

**IS THERE A POSSIBLE ROLE FOR REGULATORY
ENFORCEMENT IN THE EFFORT TO VALUE, PROTECT,
AND RESTORE ECOSYSTEM SERVICES?**

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I. INTRODUCTION

In a predecessor symposium on the topic of ecosystem services,² several distinguished scholars suggested that the major “failing” of contemporary environmental law is its failure to protect

1. Steven M. Goldstein Professor of Law, Florida State University College of Law. I would like to thank Professors Robin Kundis Craig, Jon Klick, Kenneth Kristl, Dan Markel, Joel Mintz, Benjamin Priester and J.B. Ruhl, and several EPA officials, including Beth Cavalier and, Melissa Raack of the Special Litigation and Project Division at the EPA Office of Enforcement and Compliance Assistance, and Jonathan Libber, the BEN Coordinator at EPA OECA, for their helpful comments on drafts of this article. Ms. Cavalier and Ms. Raack were quite helpful concerning aspects of EPA's SEPs program; Mr. Libber provided helpful information on EPA's penalty calculation methodologies. None of the commenters, or EPA as an organization, necessarily endorses the contents of the article and the agency officials' comments should not be taken to constitute such an endorsement. I am solely responsible for the contents of the article. Please direct any comments to me at dmarkell@law.fsu.edu.

2. Symposium, *Ecosystem Services*, 20 STAN. ENVTL. L.J. 309 (2001).

ecosystems and the services they provide.³ Their rationale was two-fold. First, ecosystems and the services they provide are of central importance to human and other existence; yet, second, environmental governance has traditionally given short shrift to the protection of such ecosystems and services. Thus, protection of ecosystems and the services they provide is a significant environmental priority that has not engendered a meaningful or effective regulatory response.

The importance of ecosystems and the services they provide does not seem to be in dispute. A burgeoning literature explains that ecosystems provide conditions and processes that are necessary to sustain human life.⁴ These processes include purifying the air we breathe and the water we drink, recycling waste, replenishing soil nutrients, maintaining biodiversity, regulating climate, flood and pest control, and pollination.⁵ Jim Salzman points out in a recent article that, for example, “[o]ne cannot begin to understand flood control . . . without realizing the impact that widespread wetland destruction has had on the ecosystem service of water retention”⁶ This example is particularly salient in light of the enormous damage that Hurricane Katrina wrought. Several studies have suggested that past destruction of wetlands contributed significantly to the devastation from Hurricane Katrina because the loss of these wetlands reduced the capacity of the natural environment to retain the water unleashed during the storm.⁷ Other examples abound of the services that different types of eco-

3. James Salzman, Barton H. Thompson, Jr. & Gretchen C. Daily, *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309, 310 (2001) (claiming that “the single greatest failing of modern environmental law and its greatest challenge today [is] the inadequate protection of ecosystems and the services they provide.”). The purported failings of environmental law are legion; no doubt others would have their own choice for greatest flaw. See e.g., 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 (2000) [hereinafter *Deterrence-Based Enforcement*] (summarizing various calls for reform).

4. See e.g., Gretchen C. Daily, *Introduction: What Are Ecosystem Services?*, in NATURE’S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS 1, 3-4 (Gretchen C. Daily ed., 1997); NATIONAL RESEARCH COUNCIL, VALUING ECOSYSTEM SERVICES: TOWARD BETTER ENVIRONMENTAL DECISION-MAKING (2005); MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: A FRAMEWORK FOR ASSESSMENT 1 (2003) (noting that, for example, the human species “has always depended on the services provided by the biosphere and its ecosystems.”).

5. See Daily, *supra* note 4, at 3-4.

6. See James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. REV. 870, 872 (2005).

7. See, e.g. ENVIRONMENTAL DEFENSE, ET AL, ONE YEAR AFTER KATRINA: LOUISIANA STILL A SITTING DUCK: A REPORT CARD AND ROADMAP ON WETLANDS RESTORATION (2006), available at http://www.environmentaldefense.org/documents/5416_KatrinaReportCard.pdf (citing loss of coastal marsh and swamp forests as factors contributing to Louisiana’s increasing vulnerability to hurricanes).

systems provide, and of the enormous value and importance of these services.⁸ Studies indicate that the cost to replace the loss of pollinating plants in the United States alone, as one example, would be on the order of billions of dollars.⁹

The need for regulation to protect ecosystem services also does not appear to be in dispute.¹⁰ Some scholars have suggested that environmental law and policy have essentially “ignored” the challenge of protecting ecosystems and their services, despite their importance.¹¹ While market-based approaches and other strategies that do not, in at least some formulations, require regulatory intervention hold promise and deserve consideration as well,¹² the practical consequence of current market failures and the absence of regulatory gap-filling is that those who engage in activities that harm ecosystems and the services they provide are not being held fully accountable for, or expected fully to address, these “negative externalit[ies].”¹³

8. See, e.g., Salzman, *supra* note 6, at 871-72.

9. See, e.g., *id.* at 872 and n. 2.

10. There is a vast literature on the appropriateness of regulation in different circumstances. See e.g., R.H. Coase, *The Problem of Social Cost*, in *THE ECONOMICS OF THE ENVIRONMENT* 68 (Wallace E. Oates ed. 1992); Don Fullerton & Robert N. Stavins, *How Economists See the Environment*, in *ECONOMICS OF THE ENVIRONMENT: SELECTED READINGS* 3, 5 (Robert N. Stavins ed., 4th ed. 2000) (noting that “negative externalit[ies],” such as pollution, may produce a total social cost of production that exceeds the value to consumers, so that regulation is appropriate because, “[i]f the market is left to itself, too many pollution-generating products are made.”). R. David Simpson highlights the need to consider the value of ecosystem services in formulating regulatory strategies in *Economic Analysis and Ecosystems: Some Concepts and Issues*, in *ECONOMICS OF THE ENVIRONMENT: SELECTED READINGS* 529, 536-37 (suggesting that “[g]overnments must act to correct ‘externalities.’ . . . Pollution is the ‘classical example’ of [a negative externality.] . . . [W]e need to think about the value of ecosystems and environmental amenities in order to make reasonable social decisions concerning their conservation. The fact that many of the things we care about are not traded in the existing economic system makes it more, rather than less, important that we think carefully about what their values really are.”).

11. Salzman, Thompson & Daily, *supra* note 3, at 311, 312 (concluding that “[d]espite their obvious importance to our wellbeing, ecosystem services have largely been ignored in environmental law and policy.”). For articles considering the adequacy of different environmental laws for protection of ecosystem services, see for example, Robert L. Fischman, *The EPA’s NEPA Duties and Ecosystem Services*, 20 *STAN. ENVTL. L.J.* 497, (2001) (examining “the relationship between the EPA’s NEPA duties and valuation of ecosystem services”); J. B. Ruhl & R. Juge Gregg, *Integrating Ecosystem Services into Environmental Law: A Case Study of Wetlands Mitigation Banking*, 20 *STAN. ENVTL. L.J.* 365 (2001) (discussing the federal wetland mitigation banking experience); James Salzman, *Valuing Ecosystem Services*, 24 *ECOLOGY L.Q.* 887, 899 (1997); James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 *STAN. L. REV.* 607 (2000) (examining use of environmental trading markets (ETMs)); Salzman, Thompson, & Daily, *supra* note 3, at 311 (citing Janet S. Herman et al., *Groundwater Ecosystem Services*, 20 *STAN. ENVTL. L.J.* 479, 481 (2001)).

12. See, e.g., Steven N. S. Cheung, *The Fable of the Bees: An Economic Investigation*, 16 *J. L. & ECON.* 11, 29-32 (1973) (concluding that there are situations in which the benefits from ecosystems involved in pollination have been internalized through contracts that bee keepers and farmers have negotiated).

13. See e.g., Fullerton & Stavins, *supra* note 10, at 5.

This Article focuses primarily on the possible role that the “back end” of the regulatory state, notably environmental enforcement, may play in protecting ecosystems and the services they provide.¹⁴ Effective enforcement has long been recognized to be a central feature of effective regulation.¹⁵ The oft-stated premise is that without enforcement, compliance would suffer significantly, thereby undermining achievement of the normative goals of underlying legislation.¹⁶ For example, government permits that are intended to protect the environment by limiting destruction of wetlands or discharges of pollutants into streams are unlikely to be as effective as possible if the regulated parties that are subject to these permits violate their terms.¹⁷ While improved regulatory norms may be needed as well, regulated party compliance with the norms that are in place is likely to advance protection of the envi-

14. My main purpose in this article is to make the general point that enforcement has promise as a mechanism for protecting ecosystem services, and to explore the different types of enforcement relief that may be especially valuable. To some degree, I conflate the concepts of protecting ecosystem functions and maintaining or protecting ecosystem services in order to facilitate my making this broader point. While the two are, of course, related, there are important distinctions as well. Enforcement intended to protect the environment may be structured to protect ecosystem services, or not. For example, as Professor Ruhl points out in his wetlands piece, wetland banking might be neutral with respect to ecological functions in a watershed but, because it moves wetlands, have negative effects on the distribution and absolute total of ecosystem services within the watershed. *See* Ruhl & Gregg, *supra* note 11. Thus, if, for instance, a violator destroys or degrades wetlands in one location (place A), and the government, through an enforcement action, enjoins the violator to restore wetlands in a different location (place B), that injunctive relief might make the environment whole in the sense that it would address any aggregate ecological impacts, but that relief might not restore service values to the human population around place A. This distinction between ecosystem functions and services has implications for the type of relief that is appropriate if the goal is to redress harm to ecosystem services (in addition to redressing harm to ecosystem functions). Those interested in pursuing relief that advances ecosystem services in particular would be well-advised to keep this distinction in mind, particularly to the degree that a purpose of such relief is to redress the harm to ecosystem services that a violation causes. One option is to require relief that would, in some way, offset the loss of the lost or reduced ecosystem services.

15. *See generally*, A. Mitchell Polinsky & Steven Shavell, *The Economic Theory of Public Enforcement of Law*, 38 J. ECON. LITERATURE 45 (2000) (noting the importance of public enforcement of law). Markell, *Deterrence-Based Enforcement*, *supra* note 3, at 12; MARVER H. BERNSTEIN, REGULATING BUSINESS BY INDEPENDENT COMMISSION 224 (1955).

16. Markell, *Deterrence-Based Enforcement*, *supra* note 3, at 10-12.

17. There are questions concerning optimal levels of compliance, and optimal levels of environmental protection. *See, e.g.*, Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297 (1999); Polinsky & Shavell, *supra* note 15, at 72 (concluding that “it . . . appears that these [present] levels [of deterrence] are often too low. . . . [S]ociety probably should raise levels of deterrence in many areas of enforcement.”) I do not address these issues here. Compliance with norms is a significant issue at all levels of governance. *See, e.g.*, Jutta Brunnée, *Multilateral Environmental Agreements and the Compliance Continuum*, in MULTILEVEL GOVERNANCE OF GLOBAL ENVIRONMENTAL CHANGE: PERSPECTIVES FROM SCIENCE, SOCIOLOGY AND THE LAW 387, 387 (Gerd Winter ed., 2006) (noting that “[t]he promotion of compliance with international environmental commitments is among the most challenging issues of global environmental governance.”).

ronment, including protection of ecosystems and the services they provide.

I focus on the possible value that each of three “tools” in the Environmental Protection Agency’s (EPA’s) enforcement tool box — 1) penalties, 2) injunctive relief, and 3) a form of “beyond compliance” injunctive relief, known as SEPs -- has for producing ecosystem benefits.¹⁸ Theoretically, there are at least five ways in which enforcement has the potential to protect the environment, including ecosystems and the services they provide. First, enforcement has the potential to prevent harm to ecosystems by *detering* violations that would cause such harm. Second, enforcement has the capacity to require violators to *cease* violations that are causing or threatening harm. Third, enforcement includes the authority to require violators to *fix* ecosystems they have harmed (to *restore* or *remediate* harmed ecosystems). Fourth, EPA has used enforcement to negotiate settlements that commit violators to take action to benefit the environment in circumstances in which EPA otherwise lacks the legal authority to compel performance of such projects or to undertake them itself (to achieve protection “*beyond compliance*”). Finally, enforcement has the capacity to *advance learning* that will help to protect ecosystems and the services they provide.¹⁹

The three enforcement tools I discuss in this Article appear to have the potential to protect ecosystems in several ways. For example, EPA’s power to penalize violators enables the agency to *de-*

18. For a summary of different regulatory tools and approaches, see for example, U.S. CONGRESS, OFFICE OF TECH. ASSESSMENT, ENVIRONMENTAL POLICY TOOLS: A USER’S GUIDE OTA-ENV-634 (U.S. Gov’t Printing Office, 1995).

19. For a recent assessment of key data needs, see for example, THE H. JOHN HEINZ III CENTER FOR SCIENCE, ECONOMICS AND THE ENVIRONMENT, FILLING THE GAPS: PRIORITY DATA NEEDS AND KEY MANAGEMENT CHALLENGES FOR NATIONAL REPORTING ON ECOSYSTEM CONDITION 27 (2006), available at http://www.heinzctr.org/Programs/Reporting/Working%20Groups/Data%20Gaps/Gaps_LongReport_LoRes.pdf (identifying ten key information gaps that “prevent effective reporting on . . . the condition and use of U.S. ecosystems” and thus limit our capacity for informed decision making.) A 2002 Heinz Center Report previously found that nearly half of the 103 “ecosystem indicators” that “described ecological conditions in the nation’s coasts and oceans, farmlands, forests, fresh waters, grasslands and shrublands, and urban and suburban areas” could not be reported on because of data gaps and other deficiencies. *Id.* at 13. See THE H. JOHN HEINZ III CENTER FOR SCIENCE, ECONOMICS AND THE ENVIRONMENT, THE STATE OF THE NATION’S ECOSYSTEMS: MEASURING THE LANDS, WATERS, AND LIVING RESOURCES OF THE UNITED STATES 33-195 (2002), available at http://www.heinzctr.org/ecosystems/pdf_files/sotne_complete.pdf. There is also much to learn in terms of valuing ecosystems and their services. See, e.g., Jason F. Shogren, *A Political Economy in an Ecological Web*, in ECONOMICS OF THE ENVIRONMENT: SELECTED READINGS, *supra* note 10, at 646, 656 (noting “that while nonuse values may be a valid concept, the measurement tool is still blunt.”); Simpson, *supra* note 10, at 540 (“economists cannot make any very precise statements about the values of most ecological goods and services. . . . It will be a long time . . . before we can make as strong statements about the value of ecological goods and services as we can about, say, the value of a potato or a haircut.”).

ter violations, particularly to deter regulated parties from violating the law in ways that harm the environment (including ecosystems and the services they provide).²⁰ EPA claims the injunctive authority as part of its enforcement arsenal to require regulated parties to *end violations* that are causing such harm and to *repair* any harm their violations have caused.²¹ In addition, for over two decades EPA has used its enforcement authorities to negotiate settlements of enforcement cases that commit violators to take steps to protect and restore the environment that go “*beyond compliance*,” that is, beyond their obligations under the law.²² Each of these enforcement tools has the potential to *advance learning* that is likely to be helpful in protecting ecosystems and their services. Further, the latter two tools empower EPA to shift the burden of doing much of this ecosystem-beneficial work to the regulated community.²³ This feature is likely to be of particular appeal, especially during times characterized by scarce government resources and limited government capacity (i.e., all times). Enforcement offers an opportunity for environmental progress and new learning that, quite simply, is not likely to occur if it were dependent entirely on government resources and initiatives.

Part II of this Article provides an overview of regulatory enforcement that offers a framework for considering the possible utility of enforcement in protecting ecosystems and their services. Parts III-V review in more detail the three types of relief listed above, notably penalties (Part III), injunctive relief (Part IV), and “beyond compliance” actions that EPA commits regulated parties to complete through negotiated settlements of enforcement proceedings (Part V).²⁴ I also include a brief conclusion.

20. See, e.g., CLIFFORD RECHTSCHAFFEN & DAVID L. MARKELL, *REINVENTING ENVIRONMENTAL ENFORCEMENT AND THE STATE/FEDERAL RELATIONSHIP* (2003).

21. See Final EPA Supplemental Environmental Projects Policy Issued, 63 Fed. Reg. 24796, 24797 (May 5, 1998) [hereinafter Final SEPs Policy].

22. *Id.*

23. Some economists would look at the efficiency of such expenditures regardless of the party bearing them.

24. While my effort in this article is to focus on current key elements of EPA’s enforcement tool box, there obviously are an enormous range of possible mechanisms and approaches that may be helpful in protecting ecosystems and the services they provide. As indicated in the text, this article focuses on the relatively incremental approach of revamping existing regulatory enforcement approaches as a possible strategy to increase protection (including enhancement and restoration) of ecosystems that provide important services; it does not consider fundamental restructuring of our regulatory apparatus as a way to achieve this goal.

