rule-based approach to regulation does make it more difficult for influential firms to capture the regulatory process, and strict adherence to formally promulgated rules does ensure a kind of policy transparency.³⁷⁹ The price for these benefits, however, may be the slow erosion of the regulatory system's legitimacy.

Moreover, there are other reasons why the traditionalists' attack against informal collaborative pressures rings hollow. First, in the modern environmental era, industry and environmental groups alike have complained about departures from traditional or formal policymaking procedures to advance their respective policy goals. Environmental groups have long enjoyed the kind of less formal contacts with the EPA that firms are now getting. And just as critics challenge bargaining-based regulatory reform experiments as "perversions" of the public interest and subversions of the rule of law,³⁸⁰ so industry criticizes environmental groups' use of settlements with the EPA as a way to achieve policy gains in arenas from which industry is excluded.³⁸¹ If informal influence poses a risk to democracy, it poses the same risk when environmental groups exercise that influence.

Second, these process-based objections elevate form over substance. If the current system is not reflexive, adaptable and efficient enough, it is an insufficient answer to say that at least the system was created by a transparent and formal process. If broader environmental audit immunities and cooperative regulatory programs produce improvements in firms' environmental performance, critics should bear the burden of demonstrating that the downside risks of these programs are sufficient to forgo those benefits. All of this implies that the EPA should continue and expand its use of cooperative approaches to regulation.

379. While programs like the ELP, Star Track, and Performance Track have not yet garnered enough attention to attract much criticism, criticisms have been leveled at other EPA programs that promote informal cooperation between regulators and the regulated, like Project XL and negotiated rulemaking. See, e.g., Funk, *supra* note 182; Steinzor, *Regulatory Reinvention*, *supra* note 184.

380. Funk, *supra* note 182, at 1374.

381. The so-called "Flannery decision" is the most famous example. The "Flannery Decision" was a decree signed by Federal District Court Judge Thomas Flannery approving a settlement between the Natural Resources Defense Counsel (NRDC) and the EPA. NRDC had sued the agency seeking an order compelling the agency to establish a list of toxic pollutants to be regulated under the 1972 Clean Water Act, something § 1307 of the statute required the agency to do. 33 U.S.C. § 1307. The decree committed the agency to promulgate new regulations addressing sixty-five specific pollutants in twenty-one industries. Critics of the decree, including a D.C. Circuit Judge, argued that it effectively circumvented the EPA's rule-making process by committing the agency to decisions that should have been reached during rule making, and excluded industry representatives in the process. See dissenting opinion of Judge Wilkey in *Citizens for a Better Environment v. Gorsuch*, 718 F.2d 1117 (D.C. Cir. 1983). For a good discussion of this case, and of the EPA's strategic use of litigation to reach these kinds of commitments, see ROSEMARY O'LEARY, ENVIRONMENTAL CHANGE 24-30 (1996).

It seems unlikely, however, that the future of cooperative regulation will hinge on arguments like these. The EPA's ambivalence toward cooperative regulation suggests that regardless of its theoretical merits, cooperative regulation's future depends upon its ability to prove its worth to people inside and outside government who exercise policy influence. Defenders of the rational polluter model within and without the agency have proven their ability to resist heavy-handed attempts to force change, implying that a lighter touch is more likely to be effective. Perhaps these experiments in cooperative regulation will sell themselves to an ever-broader universe of policymakers as they produce real benefits incrementally. Unless and until that happens, cooperative regulation will continue to be employed only at the margins of the regulatory process.

CONCLUSION

Legal scholars have long recognized the need for the legal system to produce outcomes that citizens perceive as legitimate. That legitimacy, in turn, is a function of how artfully that system uses "fear as well as duty" to regulate private conduct, to borrow Jefferson's phrase once again. Even James Madison, proponent of a governmental design that placed a premium on checking human self-interest, recognized the need for balance:

As there is a degree of depravity in mankind which requires a certain degree of circumspection and distrust, so there are other qualities in human nature which justify a certain portion of esteem and confidence. Republican government presupposes the existence of these qualities in a higher degree than any other form. Were the pictures which have been drawn by the political jealousy of some among us faithful likenesses of the human character, the inference would be, that there is not sufficient virtue among men for self-government; and that nothing less than the chains of despotism can restrain them from destroying and devouring one another.³⁸²

A government disregards either of these competing aspects of human nature at its own peril. I have argued here that the modern American system of environmental regulation has tended to disregard the virtue to which Madison refers, and has thus relied too heavily on fear and not heavily enough on duty.