II. AN OVERVIEW OF EPA REGULATORY ENFORCEMENT²⁵A. *The Level and Nature of EPA Enforcement Activity*

EPA's enforcement world is a busy one. Agency officials undertake a significant number of inspections each year in order to monitor compliance with the various environmental regulatory statutes. In FY 2005, for example, EPA staff conducted 22,000 inspections and investigations.²⁶ Through a variety of means, including government inspections, self-reporting by regulated parties, and tips that workers and members of the public provide, Agency staff annually discover significant numbers of violations, including a substantial number that are serious enough to warrant formal enforcement. To use the statistics from EPA's most recent fiscal year again, in FY 2005 EPA issued a total of 2,229 administrative penalty complaints and initiated 259 civil judicial referrals (generally, referrals to the Department of Justice of cases involving violations of environmental laws for filing of civil complaints in federal court).²⁷ In FY 2005, EPA finalized a total of 2,273 admin-

25. This article focuses on traditional enforcement situations, in which a regulated party violates the law and the government decides to undertake a formal enforcement action against the party in order to obtain an adequate penalty and, potentially, appropriate injunctive relief. The government uses a wide variety of compliance promotion tools beyond traditional enforcement. See, e.g., U.S. ENVTL. PROT. AGENCY, FY 2005 PERFORMANCE AND ACCOUNTABILITY REPORT, GOAL 5-1 (Nov. 2005), available at <http://www.epa.gov/cfo/finstatement/2005par/par05.pdf> [hereinafter EPA FY 2005 Report]; Markell, *Deterrence-Based Enforcement*, *supra* note 3, at 8; RECHTSCHAFFEN & MARKELL, *supra* note 20, at 60-83. While these are worth considering for their possible relevance to ecosystem services, they are not the focus of this Article.

26. EPA FY 2005 REPORT, GOAL 5, *supra* note 25, at 160; see U.S. ENVTL. PROT. AGENCY, COMPLIANCE AND ENFORCEMENT ANNUAL RESULTS: FY2005 NUMBERS AT A GLANCE [hereinafter NUMBERS AT A GLANCE], <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2005/2005numbers.html> (last visited Sept. 7, 2007) EPA's enforcement efforts represent the tip of the iceberg in the enforcement arena. In many states, for one or more of the major pollution control regulatory programs, state officials have primary implementation responsibility. David L. Markell, "Slack" in the Administrative State and its Implications for Governance: The Issue of Accountability, 84 OR. L. REV. 1, 20-21 (2005) [hereinafter Markell, *Slack*]. This includes conducting inspections, reviewing facility-generated reports, identifying instances of significant non-compliance for possible follow-up action, and undertaking such action in appropriate circumstances, either through administrative or judicial enforcement. See, e.g., ENVTL. COUNCIL OF STATES & U.S. ENVTL. PROT. AGENCY, ONE STOP REPORTING PROGRAM, ENVIRONMENTAL POLLUTANT REPORTING DATA IN EPA'S NATIONAL SYSTEMS: DATA COLLECTION BY STATE AGENCIES 1 (1999) (suggesting that states conduct approximately ninety percent of all inspections and initiate more than eighty percent of all enforcement actions each year). The ideas explored in this Article are potentially relevant to state enforcement efforts as well. Furthermore, some of the regulatory statutes require regulated parties to monitor their own compliance and to report the results to the government. The Clean Water Act discharge monitoring report (DMR) program is probably the best example of this approach.

27. OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. ENVTL. PROT. AGENCY, EPA FY 2005 COMPLIANCE & ENFORCEMENT ANNUAL RESULTS 7, 9 (2005) [hereinafter *Annual Results*], available at <http://www.epa.gov/compliance/resources/reports/end>

istrative penalty order settlements and 157 civil judicial conclusions.²⁸ In FY 2005, EPA enforcement addressed a total of 5,137 facilities in 4,346 cases.²⁹

In short, on an annual basis, EPA: 1) invests considerable resources in the enforcement arena; 2) discovers a substantial number of significant violations; and 3) in numerous cases, initiates, and ultimately completes, enforcement action.³⁰ In many of these cases the Agency imposes penalties and requires significant violators to reduce pollutant discharges or otherwise act in ways that enhance protection of human health and the environment. Increasingly, EPA has sought to monitor and measure the environmental impacts (benefits) of its enforcement actions. According to an EPA FY 2005 report, "28.8 percent of enforcement actions required that pollutants be reduced, treated, or eliminated and populations and ecosystems be protected."³¹

In the following section I review the nature and mechanics of contemporary enforcement in order to explore in some detail the opportunities that this significant level of government activity potentially affords for protection of ecosystem services.

*B. An Overview of Traditional Enforcement*³²

The enforcement process, considered broadly, includes several steps. Key elements include: 1) monitoring regulated parties' performance of their legal obligations; 2) identification of violators; 3) prioritization of violations (deciding which violations to pursue and which to give low priority); 4) choice of an enforcement or compliance-promotion approach in particular cases;³³ 5) pursuit of the selected approach in cases for which the Agency decides action is warranted; and 6) post-action follow-up (e.g., to assess whether a violator has returned to compliance).³⁴

ofyear/eoy2005/2005resultscharts.pdf; NUMBERS AT A GLANCE, *supra* note 26.

28. *Annual Results*, *supra* note 27, at 8, 10; NUMBERS AT A GLANCE, *supra* note 26.

29. *Annual Results*, *supra* note 27, at 12.

30. I do not address here the merits of criticisms that there have been declines in recent years in EPA (and state) enforcement activity.

31. EPA FY 2005 REPORT, Goal 5-3, *supra* note 25, at 152. Markell, *Slack*, *supra* note 26, at 59.

32. For a more comprehensive treatment of EPA enforcement, *see generally*, RECHTSCHAFFEN & MARKELL, *supra* note 20; JOEL A. MINTZ, ENFORCEMENT AT THE EPA: HIGH STAKES AND HARD CHOICES (Univ. of Texas 1995); Joel A. Mintz, "Neither the Best of Times Nor the Worst of Times": EPA Enforcement During the Clinton Administration, 35 ELR 10390 (June 2005).

33. EPA has expressed considerable interest in recent years in pursuing more cooperative and less adversarial responses to non-compliance, as have the states. RECHTSCHAFFEN & MARKELL, *supra* note 20, at 59.

34. As is the case with many lists, this one creates somewhat artificial categories.

EPA does not pursue a formal enforcement action in the vast majority of situations in which it uncovers violations.³⁵ As might be expected, EPA's policy is to reserve initiation of formal enforcement proceedings for the most serious violations. Many of EPA's programs characterize these violators as being in "significant non-compliance," or SNC.³⁶

The criteria EPA uses to determine the types of violations that are significant and that warrant formal enforcement action have been the subject of considerable debate over the years.³⁷ Each of EPA's major regulatory programs has developed specific definitions of "significant noncompliance."³⁸ In some cases the program offices have revisited these definitions periodically.³⁹ But, as might be expected, a constant is that a key factor or criterion has been the extent to which a violation has caused or threatened significant harm to human health or the environment.⁴⁰

EPA often considers seeking a variety of types of relief for violations for which the Agency determines formal enforcement action is warranted. EPA typically will seek to require such violators to

It is possible (and reasonable) to categorize the enforcement process in different ways. U.S. ENVTL. PROT. AGENCY, PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT, 1-5 (Feb. 1992). Many of these elements include several components. Monitoring, for example, requires deciding which sources to monitor (priority-setting, etc.), determining the nature of the monitoring effort (the development of monitoring protocols and the like and deciding the appropriate level of monitoring for different situations), and scheduling and performance of inspections and other monitoring activities.

35. RECHTSCHAFFEN & MARKELL, *supra* note 20, at 82 (citing Richard G. Kozlowski & Howard Bleichfeld, *Wetlands Enforcement: Lion or Lamb?*, NAT. RESOURCES & ENV'T, Winter 1996, at 62). Instead, the Agency pursues informal strategies intended to promote compliance. RECHTSCHAFFEN & MARKELL, *supra* note 20, at 82 (citing SUSAN HUNTER & RICHARD WATERMAN, ENFORCING THE LAW: THE CASE OF THE CLEAN WATER ACTS 50-65 (1996)).

36. Markell, *Deterrence-Based Enforcement*, *supra* note 3, at 4; Markell, *Slack*, *supra* note 26. RECHTSCHAFFEN & MARKELL, *supra* note 20. There are instances in which the Agency has departed from the SNC convention. See, for example, the Clean Air Act program's use of the phrase "high priority violations." Memorandum from Eric Shaeffer, Director, Office of Regulatory Enforcement, U.S. Env'tl. Prot. Agency, Issuance of Policy on Timely and Appropriate Enforcement Response to High Priority Violations 3 (Dec. 22, 1998) [hereinafter EPA Memo], available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/issue-ta-rpt.pdf>.

37. Markell, *Deterrence-Based Enforcement*, *supra* note 3, at 24.

38. *Id.* at 43. For a recent example, see the EPA's draft guidance for wet weather discharges under the Clean Water Act, which describes circumstances in which such discharges constitute "significant" non-compliance with CWA permits. National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Peak Wet Weather Discharges From Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems, 70 Fed. Reg. 76013, 76015-18 (U.S. Env'tl. Prot. Agency Dec. 22, 2005), available at <http://www.epa.gov/fedrgstr/EPA-WATER/2005/December/Day-22/w7696.htm>.

39. Markell, *Deterrence-Based Enforcement*, *supra* note 3 at 45; RECHTSCHAFFEN & MARKELL, *supra* note 20, at 164.

40. See e.g., U.S. ENVTL. PROT. AGENCY, HAZARDOUS WASTE CIVIL ENFORCEMENT RESPONSE POLICY 4 (Dec. 2003) [hereinafter HAZARDOUS WASTE POLICY], available at <http://www.epa.gov/compliance/resources/policies/civil/rcra/finalerp1203.pdf>.

pay a penalty.⁴¹ Each of the major environmental regulatory statutes contains a list of factors courts and EPA are to consider in determining appropriate penalty amounts in particular cases.⁴² The Agency generally considers three primary factors in determining the appropriate size of a payable penalty — the “economic benefit” the violator gained through its violations, an additional “gravity” component that is based on the seriousness of the violation and that is intended to put the violator in a worse position than a competitor that is in compliance with its legal obligations, and any “adjustment” factors, such as ability to pay.⁴³

In addition, particularly in cases in which a violation is ongoing or there is a reasonable likelihood that a violation will recur, and in situations in which the violation has caused an adverse impact on human health or the environment, EPA will consider injunctive relief, through which the Agency will require a violator to return to compliance and to fix or remediate any environmental harm its violations caused.⁴⁴

In some cases, EPA pursues other forms of relief as well. I focus on one such form of relief in this article, notably environmentally beneficial projects that violators agree to undertake, even though they do not have a legal obligation to do so. These are negotiated projects incorporated into formal settlements used to resolve enforcement actions without litigation (or to conclude litigation). As part of such settlements, EPA generally reduces a violator’s payable penalty as the *quid pro quo* for the violator’s commitment to perform such “beyond compliance” work. EPA labels these actions Supplemental Environmental Projects (SEPs).⁴⁵

The following data, from EPA’s report for the most recent federal Fiscal Year (2005), entitled *FY 2005 Compliance & Enforcement Annual Results*, shows the dollar value for each of the past five years of each of these types of relief — penalties, injunctive relief, and SEPs. As the *Annual Results* data reflects, in FY 2005

41. See e.g., EPA Memo, *supra* note 36, at 15.

42. 33 U.S.C. § 1319 (2000), 42 U.S.C. § 3008 (2000). Under most regulatory statutes EPA has the authority to bring an enforcement action administratively or judicially. See e.g., CWA § 309(b), (d); CAA § 113(b); RCRA § 3008(a), (g) (all authorizing civil actions); CWA § 309(g); CAA § 113(d) (authorizing administrative enforcement penalties for violations)

43. See *infra* note 57 and Part II.B.

44. See CWA § 309(b); *United States v. Alcoa Inc.*, 98 F. Supp. 2d 1031 (N.D. Ind. 2000).

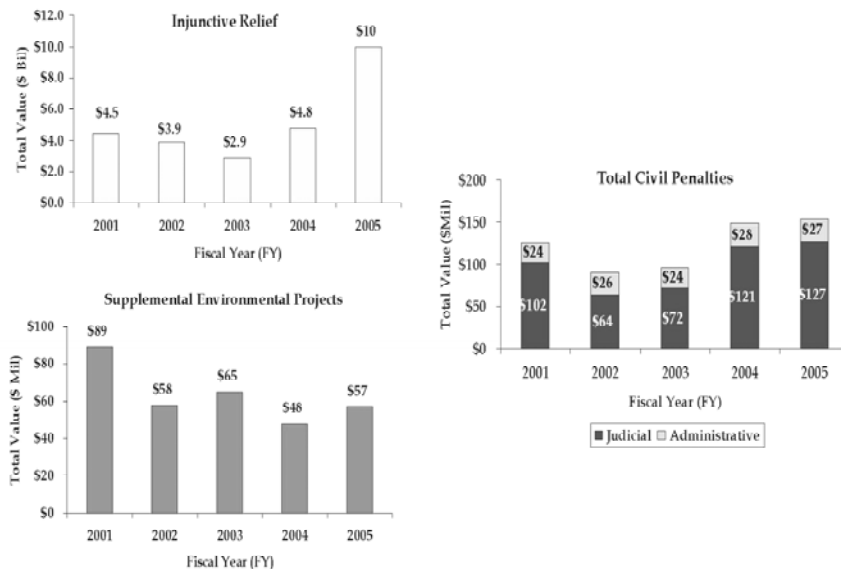
45. See *infra* Part IV. EPA has a variety of other enforcement-based tools as well that I do not address in this article, including the authority to modify and revoke permits. See e.g., HAZARDOUS WASTE POLICY, *supra* note 40, at 9. See also David L. Markell, *States as Innovators: It’s Time for a New Look to Our “Laboratories of Democracy” in the Effort to Improve Our Approach to Environmental Regulation*, 58 ALB. L. REV. 347 (1994) (discussing several types of enforcement authorities).

EPA obtained relief worth more than \$10 billion through its enforcement efforts: \$154 million in payable penalties; \$10 billion in injunctive relief; and \$57 million in violators' commitments to conduct SEPs.⁴⁶ This is obviously a substantial amount of enforcement-generated relief. To provide one basis for comparison, the value of this relief exceeds EPA's entire budget, which in FY 2005 was less than \$8 billion.⁴⁷



FY 2005 Compliance & Enforcement Annual Results

Dollar Values of Concluded EPA Enforcement Actions FY 2001 - FY 2005



FY 2005 Data Source: Integrated Compliance Information System (ICIS), October 27, 2005

5

The question for this article is whether there is a role for one or more of these forms of relief in protecting and restoring ecosystems

46. These figures understate the scope of government enforcement quite significantly because they only cover EPA civil enforcement efforts. EPA also pursues criminal enforcement in appropriate cases. NUMBERS AT A GLANCE, *supra* note 26. Further, the figures do not include information on enforcement relief obtained through state and local government enforcement efforts.

47. See Budget of the United States Government, FY 2007, <http://www.whitehouse.gov/omb/budget/fy2007/epa.html> (lasted visited Aug. 19, 2007) (indicating that EPA's total outlay in 2005 was just under \$8 billion).

and the services they provide. I turn now to a more detailed look at each of these forms of traditional enforcement relief in order to explore this issue.

III. A MORE DETAILED LOOK AT PENALTY CALCULATIONS

This section contains an elaboration on five points that I think are worth making in considering the promise of penalties for protecting ecosystems and their services. First, penalties give EPA leverage to deter violators from committing violations that will harm or threaten to harm such ecosystems and their services.⁴⁸ Related, Congress has periodically ramped up penalty levels to ensure EPA's legal authorities are adequate to give it substantial penalty leverage to promote deterrence.⁴⁹ Second, Congress and EPA have embraced an "economic benefit plus gravity" framework for determining appropriate penalties in particular cases; penalties are to be sufficient to "disgorge economic benefit" (that is, to require a violator to pay an amount at least equal to the economic benefit it gained through its violation), and also are to include a "gravity" component that is tailored to the seriousness of the violation and puts the violator in worse position financially than if it had complied with its legal obligations.⁵⁰ Third, there is theoretical support for EPA's paying attention to harm in calculating penalties, in addition to considering economic benefit.⁵¹ Fourth, there is reason to believe that EPA may not be fully exploiting the leverage its penalty authorities provide it to promote deterrence because of the relatively little attention the Agency traditionally has given in determining penalties to the harm (especially harm to ecosystem services) that violations cause or threaten.⁵² Finally, there appears to be at least some practical capacity for EPA to do better—that is, to increase the attention it gives to harm (including harm to ecosystem services) in calculating penalties.⁵³

In short, my premise is that, while 1) EPA's legal penalty authorities give it the ability to deter violations, including violations that harm ecosystems and the services they provide, through im-

48. Markell, *Deterrence-Based Enforcement*, *supra* note 3, at 40. I am not suggesting that EPA is obligated to determine that any particular level of harm occurred when deciding to pursue an enforcement case or determining to impose a penalty. Instead, EPA's legal authorities generally impose strict liability and do not require EPA to establish that a violation caused or threatened harm as a predicate for suit.

49. *Infra* note 54 and related text. See also Markell, *Deterrence-Based Enforcement*, *supra* note 3.

50. See *infra* Part III.B

51. See *infra* Part III.C.

52. See *infra* Part III.D.

53. *Id.*

position of penalties that disgorge economic benefit and are tailored to the seriousness of the harm the violation caused or threatened, 2) theoretically, it makes sense for EPA to use this authority, and 3) as a practical matter, EPA has some capacity to do so, 4) there is reason to consider whether EPA is not using these authorities as effectively as it should to deter significant violations because it is not paying enough attention to harm (including harm to ecosystem services) in calculating penalties. In the remaining portion of this section, I work through these four issues, pointing out the significant empirical and other questions that need to be addressed in testing the accuracy of this premise.

A. EPA's Authority to Impose Penalties to Deter Significant Violations

EPA's authority to impose penalties gives the Agency significant leverage to create general and specific deterrence in order to reduce the number and significance of violations of the environmental laws. Under many of the significant regulatory statutes, EPA can impose substantial penalties — up to \$32,500 per day, per violation.⁵⁴ As a result, the maximum statutory penalty for a set of violations can be quite high. For example, if a regulated party violates a law such as the Clean Water Act for thirty days, the total maximum penalty is \$975,000 (thirty x \$32,500). If the regulated party has committed three different violations of the Clean Water Act for a month, the total maximum potential penalty increases to \$2,925,000 (\$975,000 x three). For cases that involve multiple violations that continue for an extended period of time, in short, the violator is potentially subject to significant penalties, which easily extend into the multi-million dollar range.⁵⁵

EPA enforcement policies make it clear that, as noted above, the EPA staff are to consider three key factors in determining ap-

54. Congress has increased the maximum penalties significantly over the years for violations of major environmental regulatory statutes such as the Clean Water Act, Clean Air Act, and RCRA. For example, the CWA provided for penalties not to exceed \$10,000 per day of violation until Congress increased this maximum civil penalty amount to \$25,000 per day in the 1987 Amendments. Water Quality Act of 1987, Pub. L. No. 100-4, Title V, §313, 101 Stat. 45 (Feb. 4, 1987) (codified at 33 U.S.C. § 1319). Because Congress provided for penalties to keep pace with inflation, the current statutory maximum is \$32,500. Adjustment of Civil and Monetary Penalties for Inflation, 40 C.F.R. 819.4 (2007).

55. A January 2007 search of EPA's Enforcement and Compliance History Online (ECHO) database found that, in 2006, EPA settled 24 cases in which it assessed penalties of \$500,000 or more. Four of those were administrative cases, the rest judicial. See <http://www.epa.gov/echo/index.html>. See e.g., *Chesapeake Bay Found., Inc. v. Gwaltney of Smithfield, Ltd.*, 791 F.2d 304, 313-14 (4th Cir. 1986) (holding that a violation of a monthly average parameter constitutes a violation of each day of the month); cf. *U.S. v. Allegheny Ludlum Corp.*, 366 F.3d 164, 188-89 (3d Cir. 2004).

appropriate penalty amounts. First, the staff are to consider the economic benefit the regulated party gained through its violations. Second, the staff are to consider the gravity or seriousness of the violations. Finally, staff consider “adjustment” factors, such as ability to pay.⁵⁶

EPA has made considerable progress in making the calculation of economic benefit more routine, systematic, and consistent. It has developed an interactive computer model known as BEN to facilitate calculation of economic benefit.⁵⁷ BEN is intended to be a user-friendly tool that “yields a reliable, objective dollar figure” that represents the economic benefit a violator gained through its violations.⁵⁸ The Science Advisory Board (SAB) has concluded, and EPA enforcement officials have acknowledged, that the Agency devotes the majority of its penalty calculation efforts to determining the economic benefit associated with particular violations.⁵⁹ The SAB has characterized recapturing economic benefit that accrues from noncompliance as “the cornerstone” of EPA’s objective of using penalties to deter violators.⁶⁰

It is clear that Congress intended that EPA consider the seriousness or gravity of a violation in determining an appropriate penalty. Most of the major statutes direct EPA to do so. Section 309(d) of the Clean Water Act (CWA) (covering civil penalties), for example, provides that: “In determining the amount of a civil penalty the court shall consider the *seriousness* of the violation. . . .”⁶¹ Similarly, CWA section 309(g)(3) (covering administrative penalties) provides that: “In determining the amount of any penalty . . .

56. See e.g., U.S. ENVIRONMENTAL PROTECTION AGENCY, POLICY ON CIVIL PENALTIES (GM-21) (Feb. 16, 1984) [hereinafter 1984 POLICY ON CIVIL PENALTIES], available at <http://www.wildlaw.org/Eco-Laws/civ-pen.htm>.

57. ENFORCEMENT ECONOMIC MODELS, <http://www.epa.gov/compliance/civil/econmodels/index.html> (last visited Aug. 19, 2007). For articles about BEN by an EPA lawyer who serves as the BEN Model Coordinator, see Jonathan Libber, Making the Polluter Pay: EPA’s Experience in Recapturing a violator’s Economic Benefit from Noncompliance, 5th Int’l Conf. on Env’tl Compliance and Enforcement 465 (1998); Jonathan D. Libber, *Penalty Assessment at the Environmental Protection Agency: A View From Inside*, 35 S.D. L. REV. 189, 193-97 (1990) [hereinafter Libber, *View from Inside*]. The Agency has refined its BEN model several times. There is a long-standing debate about the appropriate scope of BEN, particularly concerning the extent to which EPA should consider “illegally-obtained” profits in calculating economic benefit. U.S. ENVTL. PROT. AGENCY SCIENCE ADVISORY BOARD, AN ADVISORY OF THE ILLEGAL COMPETITIVE ADVANTAGE (ICA) ECONOMIC BENEFIT (EB) ADVISORY PANEL OF THE EPA SCIENCE ADVISORY BOARD, EPA-SAB-ADV-05-003 (Sept. 7, 2005) [hereinafter SAB Report]. I do not address these issues here.

58. Jonathan Libber, EPA’s BEN Model Coordinator, indicates that 27 states were using BEN to some degree as of 1990. Libber, *View from Inside*, *supra* note 57, at 193.

59. See SAB Report, *supra* note 57; Letter from Granta Y. Nakayama, Asst. Adm’r, EPA, to M. Granger Morgan, Chair of EPA Science Advisory Board (Feb. 21, 2006) [hereinafter EPA Comment on SAB Report] (on file with the author).

60. SAB report, *supra* note 57, at 10.

61. 33 U.S.C. § 1319(d)(2002) (emphasis added).

the Administrator . . . shall take into account the nature, circumstances, extent and *gravity* of the violation” in addition to the economic benefit the violator gained through the violation.⁶² Section 3008(a)(3) of the Resource Conservation and Recovery Act (RCRA) likewise requires that, in “assessing . . . a penalty, the Administrator shall take into account the seriousness of the violation.”⁶³

It is also clear that in referring to “seriousness” or “gravity” of a violation, Congress intended that EPA consider the environmental harm or potential harm that a violation caused in determining an appropriate penalty amount.⁶⁴ Numerous courts have so concluded.⁶⁵ Courts have increased the gravity component of a penalty in situations involving significant harm.⁶⁶ On the flip side, courts have viewed the lack of such harm as a “significant mitigating factor” in determining a penalty amount, even in cases involving substantial numbers of violations.⁶⁷

In short, there is no statutory impediment to EPA’s considering actual or potential environmental harm (including harm to ecosystems and the services they provide) in determining penalty amounts. Instead, Congress intended and directed that the

62. 33 U.S.C. § 1319(g)(3)(2002) (emphasis added).

63. 42 U.S.C. § 6928(a)(3)(2002). In the criminal context, the U.S. Sentencing Guidelines indicate that a court should enhance a defendant’s offense level if the site cleanup “required a substantial expenditure.” U.S.S.G. § 2Q1.3(b)(3)(1993)(requiring an enhancement “if cleanup [associated with an offense] required a substantial expenditure, increase by 4 levels.”) See also U.S.S.G. § 2Q1.2 (addressing toxic and hazardous pollutants); U. S. v. Phillips, 367 F.3d 846, 857-58 (9th Cir. 2004) (holding that courts should include calculations of cleanup expenses, including CERCLA expenses, in deciding whether to enhance a sentence under U.S.S.G. § 2Q1.3(b)(3)). See also, U.S. v. Eidson, 108 F.3d 1336, 1344-45 (concluding that “preliminary [site] examination [costs], which exceeded thirty thousand dollars, are properly considered cleanup costs.”).

64. See e.g., U.S. v. Alshabkhoun, 277 F.3d 930, 935 (7th Cir. 2002); Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York, 244 F.Supp. 2d 41, 49-50 (N.D.N.Y. 2003) (noting that under the Clean Water Act courts should consider the severity of the violations and their effect on the environment in determining penalties).

65. *Trout Unlimited, Inc.*, 244 F.Supp. 2d at 50; U.S. Pub. Interest Research Group v. Atl. 786 F.Supp. 747-49; *Salmon of Maine, L.L.C.*, 257 F.Supp. 2d 407, 428 (D. Me. 2003) (noting that the violations in this case “are of a significant nature. . . because they . . . inflict a significant short-term damage on the environment . . . and endanger the survival of the wild Atlantic salmon.”); *Friends of the Earth, Inc. v. Laidlaw Environmental Services (TOC), Inc.*, 956 F.Supp. 588, 602 (D.S.C. 1997) (holding that “[t]he presence or absence of environmental harm is relevant to the assessment of a Clean Water Act penalty.”).

66. EPA notes that “Courts have considered the extent of environmental harm associated with violations in determining the ‘seriousness of violations’ pursuant to the factors in 309(d).” Revised Interim Clean Water Act Settlement Penalty Policy, Environmental Protection Agency, 25 Env’t. L. Rep. 35618, 35622 n.18 (1995).

67. *Laidlaw, Inc.*, 956 F.Supp. 588, at 602 (citing *Hawaii’s 1000 Friends v. City and County of Honolulu*, 821 F.Supp. 1368, 1395-96 (D. Haw. 1993)) (adopting the view that “the lack of [demonstrated] material harm . . . [is] a significant mitigating factor in assessing penalties.”). *But compare* *Atl. States Legal Found., Inc. v. Universal Tool & Stamping Co.*, 786 F.Supp. 747-49 (N. D. Ind. 1992), *with* *U.S. v. Smithfield Foods, Inc.*, 972 F.Supp. 338, 344 (D. Va. 1997).

Agency do so.

It also is clear that EPA has taken several steps to “operation-ize” this Congressional direction to consider the significance of violations, including the harm the violations cause, in determining penalties. The Agency has developed general enforcement guidance that adheres to this statutory direction. EPA’s 1984 overarching enforcement directive, entitled *A Framework for Statute-Specific Approaches to Penalty Assessments: Implementing EPA’s Policy on Civil Penalties*,⁶⁸ directs each EPA media program (water, air, etc.) to “develop a system for quantifying the gravity of violations of the laws and regulations it administers.”⁶⁹ The Framework indicates that the system “must be based, whenever possible, on objective indicators of the seriousness of the violation.” The Framework provides that “[t]he seriousness of the violation should be based primarily on: 1) the risk of harm inherent in the violation at the time it was committed and 2) the actual harm that resulted from the violation.”⁷⁰ In other words, elaborating on the “gravity component” of penalty calculation, the Framework directs EPA

68. U.S. ENVTL. PROT. AGENCY, A FRAMEWORK FOR STATUTE-SPECIFIC APPROACHES TO PENALTY ASSESSMENTS: IMPLEMENTING EPA’S POLICY ON CIVIL PENALTIES (Feb. 16, 1984) [hereinafter 1984 Framework], available at <http://www.elistore.org/Data/guidance/documents/htmls/AD03225.htm>. EPA intended that this Framework “provid[e] a framework for medium-specific penalty policies.” EPA’s Framework is intended to be a companion document to the Agency’s 1984 Policy on Civil Penalties, which was to “establish a consistent Agency-wide approach to the assessment of civil penalties. . . .” and “to promote the goals of deterrence, fair and equitable treatment of the regulated community, and swift resolution of environmental problems.” Memorandum from Courtney M. Price, Asst. Adm’r, Enforcement and Compliance Monitoring (Feb. 15, 1984) (on file with author). EPA intended in the Policy on Civil Penalties to “focus[] on the general philosophy” behind EPA’s approach to penalties. *Id.*

The Policy directs EPA staff to assess penalties with three main components: 1) a “benefit” component — “penalties generally should, at a minimum, remove any significant economic benefits resulting from failure to comply with the law [p. 3], 2) a “gravity” component that “reflects the seriousness of the violation,” and 3) consideration of “adjustment” factors such as ability to pay. POLICY ON CIVIL PENALTIES, *supra* note 56 at 3, 4, 8. Courts have recognized that economic benefit may be difficult to estimate and, as a result, “[r]easonable approximations . . . will suffice”. U.S. v. Smithfield Foods, Inc., 191 F.3d 516, 529 (4th Cir 1999) (citing Pub. Interest Research Group of N.J., Inc. v. Powell Duffryn Terminals Inc., 913 F.2d 64, 80 (3d Cir. 1990)). One court has suggested that the court’s job is to reach a “rational estimate . . . resolving uncertainties in favor of a higher estimate.” U.S. v. Municipal Authority of Union Township, 929 F.Supp. 800, 806 (M.D. Pa. 1996) (citing *Gwaltney*, 611 F. Supp. at 1558). In the court’s view, “[i]t would eviscerate the [CWA] to allow violators to escape civil penalties on the ground that such penalties cannot be calculated with precision.” *Id.* at 806-7.

The Policy on Civil Penalties indicates the benefit and gravity components will yield a “preliminary deterrence amount” that is subject to adjustment based on several factors. 1984 POLICY ON CIVIL PENALTIES, at 8. The Policy indicates that EPA should provide specific incentives to settle by considering reducing the gravity component in situations in which the violator institutes expeditious remedies to the identified violations and undertakes additional environmental cleanup. *Id.* at 6.

69. 1984 Framework, *supra* note 68, at app. II.A.

70. *Id.*

staff to assess violations according to the seriousness of the violation(s), with seriousness to be determined based on factors including “actual or possible harm.”⁷¹

The Framework also directs staff to *quantify* the seriousness of violations. The Framework’s offers the following guidance for doing so:

Assigning a dollar figure to represent the gravity of a violation is an essentially subjective process. Nevertheless, the relative seriousness of different violations can be fairly accurately determined in most cases. This can be accomplished by reference to the goals of the specific regulatory scheme and the facts of each particular violation. Thus, linking the dollar amount of the gravity component to these objective factors is a useful way of ensuring that violations of approximately equal seriousness are treated the same way.⁷²

Beyond its overarching Framework, EPA has further operationalized or implemented its approach to penalty calculation through development of a series of program-specific policies. EPA has issued at least 35 “penalty policies” or “enforcement response policies” for its different programs.⁷³ There are variations among these policies in their approach to environmental harm, but the idea that EPA should consider environmental harm as a factor in determining penalties is a common feature of these policies.⁷⁴

71. 1984 Framework, *supra* note 68, at II. The Framework provides that EPA should consider the amount and toxicity of any pollutants involved, as well as the sensitivity of the environment, in evaluating actual or possible harm. *Id.* See also SAB Report, *supra* note 57, at II. (noting that EPA is to rank violations based on the seriousness of the act and consider actual or possible harm in completing such rankings). In addition to actual or potential harm, the Framework directs EPA staff to consider “importance to the regulatory scheme” (that is, the importance of the requirement to achieving the goal of the statute or regulation) in determining the gravity component of a penalty. *Id.*

72. 1984 Framework, *supra* note 68, at app. II.A. The Framework also reflects intention that EPA staff consider the harm a violation causes to the environment in determining the gravity component of a penalty by providing that EPA staff may reduce the gravity component of a penalty if the violator “cooperates” by correcting the environmental problem prior to litigation. Such cooperation may justify a 50% reduction in the gravity component of a penalty. Thus, a violator may be able to reduce its penalty by taking actions to abate or redress environmental harm that it has caused, including to an ecosystem and the services it provides. *Id.* at app. I.

73. EPA Comment on SAB Report, *supra* note 59, at 5.

74. I reviewed EPA’s enforcement or penalty policies for the CWA NPDES program, the CWA § 404 program, RCRA, the CAA stationary source program, and EPA’s UST program in preparing this article. U.S. ENVTL. PROT. AGENCY, REVISED INTERIM CLEAN WATER ACT CIVIL PENALTY POLICY (June 2003), *available at* <http://www.epa.gov/compliance/resources/policies/civil/rcra/rcpp2003-fnl.pdf>; U.S. ENVTL. PROT. AGENCY, CLEAN AIR ACT STA-

Beyond this legislative and Agency policy direction that EPA staff should consider harm in determining penalty amounts, the Agency has identified key rationales for pursuing enforcement that support such an approach as well. EPA has identified three basic goals for its enforcement efforts: 1) deterrence, 2) fairness, and 3) swift resolution of environmental problems.⁷⁵ Particularly when violations cause significant harm, the theoretical literature suggests that imposing a penalty that incorporates such harm furthers at least the first two of these goals.