The EPA seems to have sensed this danger and has embarked on a path that may eventually bridge the gulf of perception between its own historical perspective and the perspective of regulated firms. Among the first incremental steps down that convergence path were the Clinton Administration's promise to prosecute only culpable environmental criminal defendants and its experiments with alternative forms of regulation that depart from the rational polluter model. Yet now that those ex-

382. THE FEDERALIST No. 55, at 346 (James Madison) (New American Library Ed. 1961).

periments have moved beyond their pilot phases, the agency seems hesitant, even divided. This is not surprising, given the agency's historical embrace of the rational polluter model, a philosophy that may have helped preserve the agency's mission during the early 1980s. Nor is it surprising that government enforcement attorneys and environmental groups cling to the rational polluter model and to its enforcement approach. That approach offers enforcers leverage in enforcement proceedings, something attorneys are naturally loathe to give away.³⁸³ More specifically, any movement away from the rational polluter model implies movement away from traditional mens rea standards, overfiling rights, and a role for citizen suits on which many of these people depend. But if the agency abandons these experiments, returns to its old ways, and embarks instead upon a divergence path, it risks the slow erosion of the legitimacy of the regulatory system and the consequent threats to the system's effectiveness and long-term health that that erosion implies.

While the EPA seems unlikely to jump onto the convergence path with both feet any time soon, it also seems unlikely that the agency will return to its old ways. The Bush Administration's first forays into environmental policy have only fed fears of Agency capture, making meaningful reform that much more difficult. Nevertheless, now that the reform genie is out of the bottle, reforms will touch a growing number of regulators, firms, and citizens over time. Just as incremental disillusionment with the rational polluter model grows one person at a time, so too may incremental exposure to the benefits of cooperation and collaboration produce a growing pro-reform constituency. Indeed, gradual, incremental movement away from the rational polluter model continues, as the merits of alternative approaches eventually prove irresistible. So we now supplement command-and-control regulation with tradable permit schemes, and states offer incentives for the performance of environmental audits and otherwise encourage approaches to regulation that depart from the rational polluter model. Congress is considering legislation that would accelerate these changes by expanding the EPA's authority to grant waivers from environmental regulatory requirements where doing so makes sense.³⁸⁴ And courts continue to exercise discipline in the face of overzealous enforcers of

383. In John Wiley's words:

Prosecutors will hardly jump with glee at having to prove an additional or more challenging statutory element in some cases. Like everyone else, they usually would prefer exalted respect, discretionary power, and easier victories. But the Court lately has presumed that Congress means to refuse to give federal prosecutors the power to convict the morally blameless

Wiley, *supra* note 132, at 1068.

384. See Second Generation of Environmental Improvements Act of 2000, H.R. 3448 (106th Congress). See also 145 Cong. Rec. E2464-02 (daily ed. Nov. 19, 1999) (statement of Rep. James C. Greenwood of Pennsylvania introducing the Second Generation of Environmental Improvement Act).

environmental laws, sometimes rejecting arguments or outcomes that would otherwise be dictated by the rational polluter model.

The EPA faces the question of whether or how eagerly to embrace these trends and is warming to reform only very slowly. For example, while the Project XL program continues, it is hamstrung by difficult-to-meet standards that sometimes prevent the realization of environmental and cost improvements. Similarly, the Agency's new Performance Track program will offer hundreds of firms incentives to use environmental management and auditing techniques preventatively; yet it also represents a step backward from earlier efforts in its refusal to move beyond the agency's general audit policy.³⁸⁵ But the agency is not giving up on reform, and real, durable change takes root slowly. As the agency gains experience with alternatives to the rational polluter model, its attitude toward reform may change. If so, the result may be a more adaptive, more sensible, and more secure environmental regulatory system.

385. Apparently, the agency's traditional fears about misuse of the penalty amnesty process have led the EPA not to offer penalty amnesty for violations discovered as part of the Performance Track process, despite the absence of any evidence that amnesty was misused during the ELP pilot phase and the likelihood that violations discovered in the context of the Performance Track program are almost certain to be unintentionally committed.