*B. Theoretical Support for EPA's Considering Significant
Environmental Harm in Determining Penalties*

There is theoretical support for EPA's considering harm in imposing penalties, particularly for significant violations that cause or threaten substantial harm.⁷⁶ Failure to consider harm ade-

TIONARY SOURCE PENALTY POLICY (May 2002), available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/penpol.pdf>; U.S. ENVTL. PROT. AGENCY, CLEAN WATER ACT SECTION 404 SETTLEMENT PENALTY POLICY (2001), available at <http://www.epa.gov/compliance/resources/policies/civil/cwa/404pen.pdf>. Federal district court judges are not obligated to use these guidance documents. For an example of a court deciding not to use the Policy, see *Laidlaw, Inc.*, 956 F.Supp. 588, at 601 (declining, in a citizen suit, to consider EPA's March 1995 Interim Clean Water Act Settlement Penalty Policy in calculating an appropriate penalty amount). States similarly are not obligated to use them. Some states have developed their own policies, but not all. State approaches deserve focused attention, particularly since states conduct the vast majority of enforcement.

75. 1984 POLICY ON CIVIL PENALTIES, *supra* note 56, at 1 (establishing a "single set of goals for penalty assessment," notably "deterrence, fair and equitable treatment of the regulated community, and swift resolution of environmental problems.").

76. There is a considerable literature on the issue of optimal enforcement. 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); Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297 (1999). For purposes of this article it is necessary only to make the point that enforcement theory supports considering harm in a variety of contexts. To provide a very brief and incomplete overview, there are two key types of deterrence, absolute and conditional. As the SAB has put it, society would never condone some offenses — like violent assaults and rapes — and these are treated as "unconditionally deterred" offenses. They are to be deterred, regardless of the private benefit to the offender. One framework for absolutely deterring violations in the environmental arena is to require the violator to disgorge the economic benefit it has gained through its violations. The idea is that if a rational economic actor knows that it will be required to disgorge any benefit it gains from the violations, it will have no incentive to violate. Economists also recognize, however, that this theory of absolute deterrence does not always work in practice, and that it may be appropriate to consider harm or other factors to increase the penalty beyond economic benefit when the goal is absolute deterrence.

As the SAB and others have noted, environmental violations may also be treated under a framework known as "conditional deterrence." The notion here is that pollution is usually a byproduct of a socially beneficial activity and therefore should be considered to be a "conditionally deterred" offense—one that we only want to prohibit when its overall social costs exceed its overall social benefits. Economists suggest that harm is an appropriate basis for determining penalties in a context in which the goal is conditional deterrence because under this approach a violator's incentive is to obey the law if the harm it will cause by violating

quately in determining penalties may result in *under-deterrence* (i.e., it may result in too high levels of non-compliance), particularly of violations that cause significant harm. Regulated parties are more likely to commit violations that harm the environment (and that reduce the services ecosystems provide) when the penalties imposed do not force the violators to internalize the costs of such harm.⁷⁷

The SAB provides an example to explain why in order to achieve appropriate deterrence EPA and other agencies should consider the harm a violation causes in determining an appropriate penalty amount, particularly when the harm is significant:

It is worth emphasizing that this optimal penalty is based on the “harm” caused by the offense, not the “gain” to the offender. To take a simple criminal example, if a mugger obtained \$100 in a robbery and the victim ended up spending three days in the hospital, a penalty based on the \$100 gain to the offender would surely be too low — and would “under-deter” such offenses. The appropriate penalty would compensate the victim for three days in the hospital and pain and suffering. In the context of environmental offenses, suppose a firm fails to install a \$100 safety valve and as a result 10,000 gallons of crude oil spilled into a sensitive coastal area. The \$100 “gain” to the offender would certainly not be an appropriate starting point for a penalty. In both of these cases, the problem is the failure to take account of the harm done to the victim in setting the penalty.⁷⁸

will exceed the benefit it will derive by doing so. Under this framework, a penalty based on harm creates the proper incentives for behavior in the economics literature. It should be noted that, under conditional deterrence theory, if the gain due to noncompliance is large relative to the harm, a harm-based penalty will not deter noncompliance, but many economists are comfortable with this “conditional deterrence” result since, because the gain from noncompliance exceeds the harm, noncompliance is actually the overall socially efficient outcome. Some environmental violations are considered to be of the “unconditional deterrence” variety; thus, while economists might argue that they should be forgiven if the benefit from committing them exceeds the costs, the legislature has answered that question differently. SAB Report, *supra* note 57, at 25.

77. See SAB report, *supra* note 57. Penalty authority carries with it a risk of over-deterrence as well. This is true, for example, in a case in which a penalty includes an estimate of the harm that is too high.

78. *Id.* at 25. As noted, *supra* at note 76, there is an argument that, theoretically, penalties that recoup economic benefit should absolutely deter violations. As the SAB puts it, if EPA were in every case to impose a penalty equal to the gain to the offender divided by

The threat of more significant sanctions for violations that cause relatively significant harm also may provide what some economists have characterized as marginal deterrence. As Polinsky and Shavell put it:

[E]xpected sanctions influence which harmful acts individuals choose to commit. Notably, such individuals will have a reason to commit less harmful rather than more harmful acts if expected sanctions rise with harm. Deterrence of a more harmful act because its expected sanction exceeds that for a less harmful act is sometimes referred to as marginal deterrence.⁷⁹

Polinsky and Shavell conclude that:

Other things being equal, it is socially desirable that enforcement policy creates marginal deterrence, so that those who are not deterred from committing harmful acts have a reason to moderate the amount of harm that they cause. This suggests that sanctions should rise with the magnitude of harm. . . . [M]arginal deterrence is naturally accomplished if the expected sanction equals harm for all levels of harm; for if a person is paying for harm done, he will have to pay appropriately more if he does greater harm.”⁸⁰

The SAB suggests that EPA should also consider harm in setting penalties because doing so will lead to *more fair* results (another policy objective EPA articulates in its enforcement policies):

An important aspect of fairness is the *restoration of the status quo*: the law has been violated, and one

the probability of detection and punishment, it would never be in the potential offender's interest to violate the law. SAB Report, *supra* note 57, at 25. But, there are several circumstances in which this argument does not hold — e.g., if there is uncertainty as to whether EPA will discover a violation, or pursue it, or be successful in determining, and requiring the disgorgement of, the entire economic benefit. *Id.* at 25-26.

79. Polinsky and Shavell, *supra* note 15, at 63.

80. *Id.* “[M]arginal deterrence also can be promoted by increasing the probability of detection as well as the magnitude of sanctions. For example, [as the SAB puts it,] kidnapers can be deterred from killing their victims if greater police resources are devoted to apprehending kidnapers who murder their victims than to those who do not.” *Id.* This point obviously has implications for the allocation of resources to, and design of, EPA inspection and monitoring schemes and their effectiveness in uncovering violations that threaten or cause significant harm to ecosystems and their services.

objective of the penalty system is to return to the status quo before the violation occurred. . . . [R]emoving the economic benefit is not the *only* action that might be required in order to restore the status quo. With a violation of an environmental regulation, there is a loss resulting from the polluter's action in the form of some harm to the natural environment. Whether the natural resource that is harmed belongs to a private individual or the general public, restoration of the status quo can call for some appropriate compensatory action, perhaps in the form of a penalty based on harm to the environment rather than on gain to the polluter.⁸¹

To sum up, it appears to be undisputed that Congressional and Agency policies direct Agency staff to consider environmental harm (actual and potential) in determining penalty amounts. There also appears to be theoretical support for EPA to pursue such approaches. Thus, the major remaining questions involve the extent to which EPA is, in fact, considering harm, including harm to ecosystem services, in determining penalty amounts and, re-

81. SAB Report, *supra* note 57, at 1. The SAB characterizes as "the major focus" of EPA's penalty policy the fairness notion that the "restorative objective of a penalty system is to undo the violation and return the situation to how it was before the violation occurred." *Id.* at 9. The SAB notes that restoring the status quo requires not only disgorging the unwarranted gain to the violator, but also making good on the "unwarranted loss" to some other party. The SAB notes that a compensatory action could include both clean-up and some form of environmental restoration. "The costs of clean-up and environmental restoration are thus compensation that should be paid by the polluter in order to restore the status quo." *Id.*

The SAB elaborates on this issue as follows:

In summary, the restoration of the status quo would appear to be an important aspect of the fairness objective in setting the penalty for a violation of an environmental regulation. This restorative goal can be seen to have two possible implications. If one focuses on the polluter's unlawful gain, restoration of the status quo implies that he should give up the gain. If one focuses on the unlawful harm to the environment, restoration of the status quo implies that he should pay an amount covering the cost of cleanup and/or environmental restoration. In general, there is no reason to expect that the two different approaches will lead to a similar assessment of a monetary payment: the cost avoided by failing to control pollution need bear no relationship to the damage caused by the pollution. This raises two questions: Which approach is presently adopted by the EPA? Which approach seems preferable, or should they be combined in some manner?

With regard to the first question, . . . the current EPA penalty policy . . . contain[s] some elements of both approaches. . . .

Id. at 9-10.

lated, the challenges associated with its doing so. It is to these questions that I now turn briefly in the following section.

*C. EPA's Experience in Assessing Environmental Harm in
Determining Penalties and its Challenges in Doing So*

A recent SAB report suggests the possibility of a significant gap between the Congressional and Agency policy direction (discussed in Section III.A) and the theory supporting considering harm (discussed in Section III.B), and the reality on the ground. The SAB report indicates that the reality in the penalty calculation context is that, despite the direction in the generic and media-specific agency policies, EPA has traditionally focused much of its penalty calculation efforts on the first prong in the Agency's penalty calculation methodology, determining economic benefit, and it has paid little attention to harm.⁸² After spending almost two years reviewing EPA's approach to calculating penalties,⁸³ the SAB noted that EPA devotes much more effort to determining and recouping economic benefit than it pays to determining and monetizing environmental harm as part of its gravity analysis. "[T]he current EPA penalty process appears to focus overwhelmingly on the calculation of the unlawful gain to the polluter, with no systematic consideration of the monetary value of the environmental damage caused by the violation...."⁸⁴ Along the same lines, the SAB concluded that "[s]ince 1978, the EPA has made the violator's economic benefit from . . . violating the Clean Air and Clean Water Acts the centerpiece of its calculation of civil penalties."⁸⁵ In its comments on the SAB report, EPA acknowledges this is the case.⁸⁶

The SAB has concluded that it is feasible for EPA to calculate harm, and has recommended that EPA embark on such an effort, but EPA has not embraced this recommendation with open arms. The SAB offers the following advice in its cover letter to the 2005 report: "The Panel believes that the state-of-the art in benefits estimation has progressed to the point where EPA should seriously explore how it might incorporate 'harm-based' measures into its

82. SAB Report, *supra* note 57, at 10.

83. Mike Ferullo, *Panel Says EPA Penalty Assessment Process Should Tally Value of Environmental Harm*, BNA DAILY ENV'T REPORT, Sept. 21, 2005, at A-8.

84. SAB Report, *supra* note 57, at 9-10. *See also id.* at 7 (asserting that, "[s]ince 1978, the EPA has based civil penalties under the CAA and CWA on the violator's economic benefit from noncompliance from violating the law.>").

85. *Id.* at 1.

86. EPA Comment on SAB Report, *supra* note 59.

penalty formula. . . .”⁸⁷ On the other hand, EPA points to various constraints as an explanation for its limited consideration of harm: “even when the harm can in theory be monetized, in almost all civil penalty actions the analytical resources and efforts necessary to accomplish this could be very substantial.”⁸⁸

The SAB’s optimism, coupled with EPA’s identification of roadblocks, suggests the possible value of more in-depth assessment of the possibilities for developing greater agency capacity to integrate harm-based evaluations into its penalty calculation methodologies. Little such in-depth assessment has been done to date. Thus, my main purpose in this section is to suggest the beginnings of a future research agenda to develop a better understanding of current practices, and future challenges and opportunities. Questions that deserve attention include: 1) How often does EPA consider harm, including harm to ecosystem services?; 2) What motivates the Agency to consider harm in some cases and not in others?; 3) How does EPA carry out such efforts?; 4) Are there significant regional variations in the answers to these questions; and 5) To the extent there is a gap between theory and policy directives, on the one hand, and implementation on the other, what are the practical constraints or other factors that may account for this gap, and are there ways EPA can overcome these constraints so the Agency is able to consider harm to ecosystem services more than it does currently? The answers to these questions will help to inform consideration of the extent to which, and possible ways in which, EPA can and should pay more attention to the harm (and potential harm) a violation causes in determining the appropriate penalty.

A final observation is that EPA’s penalty calculation authorities provide it with a forum for promoting learning about ecosystem services. The ecosystem services literature is full of references to data limitations.⁸⁹ To name three, there are significant limits to our knowledge about: 1) baseline conditions — the current state of the environment and the services it provides; 2) impacts — the extent to which different types of environmental insults cause harm to different types of ecosystems; and 3) valuation — the dollar

87. Letter from Dr. A. Myrick Freeman III, Chair, Illegal Competitive Advantage (ICA) Economic Benefit (EB) Advisory Panel, EPA Science Advisory Board, to Stephen L. Johnson, EPA Administrator (Sept. 7, 2005) (on file with the author). See also SAB Report, *supra* note 57, at 5, 26. In concluding that benefits estimation is feasible in some cases, the SAB notes that “there is some continuing disagreement about the relative merits of alternative approaches and their overall reliability.” *Id.* at 26.

88. *Id.* at 4. EPA also indicates that “[w]hile the Agency’s penalty policies do consider the environmental harm from the violations (when present),” it asserts that “the violations EPA prosecutes rarely involve provable environmental damage.” *Id.*

89. See e.g., *supra* note 19.

value of the level of harm particular violations cause. EPA has the opportunity to advance learning in all three of these areas as part of its efforts to calculate penalties. To provide one example, if a violation harms a particular wetland, EPA has the authority, in determining an appropriate penalty, to gather data on the natural environment involved (e.g., the qualities of the wetland and the services the wetland provides); it has authority to gather data on the nature and extent of the harm that the violation caused to the wetland and the services it provides; and the Agency has the authority to calculate, and place, a monetary value on this harm. EPA can use these types of data-gathering and valuation efforts to learn more about the particular resources involved. It also can incorporate this knowledge and expertise on a broader scale, to bolster our knowledge of natural inventories by improving our understanding of baseline conditions and services. Thus, in short, learning the Agency derives from calculating a "harm-based" penalty for one set of violations may provide information that will facilitate understanding, protecting, and restoring ecosystems and the services they provide in a range of contexts.

IV. INJUNCTIVE RELIEF

As noted above, EPA's enforcement authorities include the authority to impose injunctive relief, in addition to the power to impose penalties. In at least some circumstances, EPA has defined the scope of its injunctive authority to include the power to require violators to cease violations and to repair any harm the violations have caused. EPA has noted, for example, that "[i]n settling enforcement actions, EPA requires alleged violators to promptly cease the violations and, to the extent feasible, remediate any harm caused by the violations."⁹⁰

EPA's injunctive authorities appear to give it significant opportunities to protect ecosystems and the services they provide, in at least three ways. Most obviously, if a violation is causing harm to an ecosystem or threatening to do so, EPA can enjoin the violator to change its behavior by terminating the activities that are causing or threatening harm and to take steps to minimize the prospects for recurrence. There are limitations on EPA's authority, including courts' having the equitable discretion to determine appropriate relief in particular cases and thereby override EPA's preferred approach.⁹¹ Nevertheless, in broad terms EPA has long as-

90. Final EPA Supplemental Environmental Projects Policy Issued, 63 Fed. Reg. 24796, 24796 (May 5, 1998) [hereinafter Final SEPs Policy].

91. Courts generally have extraordinarily broad equitable authority to "do justice" in

served the power to require violators to cease their violations and return to compliance.⁹²

Second, as indicated in the initial paragraph in this section, in at least some cases EPA asserts that its injunctive authorities empower it to enjoin a violator to act affirmatively to address harm that it has caused. Professor Edward Lloyd and others have suggested limits to this authority.⁹³ In many cases, however, EPA has negotiated agreements that obligated alleged violators to remediate harm their violations have caused, and in others courts or EPA's judges or Environmental Appeals Board have required violators to do so.

Finally, EPA's injunctive authorities appear to give it significant capacity for learning that will promote protection of ecosystems and the services they provide by advancing understanding of ecosystems and these services. As noted above, the ecosystem services literature identifies significant data-related shortcomings to our ability to protect and restore ecosystems. These include limits in our understanding of: 1) baseline conditions — the current state of the environment and the services it provides; 2) impacts — the extent to which different types of environmental insults cause harm to different types of ecosystems and, related, the impact of these harms on the capacity of ecosystems to provide services such as pollination, flood control, and the like; and 3) the efficacy and cost of different approaches to protecting and restoring ecosystems and the services they provide. EPA has the opportunity to use its injunctive authorities to advance learning in all three of these areas. To use the same example discussed above, if a violation harms a wetland, EPA claims the authority, in determining appropriate injunctive relief, to: 1) gather data on the qualities of the wetland and on the services the wetland provides; 2) develop in-

resolving cases involving violations of the environmental laws. *See, e.g.*, *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 320 (1982) (indicating that the CWA “permits the district court to order that relief it considers necessary to secure prompt compliance with the Act”); *cf.* *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978). (holding that Congress had limited the courts’ traditionally broad equitable jurisdiction). EPA also has broad enforcement discretion to decide whether to prosecute, how to prosecute, and whether to settle a case. *See e.g.*, *Heckler v. Chaney*, 470 U.S. 821 (1985) (an agency’s discretion not to enforce is generally committed to the agency’s absolute discretion); *Oil Chemical & Atomic Workers v. Occupational Safety & Health Review Comm’n*, 671 F.2d 643, 650 (D.C. Cir. 1982) (EPA’s enforcement discretion includes the discretion to settle a case).

92. 1984 EPA POLICY ON CIVIL PENALTIES, *supra* note 56.

93. Edward Lloyd, *Supplemental Environmental Projects Have Been Effectively Used in Citizen Suits to Deter Future Violations as Well as to Achieve Significant Additional Environmental Benefits*, 10 WIDENER L. REV. 413, 425 (2004) (discussing amendments proposed to the CWA in 1993, which would have authorized courts to order a violator to restore the natural resources damaged or destroyed as the result of the violation at issue, S. 1114, 103rd Cong. 262 (1993), and asking why such amendments were needed if courts already have this authority).

formation on the nature and extent of the harm that the violation caused to the wetland and the services it provides; and 3) require the violator to cease the violation that is causing harm (and to identify and evaluate different options for doing so) and to abate the harm that it has caused (again, after identifying and evaluating different options for doing so).

While the same types of barriers to EPA's pursuing more harm-based penalty calculations exist in the injunctive relief context, such as resource constraints, methodological challenges, and the like, the fact that EPA has the ability in some cases to direct the violators to do the basic investigatory and remedial or restorative work means that EPA can reduce these barriers by shifting much of the work to the violators rather than undertake this work itself. While EPA needs to maintain the capacity to direct and oversee a violator's work, the resource demands should be less than if EPA were doing the work itself. Further, the economic valuation work will be in much less demand on the injunctive end of the relief spectrum, thereby simplifying EPA's methodological challenges in justifying commitments from violators.

Another point worth mentioning concerning the promise of EPA's injunctive authority as a tool to protect ecosystems is that EPA has structured its enforcement policies to create leverage for its efforts to have violators undertake needed remedial work. EPA's Framework allows Agency staff to reduce the gravity component of a penalty significantly if the violator "cooperates" by correcting the environmental problem prior to litigation.⁹⁴ This approach obviously creates an incentive for violators to reach agreement with EPA on appropriate injunctive actions to abate and/or redress environmental harm that they have caused, including to an ecosystem and the services it provides, so that the violators may reduce their penalty by taking such actions.

V. SEPs

EPA has coined the acronym SEPs (shorthand for Supplemental Environmental Projects) to refer to a third type of enforcement-related relief that holds promise for advancing knowledge of ecosystems and the services they provide, and for protecting, restoring, and enhancing such services. This Part examines the poten-

94. 1984 Framework, *supra* note 68; *See also* Catskill Mountains Chap. of Trout v. City of NY, 244 F.Supp. 2d 41 (N.D.N.Y. 2003) (reducing penalty because of mitigation efforts). More generally, the Clean Water Act's direction that courts consider a defendant's good faith effort to comply in assessing a penalty similarly indicates that efforts to comply can help to mitigate a penalty. *Laidlaw, Inc.*, 956 F.Supp. at 607-8.

tial for SEPs to serve as a useful form of relief for improving protection of ecosystem services.⁹⁵

Commentators who have lauded the promise of SEPs as a mechanism for enhancing environmental protection, including protecting ecosystems and the services they provide, have tended to highlight two key features of SEPs.⁹⁶ SEPs are in a sense “environmental freebies” — projects that will have a positive environmental impact that would not be undertaken otherwise.⁹⁷ Further, EPA’s enforcement policies create leverage for EPA to persuade violators to undertake environmentally beneficial SEPs they are not legally obligated to undertake, including the possibility that EPA may reduce the penalty it will impose on a violator in exchange for the party’s undertaking a SEP.⁹⁸

95. While I focus on EPA’s SEPs policies and practices, states’ interest in SEPs appears to have increased as well. A 2005 survey of State SEP approaches found that 30 states have adopted formal, published SEP policies, up from 19 eight years before. Steven Bonorris et al., *Environmental Enforcement in the Fifty States: The Promise and Pitfalls of Supplemental Environmental Projects*, 11 HASTINGS W.-NW. J. ENVTL. L. & POLY 185, 188 (2005). Another 13 states also negotiate SEPs, but do so based on informal, unwritten practices. *Id.* Only two states, North Carolina and South Carolina have rejected SEPs. *Id.*

96. See David A. Dana, *The Uncertain Merits Of Environmental Enforcement Reform: The Case Of Supplemental Environmental Projects*, 1998 Wis. L. Rev. 1181, 1181-83; Kenneth T. Kristl, *Making a Good Idea Even Better: Rethinking the Limits on Supplemental Environmental Projects*, 31 VT. L. REV. 217 (2007); Lloyd, *supra* note 93, at 413-4. Cf. Bonorris et al., *supra* note 95, at 221 (suggesting that SEPs’ potential value extends beyond providing environmental benefits in particular settlements to “hold[ing] the promise of a re-invented regulatory model, one of cooperative enforcement, rather than the procrustean standard of traditional top-down, ‘command and control’ regulation.”).

97. For favorable characterizations of SEPs, see, e.g., Dana, *supra* note 96, at 1205 (noting that several commentators and others have referred to SEPs as “win-win” opportunities); Laurie Droughton, Comment, *Supplemental Environmental Projects: A Bargain for the Environment*, 12 PACE ENVTL. L. REV. 789, 789 (1995) (referring to SEPs as a “bargain for the environment”); Kristl, *supra* note 96, at 1 (characterizing a SEP as a “win-win” proposition because the plaintiff “achieves both prevention and restoration,” the defendant reduces its penalty, and the environment benefits); Lloyd, *supra* note 93, at 413 (concluding that “[t]he use of citizen suit SEPs is widespread and largely successful.”). For expressions of concern about SEPs, see generally, Michael Greve, *The Private Enforcement of Environmental Law*, 65 TUL. L. REV. 339 (1990); Dana, *supra* note 96, at 1184, 1215, 1216 (suggesting that SEPs may lower the cost of violating the environmental laws and thereby result in undeterrence of such violations, and that, ultimately, SEPs are “an unattractive vehicle to promote environmental good works” and suggesting that there are alternative means available for the government to promote environmental good works that do not undermine deterrence objectives — namely, government grants to regulated entities for such projects).

98. Final SEPs Policy, *supra* note 90, at 24803 (noting that “the enforcement context has two distinct advantages. First, firms can be motivated to innovate . . . through penalty reduction, improved relations with the Agency, and improved public relations. Second, since the firm has committed to implement the innovative project in its consent agreement with the Agency . . . there is a strong incentive to stick with the project even when technical difficulties arise. Enforcement thus creates a ‘window of opportunity’ in which options for technological change receive more serious consideration than usual.”). Defendants have other possible reasons for agreeing to SEPs as well. See, e.g., Matthew D. Zinn, *Policing Environmental Regulatory Enforcement: Cooperation, Capture, and Citizen Suits*, 21 STAN. ENVTL. L.J. 81, 87 (2002) (noting that industry groups and regulators have supported SEPs on the grounds that they avoid or reduce litigation costs, foster fairness for regulated parties, and

EPA has had considerable experience with SEPs. The Agency issued its Final SEPs Policy in 1998,⁹⁹ but the Agency had been entering into SEPs for approximately twenty years prior to its issuance of the 1998 Policy.¹⁰⁰ The Agency has continued to give SEPs substantial policy attention; it has issued at least 17 guidance memoranda on SEPs since 1998.¹⁰¹

The Agency's rhetoric has generally been quite supportive of SEPs. In its 1998 Final SEPs Policy, EPA announced that it "placed a high priority" on including SEPs in settlements.¹⁰² EPA has issued a series of post-1998 refinements to its SEPs Policy in order to "help promote the use of SEPs in enforcement settlements."¹⁰³ It has, for example, taken steps to simplify the process for approval of SEPs and to increase incentives for violators to agree to SEPs.¹⁰⁴ In a 2002 Memorandum, the Agency stated that

"increase popular support." They also may engender a greater degree of cooperation among regulators, regulated parties, and interested citizens.) Professor David Dana identifies a variety of reasons why regulators may be favorably disposed to SEPs. Dana, *supra* note 96, at 1200-1 (suggesting that regulators may generate political backing from local residents and that this increased local goodwill may produce more resources. Further, "[i]ncreased local goodwill may translate into purely psychic benefits for regulators. [R]egulators may experience psychic satisfaction in witnessing an environmental improvement that results directly from their efforts." Regulators may find it beneficial to use SEPs as a learning opportunity or as a "testing ground" for future regulatory programs.). Dana also suggests that SEPs may be beneficial by engendering greater internalization of "the norms of good environmental citizenship" and therefore lead to increased compliance. *Id.* at 1211. For general reasons why defendants might opt to settle a case rather than litigate it, such as the cost of litigation and the risks inherent in litigation, see Robert D. Cooter and Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LIT. 27, pp. 1067-97 (1989) (providing survey results).

99. Final SEPs Policy, *supra* note 90.

100. *Id.* For two recent, detailed historical reviews of EPA's development and use of SEPs, see generally, Kristl, *supra* note 96; Lloyd, *supra* note 93. Citizens negotiate SEPs in settling enforcement cases as well. See, e.g., Lloyd, *supra* note 93, at 413 (noting that the "use of citizen suit SEPs is widespread and largely successful"); Greve, *supra* note 97.

101. EPA provides a list of its SEPs Policy and Guidance online. SEPs Policy and Guidance, <http://cfpub.epa.gov/compliance/resources/policies/civil/seps> (last visited Aug. 18, 2007). They cover the availability of SEPs in a wide range of enforcement contexts (for example, settlements with municipalities of CWA enforcement case, green buildings, retrofitting school buses, etc.). See also Memorandum from Phyllis Harris, Principal Deputy Asst. Adm'r, EPA OECA, to Reg'l Adm'rs, Clarification and Expansion of Environmental Compliance Audits under the Supplemental Environmental Projects Policy (Jan. 10, 2003), available at <http://www.epa.gov/compliance/resources/policies/civil/seps/sepauditclar-mem.pdf> (advising that EPA is expanding the environmental compliance audit category of SEPs) and Kristl, *supra* note 96, at 17.

102. Final SEPs Policy, *supra* note 90, at 24796.

103. Memorandum from John Peter Suarez, Asst. Adm'r, EPA OECA, to Asst. Adm'rs et al., Expanding the Use of Supplemental Environmental Projects 3 (June 11, 2003), available at <http://www.epa.gov/compliance/resources/policies/civil/seps/seps-expandinguse.pdf> [hereinafter Suarez, Expanding Use].

104. *Id.* In addition, EPA has included a project idea form on its website; it develops a project ideas memorandum that it updates and sends out regularly; and it provides SEP information on the Enforcement and Compliance History Online system (www.epa.gov/echo). E-mail from Beth Cavalier, Special Litigation and Project Division, EPA OECA, to author (Feb. 28, 2007, 07:21:00 EST) (on file with the author).

“SEPs are an important part of the settlement process and are an appropriate means to further Agency enforcement goals and objectives. We encourage the Regions to continue to promote SEPs and look for opportunities to incorporate such projects into their settlements.”¹⁰⁵ Echoing the Agency’s rhetoric, Professor David Dana suggested in a 1998 article that “the use of SEPs by public regulators . . . soon will become (or arguably already has become) a major component of environmental enforcement.”¹⁰⁶

In light of the internal and external optimism about SEPs and support for them, EPA’s track record in negotiating SEPs might come as a bit of a surprise. The use of SEPs has not increased substantially, as one might expect from EPA’s rhetoric.¹⁰⁷ Instead, as the *Annual Results* data above reflects, in EPA’s FY 2001, EPA estimated the value of the SEPs it entered into that year to be about \$90 million, while over the past four years, the value of SEPs has declined to amounts in the range of \$45-\$65 million annually.¹⁰⁸ Data that Professor Kenneth Kristl has compiled indicates that the number of SEPs has not increased in recent years either.¹⁰⁹

The rest of this Part reviews key features of SEPs. It concludes by identifying, and briefly exploring, several possible strategies for expanding use of SEPs beyond historic and current levels.

A. Definitions: What are SEPs?

As EPA explains, SEPs have a unique role in EPA’s enforcement tool box. They are intended to “obtain environmental and public health protection and improvements *that may not otherwise*

105. Memorandum from Sylvia Lowrence, Acting Asst. Adm’r, EPA OECA, to Regl. Adm’rs, Supplemental Environmental Projects (SEPs) Policy, (Mar. 22, 2002), *available at* <http://www.epa.gov/compliance/resources/policies/civil/seps/sepguide-mem.pdf> [hereinafter Lowrence, 2002 SEPs Memo].

106. Dana, *supra* note 96, at 1181 n.1.

107. *See* Dana, *supra* note 96, at 1181 (anticipating a significant increase in SEPs).

108. *Id.* While David Dana reported in 1998 that the dollar value of SEPs in FY 1995 substantially exceeded the value of civil and administrative penalties that EPA assessed (\$103,840,773 vs. approximately \$70 million), in 1996, SEPs declined to \$65 million, while civil and administrative penalties increased to more than \$96 million. Dana, *supra* note 96, at 1189. The *Annual Results*, *supra* note 27, at 5, which brings these figures up to date for the past five years, reflects that while the ratio of the value of SEPs to the value of civil penalties was relatively stable from 2001-2003, at about 65-70% (2001 = 71%, or 89/126; 2002=64%, or 58/90; and 2003 = 68%, or 65/96), there has been a dramatic drop-off in SEPs the past two years. In 2004, the ratio is only 32%, \$48 million SEPs/\$149 million civil penalties; and in 2005 the ratio was 37%, \$57 million/\$154 million. Professor Kenneth Kristl has compiled information on the numbers of SEPs negotiated over the past several years. *See* Kristl, *supra* note 96.

109. *See* Kristl, *supra* note 96.

have occurred . . .”¹¹⁰ In this way they complement EPA’s traditional injunctive authority to require violators to cease violations and remediate any harm the violations have caused.¹¹¹

EPA has established three threshold criteria for consideration of a project as a SEP. First, the project must be “environmentally beneficial.” EPA explains that “environmentally beneficial” means a “SEP must improve, protect, or reduce risks to public health, or the environment at large.”¹¹²

Second, the violator must not be legally obligated to perform the project that it will undertake as a SEP. EPA notes that, for example, “if a court is likely to order a defendant to perform a specific activity in a particular case, such an activity does not qualify as a SEP.”¹¹³

Third, the alleged violator must commit to perform the project as part of a settlement of an enforcement action.¹¹⁴ SEPs are available only in the enforcement arena; they are not available as part of EPA’s regulatory process (for example, as permit conditions EPA includes in authorizing a facility to operate under one or more environmental laws) or through EPA’s exercise of its rulemaking authorities. Further, in the enforcement arena, EPA only pursues SEPs in settlements, not as relief in litigated cases.¹¹⁵

B. Additional Requirements for and Features of SEPs

EPA has established additional requirements for approval of SEPs, directing that its staff use a four-step process in considering a possible SEP project, after ensuring that the project meets the definition of a SEP: 1) the project must satisfy all legal guidelines (including “nexus”); 2) it must fit within a designated category of SEPs; 3) EPA staff must determine the appropriate amount of penalty mitigation; and 4) EPA staff must ensure that a project satisfies various implementation and other criteria.¹¹⁶ This sec-

110. Final SEPs Policy, *supra* note 90, at 24796 (emphasis added).

111. *Id.*

112. *Id.* at 24798.

113. EPA notes that “[t]he statutes EPA administers generally provide a court with broad authority to order a defendant to cease its violations, take necessary steps to prevent future violations, and to remediate any harm caused by the violations.” Final SEPs Policy, *supra* note 90, at 24798 n.3. EPA continues: “[i]f a court is likely to order a defendant to perform a specific activity in a particular case, such an activity does not qualify as a SEP.” *Id.*

114. *Id.* at 24797 (noting that “[t]his is a settlement policy and thus is not intended for use by . . . courts. . .”). Some commentators have suggested that courts retain the equitable discretion to require SEPs. Kristl, *supra* note 96, at 15.

115. Final SEPs Policy, *supra* note 90, at 24797-98.

116. *Id.* at 24797.

tion briefly reviews each of these steps.¹¹⁷

1. *Legal Guidelines*¹¹⁸

SEPs raise at least two threshold legal questions: 1) whether EPA has the legal authority to negotiate commitments to perform environmentally beneficial work that it cannot require a defendant to undertake; and 2) whether EPA has the authority to reduce the size of a penalty in exchange for such a commitment?

The short answer is that for the past twenty-plus years, EPA has answered each of these questions in the affirmative, in its various SEPs policies and elsewhere. The Agency has consistently claimed that it has authority to negotiate commitments for work that it lacks legal power to impose or require; and, further, the Agency has the ability to offer reduced penalties in exchange for such commitments.¹¹⁹

The Agency has, however, established certain “legal guidelines” to bolster its legal position that SEPs are defensible, including requiring a “nexus” between a proposed project and the violations at issue.¹²⁰ In its 1998 SEPs Policy, EPA indicates that the requisite

117. For more extensive treatment, see generally Lloyd, *supra* note 93; Kristl, *supra* note 96; Dana, *supra* note 96.

118. Final SEPs Policy, *supra* note 90, at 24798-99.

119. EPA’s lawyers and others claim that EPA has the authority to enter into SEPs that commit alleged violators to take action that EPA could not order the violators to undertake because the SEPs are the result of negotiations and, as a result, they are projects the violator has entered into willingly. Final SEPs Policy, *supra* note 90, at 247897-98. I do not address the merits of this issue in this article. For legal analyses of EPA’s authority, see for example, Kristl, *supra* note 96, at 24-34; Dana, *supra* note 96, at 1182-1184 (suggesting that “[t]he only serious controversy regarding SEPs has concerned their statutory basis,” and summarizing some of the arguments pro and con); Lloyd, *supra* note 93, at 413-15 (concluding that “[b]oth the courts and Congress have accepted, if not actively encouraged, SEPs either by affirmative approvals or passive acceptance” and that EPA has “adopted SEPs as a major component of its own enforcement regime.”) (Professor Lloyd acknowledges that he is an attorney with Columbia’s law clinic, has brought several citizen suits that included SEPs, and is a strong advocate for SEPs); and Bonorris et al., *supra* note 95, at 198, 199 (“courts have upheld the legality of consent decrees that go beyond the express relief outlined in a statute, with the proviso that the decrees are consistent with the underlying purpose of the statute.”).

EPA, and the U.S. government through the Department of Justice, have opposed SEPs in citizen suits in some cases. Lloyd, *supra* note 93, at 430 (suggesting that EPA and DOJ have “kept a watchful eye” on settlements of citizen suits). Lloyd notes that courts “ordinarily” have entered proposed consent decrees resolving citizen suits with a SEP component, even over EPA and DOJ objections. *Id.*

120. See e.g., Suarez, Expanding Use, *supra* note 103.

To ensure that the Agency’s enforcement discretion is used appropriately and in compliance with the U.S. Constitution and the MRA, all SEPs must satisfy several key elements. To be approved as a SEP, a project must: 1) Be related to or have a “nexus” to the underlying violation; 2) Provide significant environmental and public health benefits; 3) Benefit the community affected by the violation; and 4) Secure public health

relationship between a project and a violation may exist in *any* of three ways: 1) the project will reduce the likelihood that similar violations will occur in the future; 2) the project will reduce the adverse impact to public health or the environment to which the violation at issue contributes; or 3) the project will reduce the overall risk to public health or the environment potentially affected by the violation at issue.¹²¹

This broad definition of SEPs seemingly would include a significant number of projects that have the potential to improve the environment. For example, under the third type of nexus, a SEP project would seem to have adequate nexus if the project operates to protect or enhance a part of the environment if a violation poses a risk to that part of the environment, such as a particular ecosystem. There is some suggestion that EPA is prepared to define “nexus” even more broadly than that. EPA’s SEPs Policy continues that “[n]exus is easier to establish if the primary impact of the project is . . . in the same ecosystem or within the immediate geographic area.”¹²² Implicit in this is that a SEP is approvable even

and/or environmental improvements beyond what can be achieved under applicable environmental laws.

Id. at 2. Not all commentators agree that nexus is needed. *See e.g.*, Kristl, *supra* note 96. EPA has established other limitations on SEPs as well. For example, the Final SEPs Policy indicated that SEPs may not be profitable to a defendant. Final SEPs Policy, *supra* note 90, at 24798. EPA modified this policy in 2003, issuing a memorandum that EPA may accept SEPs that prove profitable to a defendant in some cases. Memorandum from John Peter Suarez, Asst. Adm’r, EPA OECA, to Reg’l Counsel et al., Guidance for Determining Whether a Project is Profitable, When to Accept Profitable Projects as Supplemental Environmental Projects, and How to Value Such Projects (Dec. 5, 2003), available at <http://www.epa.gov/compliance/resources/policies/civil/seps/seps-profitableprojects.pdf>.

121. Final SEPs Policy, *supra* note 90, at 24798. The other four “legal guidelines” that EPA identifies in its Policy appear to limit the availability of SEPs in ways that might limit SEPs for ecosystem services in some contexts, but by no means all. Thus, a project cannot be “inconsistent with any provision of the underlying statute;” EPA cannot play a role in managing or controlling funds for the SEP or manage the SEP, but it can oversee it; the settlement agreement must provide sufficient detail concerning the project; and EPA cannot use a project to meet its statutory obligations or another agency’s obligations. *Id.* at 24798. EPA’s Lawrence, 2002 SEPs Memo, *supra* note 105, reiterates these elements of the Policy. The 2002 SEPs Memo also lists other restrictions:

- 7) A project may not provide EPA . . . with additional resources to perform a particular activity for which Congress has specifically appropriated funds.
- 8) A project may not provide additional resources to support specific activities performed by EPA employees or EPA contractors.
- 9) A project may not provide a federal grantee with additional funds to perform a specific task identified within an assistance agreement.
- 10) Projects that involve only contributions to a charitable or civic organization are not acceptable.

Id. at 2.

122. Final SEPs Policy, *supra* note 90, at 24798.

if it may benefit other ecosystems or other geographic areas; presumably, in some cases, even if its primary impact is to do so.¹²³

In sum, EPA's definition of "nexus" in its 1998 Policy appears to create the potential for a broad range of SEPs that could protect ecosystems and the services they provide.¹²⁴ A 2002 Memorandum from EPA's Director of Office of Regulatory Enforcement that focused on the "nexus" requirement indicates that "[i]n most cases, nexus is not difficult to establish."¹²⁵

Further, as one commentator has noted, EPA's "consistent theme" in its post-1998 SEPs Policies has been to encourage Agency staff to expand their use of SEPs.¹²⁶ In a June 2003 memorandum, aptly entitled *Expanding the Use of Supplemental Environmental Projects*, for example, EPA's then head of enforcement urged agency staff to "consider every opportunity to increase our use of SEPs and include more environmentally significant SEPs whenever possible."¹²⁷ The memorandum indicates that during FY 2002, 10 percent of EPA's civil penalty settlements included a SEP, but urged that, while EPA "should be proud of these figures," "we have a tremendous opportunity to achieve greater benefits for the environment and communities affected by violations."¹²⁸ In a December 15, 2003 Guidance, EPA's enforcement head identified opportunities to expand the universe of potential SEPs. He indicated that EPA staff may, in certain circumstances, aggregate SEPs in multiple cases (e.g., EPA may allow regulated parties to pool re-

123. For example, EPA officials indicated that if a violation occurs in a tributary or stream of a larger river; the SEP may take place in a different part of the river to improve the overall quality of the river as a whole. E-mail from Beth Cavalier, *supra* note 104. On the other hand, in an October 2002 memorandum, EPA suggests that "geography alone does not create nexus. The mere fact that a SEP is beneficial to an area near a facility does not by itself satisfy the nexus requirement. Enforcement staff must be able to demonstrate how the project relates to the violations that are the subject of the enforcement action." Memorandum from Walker Smith, Dir., Office of Regulatory Enforcement, to Reg'l Counsel, Importance of the Nexus Requirement in the Supplemental Environmental Projects Policy 2 (Oct. 31, 2002), available at <http://www.epa.gov/compliance/resources/policies/civil/seps/sepnexus-mem.pdf> [hereinafter Smith, Importance of the Nexus]. (ORE is now called the Office of Civil Enforcement.) Thus, while geography does not appear to be necessary in all cases to establish nexus, it is also not necessarily sufficient to do so. Kristl, *supra* note 96.

124. See Dana, *supra* note 96, at 1186 (noting that the SEPs policy defines nexus broadly).

125. Smith, Importance of the Nexus, *supra* note 123, at 1. Also see *infra* notes 168-179 and accompanying text.

126. Kristl, *supra* note 96, at 18.

127. Suarez, Expanding Use, *supra* note 103, at 1; see also Memorandum from John Peter Suarez, Asst. Adm'r, EPA OECA, to Reg'l Counsels et al., Guidance Concerning the Use of Third Parties in the Performance of Supplemental Environmental Projects (SEPs) and the Aggregation of SEP Funds (Dec. 15, 2003), available at <http://www.epa.gov/compliance/resources/policies/civil/seps/seps-thirdparties.pdf> [hereinafter Suarez, 2003 Guidance].

128. Suarez, Expanding Use, *supra* note 103, at 1; see also Suarez, 2003 Guidance, *supra* note 127 (to the same effect).

sources to implement a consolidated SEP), noting that aggregation “could provide increased leverage and allow for projects with a greater environmental or public health benefit. . . .”¹²⁹ Similarly, he indicated that in some circumstances EPA staff may negotiate “complementary, segregable SEPs” with defendants in different cases that are, for example, interested in performing “discrete and segregable tasks within a larger project.”¹³⁰ Such projects “can result in a significant environmental or public health benefit that might otherwise be unavailable.”¹³¹

Specific categories of projects EPA has identified as suitable for SEPs reinforce the message embodied in the rhetoric summarized in this section, notably that EPA’s approach to SEPs appear to make them well-suited for ecosystems protection-related projects.

2. *Specific Categories of Projects*

EPA lists seven specific categories of projects that may qualify as SEPs. This list provides strong evidence that EPA is prepared to approve SEPs that have significant potential to protect ecosystems and the services they provide.¹³² For example, EPA’s fourth category of permissible SEPs, entitled “Environmental Restoration and Protection,” refers explicitly to projects “which enhance[] the condition of the ecosystem or immediate geographic area adversely affected.”¹³³ The Agency continues: “These projects may be used to restore or protect natural environments (such as ecosystems). . . . This category also includes any project which protects the ecosystem from actual or potential damage resulting from the violation or improves the overall condition of the ecosystem.”¹³⁴ EPA lists “[restoration of] a wetland in the same ecosystem . . . in which the

129. Suarez, 2003 Guidance, *supra* note 127, at 2.

130. *Id.*

131. *Id.* On the other hand, then Enforcement head Suarez indicates that EPA’s OGC vetoed the idea of aggregating SEP funds because of concerns that doing so would raise questions under the MRA. “A cash payment, such as a payment . . . to a SEP ‘bank,’ where there is no further responsibility for the defendant . . . to ensure that a specific project is completed, is prohibited because it could easily be construed as a diversion from the Treasury of penalties due and owing the government.” *Id.* at 3. Suarez indicates that defendants may hire third parties to assist with SEPs, so long as the defendant retains full responsibility for the SEP. A defendant may not negotiate a SEP that involves making a cash payment to a third party to conduct the SEP without the defendant’s retaining full responsibility. *Id.* at 4.

132. Final SEPs Policy, *supra* note 90, at 24799-24800; U.S. ENVTL. PROT. AGENCY, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, EPA 325-R-01001, BEYOND COMPLIANCE: SUPPLEMENTAL ENVIRONMENTAL PROJECTS, at 4-5, (Jan. 2001) [hereinafter BEYOND COMPLIANCE].

133. Final SEPs Policy, *supra* note 90, at 24799.

134. *Id.*

facility is located” as one such project.¹³⁵ The Agency also lists as a permissible project the “purchase and management of a watershed area by the defendant/respondent to protect a drinking water supply where the violation (e.g., a reporting violation) did not directly damage the watershed but potentially could lead to damage due to unreported discharges.”¹³⁶ EPA’s 1998 SEPs Policy also provides that projects that have “environmental merit” may qualify as a SEP even if the projects do not fit within one of the seven specified categories, with the approval of EPA’s enforcement office.¹³⁷

A January 5, 2004 EPA Memorandum, Recommended Ideas for Supplemental Environmental Projects,¹³⁸ includes an updated list of potential SEPs projects that EPA indicates it will support (any of these projects must still meet all conditions of the SEPs Policy if proposed for inclusion in a particular settlement). Several of the types of projects EPA lists in this Memorandum similarly reflect EPA’s policy position that SEPs may encompass protection and restoration of ecosystems and ecosystem services:

Implement projects that create, restore and/or preserve threatened aquatic resources, including wetlands. Mechanisms to accomplish this goal can include:

- Aquatic resource restoration project
- Land trust projects to preserve aquatic resources threatened with degradation or destruction by unregulated activities.
- Purchasing and retiring credits from mitigation

135. *Id.*

136. *Id.*; see also, BEYOND COMPLIANCE, *supra* note 132, at 5 (noting that “[f]or example, by purchasing land or developing conservation programs for the land, a company could protect a natural habitat for wildlife or a source of drinking water. Beyond preservation, such a SEP might involve restoring natural areas that are vital to long-term protection of the environment or public health.”). Final SEPs Policy, *supra* note 90, at 24799; Bonorris et al., *supra* note 95, at 204 and n.149;

137. Final SEPs Policy, *supra* note 90, at 24,796-801.

138. Memorandum from John Peter Suarez, Asst. Adm’r, EPA OECA, to Asst. Adm’rs et al., Recommended Ideas for Supplemental Environmental Projects (January 5, 2004) (on file with the author) [hereinafter Suarez, Recommended Ideas for SEPs]. EPA also has developed a more recent document entitled “Project Ideas for Potential Supplemental Environmental Projects” (updated July 2006), available at <http://www.epa.gov/Compliance/resources/policies/civil/seps/potentialproject-seps0607.pdf>. The latter document is a list of possible SEPs that NGOs and government agencies have submitted. EPA includes a disclaimer at the outset that “[i]nclusion of a project [on the list] does not constitute or imply [EPA’s] endorsement. . . .” *Id.* EPA also has encouraged its Regional offices to consider development of SEP libraries. U.S. Env’tl. Protect. Agency, Interim Guidance for Community Involvement in Supplemental Environmental Projects, 68 Fed. Reg. 35884, 35885 (June 17, 2003) [hereinafter EPA, Community Involvement Guidance].

banks approved by EPA and the Corps.¹³⁹

Some of EPA's program-specific policies identify possible SEPs projects as well. EPA's Section 404 Penalty Policy, for example, offers the following regarding SEPs:

SEPs are particularly encouraged in the Section 404 program if the SEP results in protection of a wetland resource or other special aquatic site. For example, purchase and dedicated use of buffer land around a wetland helps ensure the survival of wetland resources, and is an appropriate and valuable SEP, as is upland land acquisition lying in wetland mosaics. In addition, deeding over wetlands in perpetuity for the purpose of conservation promotes program interests and the goals of the Clean Water Act.¹⁴⁰

In short, EPA's SEPs policies, and some of its program-specific enforcement policies, define permissible (and desirable) SEPs in a way that encompasses projects that will protect, enhance, and restore ecosystems.¹⁴¹ In at least some circumstances, these projects may focus on ecosystems other than the one that a violator has harmed. In this way, SEPs would seem to have the potential to serve as a helpful compliment to EPA's traditional injunctive relief authority in protecting and restoring ecosystems and the services they provide.

3. *SEPs' Penalty Mitigation Potential*

The discussion in the preceding two sections highlights the potential value of SEPs as a "beyond compliance" tool that EPA potentially can use to require protection and restoration of ecosystems. A violator may, however, need to spend considerable funds to negotiate a SEP with EPA, to develop and implement the SEP, and to monitor and document its effectiveness. Further, a violator

139. Suarez, Recommended Ideas for SEPs, *supra* note 138.

140. Memorandum from Sylvia Lowrance, Acting Asst. Adm'r, EPA OECA, to Waters Prot./Mgmt. Div. of Dir. et al., Issuance of Revised CWA Section 404 Settlement Penalty Policy 20 (Dec. 21, 2001), available at <http://www.epa.gov/compliance/resources/policies/civil/cwa/404pen.pdf>. EPA's 404 Policy continues that "restoration of any area of the violation, or any mitigation in the form of injunctive relief to remedy such violations (including mitigation for the temporal loss of wetlands functions and values), does not constitute a SEP." *Id.* at 20.

141. As indicated above, EPA's SEPs policies identify a wide variety of projects that may qualify as SEPs. The 1998 Policy includes as a catchall category "other types of projects" that have environmental merit. Final SEPs Policy, *supra* note 90, at 24800.

may take on new sanctionable commitments in agreeing to perform a SEP. The obvious question is, why would an alleged violator agree to perform such “beyond compliance” work and accept the additional attendant liability risks.¹⁴² This is work the violator is not obligated to do, money it is not obligated to spend, and risks of punishment it is not required to accept.

The intuitive short answer is that EPA’s substantial penalty authority gives it significant leverage to negotiate SEPs, since EPA has indicated its willingness to reduce a penalty for a SEP. EPA indicates in the 1998 SEPs Policy that

Evidence of a violator’s commitment and ability to perform a SEP is also a relevant factor for EPA to consider in establishing an appropriate settlement penalty. All else being equal, the final settlement penalty will be lower for a violator who agrees to perform an acceptable SEP compared to the violator who does not agree to perform a SEP.¹⁴³

The 1998 SEPs Policy spells out the extent to which EPA is prepared to reduce a payable penalty in exchange for a commitment to perform a SEP. Ordinarily, a penalty would be the sum of the economic benefit and gravity — in EPA’s words, “this sum is the minimum amount that would be necessary to settle the case without a SEP.”¹⁴⁴ The SEPs Policy provides that “in settlements in which the defendant/respondent committed to conduct a SEP, the final settlement penalty must equal or exceed either: a) The economic benefit of noncompliance plus 10 percent of the gravity component; or b) 25 percent of the gravity component only; whichever is greater.”¹⁴⁵ Thus, the SEPs Policy anticipates that EPA staff may mitigate up to 90% of the gravity component of a penalty in some cases, in exchange for a regulated party’s commitment to perform a SEP. This is likely to be attractive to a violator, at least in cases in which the gravity component of a penalty is substantial.

Two examples make this clear. Assume a situation in which EPA would seek a penalty of \$500,000, based on the Agency’s calculation of a \$400,000 economic benefit and a \$100,000 gravity component. In this case, a violator would still have to pay a pen-

142. Another question involves the scope of EPA’s authority to encourage and agree to “beyond compliance” projects as a factor EPA will consider when determining an appropriate penalty.

143. Final SEPs Policy, *supra* note 90, at 24797. See *supra* note 98 for other reasons why a regulated party might be interested in performing a SEP.

144. Final SEPs Policy, *supra* note 90, at 24801.

145. *Id.*

alty of \$410,000, even if it committed to do a SEP.¹⁴⁶ Next assume a situation in which the figures are reversed: the economic benefit is \$100,000 and the gravity is \$400,000. Here, a violator conceivably could have its penalty reduced to \$140,000.¹⁴⁷ In the latter case, a violator has the ability to significantly reduce its penalty by performing a SEP; SEPs in such cases are likely to hold particular interest.

The SEPs Policy includes a number of other details relevant to deciding how much a SEP should reduce a payable penalty. For example, EPA considers the “quality of the SEP” to determine what percentage of the SEP cost should be applied as mitigation against the amount EPA would settle for, but for the SEP.¹⁴⁸ EPA lists six factors to consider in evaluating the quality of SEPs. Two are particularly relevant to ecosystem services. Indeed, in its description of each factor EPA specifically refers to protection and restoration of ecosystems as reasons to provide maximum penalty reduction in exchange for a regulated party’s implementation of a project. First, EPA considers “benefits to the public or environment at large.”¹⁴⁹ EPA notes that SEPS will “perform well” on this factor “to the extent they result in significant and . . . measurable progress in protecting and restoring ecosystems (including wetlands and endangered species habitats).”¹⁵⁰ Second, EPA considers “innovativeness.”¹⁵¹ It elaborates on this factor as follows:

SEPS which perform well on this factor will further the development, implementation, or dissemination of innovative processes, technologies, or methods which more effectively: reduce the generation, release or disposal of pollutants; conserve natural resources; restore and protect ecosystems; protect endangered species; or promote compliance.¹⁵²

146. The violator would have to pay the entire economic benefit of \$400,000, plus ten percent of the gravity component of \$100,000, for a total of \$410,000.

147. The violator would have to pay the entire economic benefit of \$100,000, plus ten percent of the gravity component of \$400,000, for a total of \$140,000.

148. Final SEPs Policy, *supra* note 90, at 24802. The Policy defines the “SEP cost” to be the “net present after-tax cost of the SEP.” The notion of “SEP cost” has been the subject of considerable debate. *See e.g.*, Kristl, *supra* note 96; Dana, *supra* note 96.

149. Final SEPs Policy, *supra* note 90, at 24802.

150. *Id.*

151. *Id.*

152. *Id.* The other four factors that EPA considers in assessing the quality of the SEP and therefore the mitigation percentage the violator should receive, are environmental justice, community input, multimedia impacts, and pollution prevention. *Id.* SEP projects that are of high quality because of the factors discussed in the text presumably will fare even better if any of these other factors exists also.

EPA indicates that the “better the performance of the SEP under each of these factors, the higher the appropriate mitigation percentage.”¹⁵³

A second key feature of SEPs’ impact on penalty amounts is that, with limited exceptions, the mitigation percentage may not exceed eighty percent of the SEP cost.¹⁵⁴ Some commentators have criticized this limitation on the ground that it makes rational violators less likely to agree to perform SEPs.¹⁵⁵ Even with this limitation, however, the possibility exists for significant penalty reduction in exchange for a SEP in some circumstances.

The bottom line in terms of SEPs’ potential for penalty mitigation is that, particularly for substantial penalties that include a significant gravity component, EPA has significant leverage to encourage a regulated party to perform a SEP by offering in exchange a sizeable reduction in that component of the penalty.¹⁵⁶

4. Additional Implementation and Other Criteria

The SEPs Policy identifies several other key features for acceptable SEPs projects. Two features are likely to be especially useful in terms of SEPs’ potential value as learning experiments. As indicated above, there is a lot to learn about ecosystems and the services they provide, and about the efficacy of different approaches in restoring or protecting such ecosystems and services. The Policy encourages efforts to fill this gap. Further, it creates an expectation that defendants will bear the cost of such efforts. The Policy provides that “[t]o the extent feasible, defendant/respondents should be required to quantify the benefits associated with the project and provide EPA with a report setting forth how the benefits were measured or estimated.”¹⁵⁷ This feature of a SEPs project gives EPA the ability to encourage a violator to esti-

153. *Id.*

154. *Id.* In a 2000 memo, EPA’s Director of the Office of Regulatory Enforcement reinforced that the mitigation percentage should rarely exceed 80 percent of the SEP cost. Memorandum from Eric V. Schaeffer, Dir., Office of Regulatory Enforcement, to Reg’l Counsels, Appropriate Penalty Mitigation Credit under the SEP Policy (Apr. 14, 2000), available at <http://www.epa.gov/compliance/resources/policies/civil/seps/seppenmit-mem.pdf>.

155. See e.g., Kristl, *supra* note 96, at 42 (suggesting that EPA could increase violators’ incentives to do SEPs by increasing the extent to which the Agency is prepared to forgive a penalty in exchange for such a project, and recommending that EPA increase its mitigation percentage to one hundred percent of a SEP’s cost). Edward Lloyd has concluded that EPA’s approach to penalty mitigation is a “rational” one. See Lloyd, *supra* note 93, at 437.

156. EPA encourages its staff to “consider giving more credit to a defendant who agrees to implement a SEP where there has been a commitment to include affected communities into the SEP selection.” EPA, Community Involvement Guidance, *supra* note 138, at 35887.

157. Final SEPs Policy, *supra* note 90, at 24803.

mate the benefits the project produces in terms of ecosystems services. To the extent that EPA is able to pursue such analyses in numerous settings throughout the country, involving a wide range of ecosystems and services, this experience is likely to advance learning about the value added from different types of projects in terms of their impacts on the services that ecosystems provide and the value of such services.

Similarly, the Policy requires violators to submit a final report to EPA that documents completion of the SEP and SEP expenditures.¹⁵⁸ Thus, in addition to fostering learning about benefits to ecosystems and the services they provide from different types of projects, SEPs have the potential to foster learning about the costs of such projects. This type of information, too, is likely to be helpful to EPA and others interested in exploring options for protecting, enhancing, and/or restoring ecosystems and the services they provide.

In sum, EPA's SEPs policy reflects EPA's view that it may negotiate enforcement settlements that commit violators to implement projects that protect, enhance, and restore ecosystems and the services they provide. Such projects logically may include projects that: 1) help to diagnose the extent of ecosystem and ecosystem services degradation; 2) identify and implement strategies to protect and/or improve the ecosystem and its services; and 3) monitor the effectiveness of the work done. The fact that EPA can negotiate to have violators bear the responsibility and cost for undertaking this work adds to the potential value of SEPs as a tool to advance understanding and protection of ecosystems and their services in a world of limited government resources.¹⁵⁹

158. *Id.*

159. Bonorris et al., *supra* note 95, at 204 (making the same point with respect to state SEP programs, noting that "because regulators often lack resources to pursue cutting edge environmentally beneficial projects, state SEP programs provide a laboratory for innovation"). While EPA settlements must be implemented by defendants, Final SEPs Policy at 24,797-98, citizen-negotiated SEPs "are more often carried out by third parties, i.e., entities that are not parties to the litigation." Lloyd, *supra* note 93, at 433. Prof. Lloyd includes several examples of what he characterizes as successful use of SEPs in citizen suit settlements. Lloyd, *supra* note 93, at 444-448 (for example, a settlement with the City of New York for CWA violations that its sewage treatment plants committed, which led to creation of a \$4 million Long Island Sound and Jamaica Bay Dissolved Oxygen Fund, which is available to support land acquisition projects, habitat restoration, and water quality improvement projects or for studies benefiting Jamaica Bay or Long Island; and creation of the Quinnipiac River Fund, as part of the settlement of a case that NRDC and the Connecticut Fund for the Environment brought against Upjohn. Upjohn agreed to make payments totaling \$1,800,000 and the settlement provided that the money would be used to improve the environmental quality of the Quinnipiac River and New Haven Harbor, the watersheds of these waterbodies, and otherwise to benefit the environment of these resources. The illustrative, but not exclusive, listing of acceptable environmental projects provided in the settlement reads as follows: 1. studying the ecology of those waterbodies; 2. studying pollution of those

C. Challenges and Possible Opportunities

The preceding discussion is intended to suggest that SEPs have substantial promise as an enforcement tool to protect ecosystems and the services they provide, and that those interested in advancing such protection would be well-served by learning more about this tool and exploring its greater use.¹⁶⁰

The intriguing question about SEPs with which I end this section is whether there are ways to enhance the value of SEPs for this purpose — are there steps EPA can take, for example, that are likely to increase the number of SEPs that protect ecosystems and the services they provide, or that increase the value such SEPs provide. As noted above, the *Annual Results* data reflects that, despite EPA's rhetorical support for SEPs, the track record over the past five years reflects stable (at best) use of SEPs since 2001, rather than increasing use.¹⁶¹ EPA's own high-ranking enforcement officials have touted the promise of SEPs to move well beyond this level.¹⁶²

There are some likely inherent limits in the use of SEPs. These include the additional transaction costs that regulated parties and the Agency each need to invest to negotiate a SEP. In some cases these are undoubtedly significant. Thus, unless the potential penalty is significant, it may not be worth the transaction costs to pursue a SEP. Further, there are likely cases in which the regulated parties desire finality by concluding an enforcement matter, rather than agreeing to continuing obligations.¹⁶³

waterbodies; 3. researching methods of reducing pollution or otherwise improving the environmental health of those waterbodies; habitat restoration).

160. Again, I am not suggesting that SEPs are necessarily the most desirable way to advance such goals (*see, for example*, Dana, *supra* note 96), or that their use does not raise concerns. *See e.g.*, Greve, *supra* note 97.

161. In his recent article, Kenneth Kristl claims to have made the first effort to analyze SEPs data from 1992-2005, and concludes that less than thirteen percent of settlements annually in cases involving penalties during this period included SEPs, and that this percentage has been "steadily declining" since the mid-1990s. Kristl, *supra* note 96, at 2. Kristl's data, which provide numbers of SEPs finalized rather than dollar value of SEPs negotiated, appear to show a highwater mark of 348 SEPs finalized in 1995. Beginning in 1998, the SEP numbers he reports are: 1) 1998: 221; 2) 1999: 197; 3) 2000: 193; 4) 2001: 164; 5) 2002: 157; 6) 2003: 150; 7) 2004: 213; and 8) 2005: 207. Kristl, *supra* note 96, at 22-23. For a review of Kristl's methodology, see Kristl, *supra* note 96. EPA itself has suggested that there is a "tremendous opportunity" to increase negotiation of SEPs. Suarez, *Expanding Use*, *supra* note 103, at 1. Because SEPs are limited to enforcement settlements, it is important to consider the numbers of SEPs negotiated in the context of the number of settlements finalized each year.

162. Suarez, *Expanding Use*, *supra* note 103.

163. Telephone Interview with Beth Cavalier and Melissa Raack, EPA SEPs Coordinators, in Washington, D.C. (July 10, 2006). EPA's 1998 SEPs Policy indicates that EPA will hold a violator liable for not completing a SEP satisfactorily and may impose additional

Nevertheless, it seems worthwhile to explore whether there are strategies that might operate to increase the use of SEPs given their apparent promise. I offer below four possible approaches to increase the use of SEPs, assuming this is the policy direction of choice. None of these is intended to be a panacea — challenges will remain, and there are policy reasons not to pursue some of these approaches, in addition to reasons to consider them.

1. *Revamping the process for proposing and approving SEPs, and the substantive criteria for doing so.* One obvious place to look for possible opportunities for EPA to improve upon its SEPs performance is at the processes the agency uses to review and approve SEPs, and at the substantive criteria it applies in doing so. The current process does not appear seamless, in a number of respects.

One question is whether there are steps EPA can take that would streamline or expedite the process for identifying SEPs and then reaching agreement with a regulated party on an appropriate SEP for a particular case. EPA's policies place EPA staff in a reactive position with respect to SEPs. EPA may react to a regulated party's proposal to include a particular SEP in an enforcement settlement, but EPA staff may not propose a SEP themselves.¹⁶⁴ This approach would seem to create the potential for a "we'll know it when we see it" scenario, a structure unlikely to inspire violators to pursue creative possibilities for SEPs.¹⁶⁵ EPA reports that it has made progress in educating regulated parties about the likely parameters for acceptable SEPs, through creation of libraries of SEPs projects and other steps.¹⁶⁶ Close review is needed, however,

penalties if this occurs. Final SEPs Policy, *supra* note 90, at 24802. Further, a violator may not transfer this liability to the contractor or consultant that it retains to help it to implement a SEP, if it does so. *Id.* Interestingly, the Final SEPs Policy also provides that a violator should pay stipulated damages if it completes the SEP for less money than estimated. Specifically, if the SEP costs less than ninety percent of the estimated cost, the violator must pay between ten and twenty-five percent of the original mitigation awarded percent. *Id.* at 24,803.

164. EPA currently expects a violator to propose a particular SEP, rather than do so itself. Bonorris et al., *supra* note 95, at 213; Kristl, *supra* note 96, at 40; U.S. Environmental Protection Agency, Interim Revised EPA Supplemental Environmental Projects Policy, 60 Fed. Reg. 24858 (May 10, 1995). Some states follow this approach while others do not. Bonorris et al., *supra* note 95, at n.209 & 210. EPA officials informed me that EPA may provide suggestions for a SEP if a violator asks. In addition, as noted above, EPA's website includes a list of potential projects, and EPA staff often direct alleged violators to that website. EPA may also encourage an alleged violator to reach out to community groups, who may have ideas for projects that could be considered as a SEP. E-mail from Beth Cavalier, *supra* note 104.

165. Separation of powers concerns have motivated some governments to follow this approach. The concern is that the administrator otherwise might implement "her own programmatic agenda under the guise of environmental enforcement." See Bonorris et al., *supra* note 95, at 213.

166. See e.g., EPA, Community Involvement Guidance, *supra* note 138, at 35,887; Bonorris et al., *supra* note 95, at 213, 214 (regarding state initiatives of this sort and identifying

of the effectiveness of these initial steps, and of the opportunity to improve upon these actions by doing more to inform regulated parties of the types of SEPs that would be acceptable in particular instances. Further, it would be worthwhile to explore the extent to which putting EPA staff in a reactive position, rather than allowing them to identify SEPs they believe would be particularly useful, dampens EPA staffs', and regulated parties', enthusiasm for SEPs.¹⁶⁷

A second issue, which concerns both process and substance, involves the extent to which EPA Headquarters has sent its staff a "mixed message" in terms of the enthusiasm they should have in pursuing SEPs. Perhaps somewhat paradoxically, in addition to its expressions of encouragement to Regional staff to pursue SEPs, EPA Headquarters also has issued a variety of memoranda that would seem to have the opposite effect. In particular, EPA has sent out what Regional staff would likely consider to be mixed signals by: 1) cautioning Regional staff that they should consult with Headquarters personnel before approving a SEP if there is any question concerning nexus; and 2) warning staff that they face dismissal and sanctions if they approve a SEP inappropriately.¹⁶⁸ The practical consequence of this direction, given the apparent considerable confusion that exists about the definition of nexus,¹⁶⁹

Delaware, Maine, and Illinois as having created SEP libraries); Suarez, Expanding Use, *supra* note 103, at 1 (discussing the "piloting [of] a SEP library which will serve as a clearinghouse for possible SEPs.").

167. There are procedural justice as well as distributive justice issues associated with the identification, review, and approval of SEPs, and one question is whether the current process is structured appropriately in terms of each of these sets of issues. See David L. Markell, *Understanding Citizen Perspective on Government Decision Making Processes as a Way to Improve the Administrative State*, 36 ENVTL. L. 651 (2006) for a review of procedural and distributive justice.

168. Smith, Importance of the Nexus, *supra* note 123, at 2 (citing 31 U.S.C. § 3302(d)). The opening sentence provides that "[t]he purpose of this memo is to emphasize the importance of nexus in evaluating proposed [SEPs]" and it indicates that nexus is importance to "avoid[] problems related to the Miscellaneous Receipts Act (MRA)." *Id.* at 1. EPA indicates that the MRA requires that an EPA "official that receives money for the Government from any source shall deposit the money in the Treasury" *Id.* at 2 (citing 31 U.S.C. § 3302(b)). The memorandum also notes that penalties for violating the MRA include removal from office and personal liability for the amount of money misappropriated. *Id.* (citing 31 U.S.C. § 3302(d)). Professor Kristl takes the position that "elimination or substantial relaxation of the nexus requirement would create significant opportunities for increasing SEP utilization." Kristl, *supra* note 96, at 3. In Kristl's view, the EPA/DOJ fixation on nexus as a way to minimize EPA's problematic legal authority to negotiate SEPs is misplaced; he argues that the "nexus requirement" is "not legally justified." *Id.* at 3, 24.

169. EPA Headquarters noted in memos in 2002 and 2003 that there was considerable confusion about the definition of nexus. In a 2003 memo EPA indicated that

several Regional and Headquarters offices raised questions about the complexity of the existing SEP Policy. Specifically, we heard a number of questions concerning how to define an appropriate nexus in certain situations, and whether or not nexus can be waived in particular cir-

is that Regional staff are likely to favor consultations in a substantial number of cases where SEPs might be in play.

EPA includes a list of “action items” in its June 2003 SEPs Guidance that identify steps the Agency committed to take to effect improvements in the SEPs policy. The Agency, while reaffirming that nexus is “important to ensure compliance with the MRA and . . . cannot be waived,” also indicated that EPA believed that “there may be ways to simplify nexus, and still ensure that there remains a connection between the underlying violation and the SEP.”¹⁷⁰ While the Agency indicated in 2003 that it was “launching an effort to simplify the SEP Policy,”¹⁷¹ in a recent article Professor Kenneth Kristl refers to EPA’s current guidance on nexus as “a kind of ‘we know it when we see it’ platitude.”¹⁷² He indicates that, while “as of 2003, the agency knew that the nexus issue continued to create internal issues and that further clarification was necessary-though so far it has not issued such a clarification.”¹⁷³ Professor Kristl continues: “In lieu of providing guidance on how to deal with such circumstances [when nexus is not clear], the memorandum in effect takes the decision out of the hands of enforcement personnel and puts it squarely within USEPA headquarters.”¹⁷⁴

cumstances Given this . . . we believe that there may be ways to simplify nexus. . . .”

Suarez, *Expanding Use*, *supra* note 103, at 3. A 2002 EPA Memorandum similarly reflected EPA Headquarters’ awareness that the nexus requirement was a source of confusion for staff with the front lines capacity to negotiate SEPs, noting that Headquarters “continues to receive many inquiries from enforcement staff regarding nexus in reviewing proposed SEPs.” Smith, *Importance of the Nexus*, *supra* note 123, at 1.

170. *Id.* at 3.

171. Suarez, *Expanding Use*, *supra* note 103, at 2.

172. Kristl, *supra* note 96, at 240.

173. *Id.* at 245.

174. *Id.* at 241. I reviewed the entire list of SEPs Memoranda, Policies, and Guidance to try to determine the approval process EPA uses. The only documents that I found that are relevant are the April 1998 Final SEPs Policy itself, and a July 21, 1998 Memorandum from Eric Schaeffer, then Director of EPA’s Office of Regulatory Enforcement, entitled Revised Approval Procedures for Supplemental Environmental Projects (July 21, 1998). The July 21, 1998 memorandum indicates that SEPs that do not meet all of the legal guidelines “may require Assistant Administrator approval” and will require a legal analysis from the relevant staff explaining why the project is within EPA’s legal authority. Further, all projects that “may not fully comply” with the SEPs Policy “must be approved” by the OECA Assistant Administrator. For “other” projects, the appropriate OECA official has approval authority, with consultation by the Special Litigation and Projects Division, unless otherwise delegated. Otherwise, per the April 1998 Policy, “the authority of a government official to approve a SEP is included in the official’s authority to settle an enforcement case and thus, subject to the exceptions set forth here, no special approvals are required.” April 1998 Final SEPs Policy, *supra* note 90, at 20 (section J). EPA officials advised me that the majority of SEPs do not need Headquarters approval. They indicated that only two categories of SEPs need approval from the media-specific enforcement division director in Headquarters: Compliance Promotion SEPs and Other SEPs and this is usually done quickly, and is not a burdensome process. In addition, a settlement may need approval from the AA for OECA if

His pessimistic conclusion is that EPA's more recent memoranda on SEPs "likely result[] in eliminating nexus as a useful policy concept that can guide Agency staff or defendants seeking to conduct SEPs because it is difficult to tell just what is needed to satisfy the nexus requirement."¹⁷⁵

Headquarters' cautionary notes to the Regions about SEPs seem to be worth investigating further for their possible impact on regional interest in negotiating SEPs. These memos raise a conventional "efficacy of delegation" issue.¹⁷⁶ Part of the answer to this question lies in the empirical data, which has not been compiled to my knowledge — questions concerning the number of cases in which the Regions have negotiated SEPs without Headquarters input compared to the number of cases in which the Regions sought such input; the level of effort required to solicit and obtain Headquarters "sign-off" on SEPs projects (e.g., the number of people to be contacted and the number of approvals required, the level of effort needed to initiate and complete such contacts, the amount and length of time it took to pursue this consultation process, etc.); and the results of consultations with Headquarters (e.g., the number of cases in which SEPs were ultimately negotiated, the number of situations in which SEPs were significantly modified, the number of cases in which SEPs fell through, etc.). Intuitively, it would seem that the greater the transaction costs associated with obtaining "sign-off" or pursuing other consultations, and the less likely the consultations are to pay dividends, the less likely a regional official would be to bother. Thus, it seemingly would be worthwhile to try to assess the costs these signals engendered and, if the costs appear to be significant, it would seem to be worthwhile to consider alternative delegation structures that might yield a more effective balancing of concerns about possible Regional missteps with the desire to encourage the Regions to pursue SEPs.

Professor Kristl's conclusion appears to be that, conceptually, it is logical to assume that EPA's cautionary notes have led EPA officials to play it safe and not be overly ambitious in pursuing possible SEPs:

Without clear guidance on what nexus really is,
Agency personnel and defendants are likely to 'play
it safe' and choose projects that have been approved

the minimum penalty requirement is not met; again, this is not usually a lengthy process. E-mail from Beth Cavalier, *supra* note 104.

175. Kristl, *supra* note 96, at 19 (referring to Smith, Importance of the Nexus, *supra* note 123).

176. See Markell, *Slack*, *supra* note 26, at 21.

before or simply avoid SEPs altogether instead of exploring new ways of utilizing SEPs that might in fact be at the outer limits of nexus.¹⁷⁷

His further view is that the empirical data on SEPs support this perspective. These data show a “steady decline” in the actual number of SEPs and in “annual SEP utilization rates” after 1995, which is when EPA issued an earlier version of its SEPs Policy that included an “emphasis on nexus and lowered the mitigation percentage ceiling from 100% to 80%.”¹⁷⁸ He contends that these data “strongly suggest that a link between these policy changes and the SEP utilization declines is more than simply coincidental.”¹⁷⁹

EPA officials from whom I sought input offered a different perspective:

It is not accurate to look at the numbers of SEPs without also considering the number of enforcement cases concluded each year, as SEPs cannot occur in the absence of an enforcement action. The number of enforcement actions concluded each year varies. The percentage of settlements each year that include a SEP has remained constant at approximately 9-10% over the past several years. The data does not support the conclusion that there has been a decline in the inclusion of SEPs in settlements.¹⁸⁰

In either case—a decline in SEPs as Kristl suggests, or a relatively stable level of use, as EPA contends—the type of data-gathering effort I suggest above might yield insights about why SEPs use has not increased, despite Headquarters encouragement

177. Kristl, *supra* note 96, at 19.

178. *Id.* at 23-24.

179. *Id.* at 24. Kristl suggests that relaxing or eliminating nexus requirements would enable EPA to approve a wider variety of SEP projects. He suggests that the nexus requirement creates limits on aggregation of SEPs based on factors such as geography and time that, if relaxed, would create a “more hospitable environment for SEPs and the benefits they can produce. . . .” *Id.* at 36. The Hastings Report, in contrast, concluded that legal doctrine supports a nexus requirement and recommends that states include a variant of nexus in their policies. Bonorris et al., *supra* note 95, at 188. The Hastings Report also indicates that: “Most state environmental protection agencies find themselves in the same position as EPA, fashioning settlements not expressly authorized by their legislatures. PLRI has uncovered no state court case finding that a state environmental agency overstepped its statutory authority in implementing SEPs.” *Id.* at 195. The Hastings Report also indicates that “PLRI research indicates that no court has ever invalidated an EPA-approved settlement with a SEP.” *Id.* at 196.

180. E-mail from Beth Cavalier, *supra* note 104.

to negotiate SEPs and outsider predictions that such increases were likely to occur.

One fix to at least some of these issues that would likely increase SEP use significantly would be for Congress specifically to empower EPA to negotiate SEPs. EPA has developed many of the administrative constraints it has created for SEPs because of concerns about the agency's legal authority to pursue SEPs.¹⁸¹ Clear Congressional endorsement for SEPs would alleviate these concerns and, depending on Congress's direction, might be a significant inducement for more aggressive agency pursuit of such projects.¹⁸²

2. *Revising the incentives for regulated parties to agree to conduct SEPs.* One way to increase regulated parties' incentives to pursue SEPs is for EPA to increase the financial benefit violators reap by doing so. One possibility in this arena is for EPA to reduce penalties by one hundred percent of the cost of the SEP project, rather than limit the reduction to eighty percent of the project's cost, as is currently the case.¹⁸³ In other words, rather than give a violator at most a \$0.80 reduction in penalty for a \$1.00 SEP, EPA should give the violator a full \$1.00 reduction. Professor Kristl, urging such a change in his recent article, criticizes the "clear 'second rate' status that dollars spent on SEPs suffer" under EPA's SEP policies.¹⁸⁴ He argues that this eighty percent limitation in mitigation is "neither legally nor economically justified," and that "allowing dollar-for-dollar penalty reductions would create significant opportunities for increasing SEP utilization."¹⁸⁵ Kristl contends that raising the mitigation percentage to one hundred percent (and abolishing nexus, as discussed above) are "simple, legally justifiable steps that will unshackle SEPs and allow the maximum environmental benefits possible."¹⁸⁶ To date, EPA has concluded

181. Kristl, *supra* note 96, at 25-26.

182. Commentators have suggested that only the CAA specifically provides for SEPs. Kristl, *supra* note 96, at 25 (citing 42 U.S.C. § 7604(g)(2) which allows a court to order that civil penalties be used in beneficial mitigation projects rather than be deposited in the U.S. Treasury). See also Nicholas Targ et al., *The Possibility of SEP Legislation and Lessons from the Fifty States*, TRENDS (ABA-SEER), July/August 2007, at 4.

183. EPA considers the after-tax cost of the SEP in order to prevent a violator from benefiting twice. As a result, the defendant should not get economic value for doing a SEP that should raise the value of a SEP dollar. Kristl, *supra* note 96, at 37. See also, Final SEPs Policy, *supra* note 90, at 24801. Other possible reasons to discount SEP dollars include: 1) the possibility that a violator reaps a public relations benefit from a SEP; and 2) SEPs have less deterrent effect than penalties. Kristl, *supra* note 96, at 37-38.

184. Kristl, *supra* note 96, at 36.

185. *Id.* at 3-4.

186. *Id.* at 4. As Kristl indicates, EPA's 1991 SEP Policy allowed a penalty reduction as high as one hundred percent of a SEP's value. *Id.*

that such a change may increase concerns about the MRA.¹⁸⁷ Unless the government revisits this issue and reaches a different conclusion, a legislative fix might be needed to effect this change in approach.

3. Revising EPA's measures for evaluating enforcement performance to create greater incentives for Regional Staff to encourage SEPs. Other changes that might be effective in encouraging SEPs go beyond the world of SEPs. One such change involves the measures EPA uses to evaluate enforcement performance. EPA traditionally has used "output" measures as one indicator of enforcement performance — e.g., the number of inspections conducted each year, or the number of cases brought in a particular year. To the extent that EPA staff are evaluated based on these sorts of "beans," or activity measures, such measures seem to have the potential to create disincentives for staff to pursue time-consuming projects, including SEPs. This is not necessarily the case, of course. An appropriately calibrated weighting system might give a Regional official or office more credit for a time-consuming project (like a SEP) than for a less time-consuming one (such as a "simple" penalty case). The question is whether current measures, and the weight attached to them, may create management-based disincentives to undertake particularly environmentally valuable work, including negotiating SEPs that yield especially useful results. Research into EPA's current performance measures would be helpful in determining the extent to which performance measures serve to discourage (or encourage) EPA staff to pursue SEPs.

4. *Expanding EPA's administrative enforcement authority.* A final set of possible actions that might encourage SEPs would involve an expansion of EPA's administrative enforcement authority. EPA's SEPs Coordinators indicate that most SEPs are negotiated in the context of administrative rather than judicial settlements.¹⁸⁸ On the one hand, this is not surprising since EPA brings many more administrative than judicial cases.¹⁸⁹ Further, steering a proposed SEP through multiple agency bureaucracies may well entail increased transaction costs.¹⁹⁰

On the other hand, because some of EPA's statutes allow for more limited penalties in the administrative setting than in judi-

187. E-Mail from Beth Cavalier, *supra* note 104.

188. Telephone Interview with Beth Cavalier and Melissa Raack, *supra* note 163.

189. U.S. ENVTL. PROT. AGENCY, OFFICE OF THE CHIEF FIN. OFFICER, FY 2005 PERFORMANCE AND ACCOUNTABILITY REPORT (2005) available at <http://www.epa.gov/ocfo/finstatement/2005par/par05.pdf>.

190. EPA and DOJ both typically would need to sign-off on a judicial settlement, while only EPA would typically sign-off on an administrative settlement.

cial enforcement,¹⁹¹ there are a variety of reasons why one might expect SEPs to be particularly promising in cases that EPA currently lacks jurisdiction to settle. Judicial cases are likely to be the more significant cases that warrant higher penalties, and therefore are more likely to involve environmental harm. Further, the higher penalties available in judicial cases seemingly would give EPA more leverage to reduce penalties in exchange for performance of a SEP.

One option is for Congress to increase EPA's administrative penalty authorities. Congress has made legislative changes of this sort (increasing penalty authorities, including administrative penalties) as it has amended the major regulatory statutes over the past twenty years. Congress initially did not provide administrative penalty authority in the Clean Water and Clean Air Acts, for example.¹⁹² It only created such authorities in later iterations of these laws.¹⁹³ For the Clean Air Act, Congress first established administrative penalty authority in its 1990 Amendments to that Act.¹⁹⁴ One option is for Congress to adopt in the Clean Air and Clean Water Acts its RCRA model, by eliminating the artificial limits it has included in the former two statutes on administrative penalties vis-à-vis civil penalties.¹⁹⁵

VI. CONCLUSIONS

Ecosystems provide enormously important services to our species, in addition to the non-anthropomorphic benefits they produce.¹⁹⁶ Yet, many knowledgeable scholars have complained that we have failed to design systems of governance that recognize this reality or devote sufficient attention to understanding or protecting the services ecosystems provide. The consequence is that we

191. The CWA and CAA each provides for higher penalties in judicial civil cases than in administrative civil cases. CWA §§ 309(d), (g) (2006); CAA §§ 113(b), (d) (2006).

192. Michael Herz & Neal Devins, *The Consequences of DOJ Control of Litigation on Agencies' Programs*, 52 ADMIN. L. REV. 1345, 1368-69 (2000).

193. CWA § 309(g) (2006); CAA § 113(d) (2006).

194. CAA § 113(d)(1), 42 U.S.C. § 7413(d)(1) (2000); Christopher M. Wynn, *Facing a Hobson's Choice? The Constitutionality of the EPA's Administrative Compliance Order Enforcement Scheme under the Clean Air Act*, 62 WASH. & LEE L. REV. 1879, 1892-93 (2005).

195. For discussions of the appropriateness of judicial and administrative penalties, see David L. Markell, *"Reinventing Government": A Conceptual Framework for Evaluating the Proposed Superfund Reform Act of 1994's Approach to Intergovernmental Relations*, 24 ENVTL. L. 1055 (1994); Herz & Devins, *supra* note 192, at 1368-69.

196. Ecosystems and other parts of our natural environment have value in ways other than the services they provide to humans. Thus, a focus solely on such services risks undervaluing these natural resources and poses a challenge for those interested in preserving such resources for other reasons. The question of how best to approach this challenge is a critical one, but it is beyond the scope of this article.

under-value these services quite substantially and, as a result, we squander them in various ways.

In the world of ecosystems and the services they provide, ignorance is unlikely to be bliss. Instead, it is a recipe for ill-informed market-place decisions and for ill-informed policy choices that lead to under-protection of our natural environment. There are numerous strategies for learning more about the threats that human activity poses to ecosystems and their services and for enhancing protection of such systems and restoration of systems that have sustained harm. Market-based approaches offer considerable promise,¹⁹⁷ as do new or refined regulatory regimes. In this effort to consider these questions in the context of regulatory enforcement, my tentative conclusion is that, at both the conceptual level and in the real world, enforcement has promise to serve as an effective tool to help us improve our understanding of ecosystems and the services they provide, and to aid in protecting and restoring such ecosystems and services. In addition to suggesting some possible regulatory fixes myself to advance the goal of more effective protection of ecosystems and the services they provide, this article is intended to serve as a challenge to regulatory aficionados and experts in various types of ecosystems to consider how best to structure and use these enforcement tools (and compliance promotion more generally) to achieve this important public policy objective.

197. See, e.g., Salzman, *supra* notes 3,6,11; PAUL A. U. ALI & KANAKO YANO, ECO-FINANCE: THE LEGAL DESIGN AND REGULATION OF MARKET-BASED ENVIRONMENTAL INSTRUMENTS (2004).