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INFORMATION-FORCING ENVIRONMENTAL REGULATION

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I. INTRODUCTION

Environmental regulation in the United States has shifted substantially in recent years from near-exclusive reliance on direct regulatory prescription of mandatory rules of behavior to the use of a varied basket of more flexible regulatory strategies. In some of these new arrangements, regulatory rules operate not as mandatory rules of behavior but as default rules that apply if, and only if, the regulated party fails to make satisfactory alternative arrangements. This Article examines a specialized class of default rules—"regulatory penalty defaults"—that exhibit unique "information-forcing" and disciplining characteristics. The Article argues that such rules may prove especially useful in designing a new generation of environmental measures that are more flexible than conventional command-style rules, but do not sacrifice regulatory accountability.

First-generation environmental statutes empowered expert administrative agencies to prescribe in detail the permissible means to achieve environmental objectives.[1] This top-down, interventionist

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* Professor and Henry J. Fletcher Chair, University of Minnesota Law School. The author thanks Chuck Sabel, Joanne Scott, Bill Simon, participants in the conference on New Governance in the European Union and the United States held at the Cambridge University Law Faculty in July, 2004, and participants in the Florida State University College of Law Symposium on Default Rules held in Tallahassee in March, 2005 for helpful comments on earlier drafts. The author also thanks Thomas Witt for invaluable research assistance.

1. *See* MARY GRAHAM, THE MORNING AFTER EARTH DAY: PRACTICAL ENVIRONMENTAL POLITICS 27-50 (1999).

approach, popularly known as "command-and-control regulation," has been widely criticized. Rules of this type, it is said, are often both over- and underinclusive.[2] They are often costly to implement, inflexible, insensitive to local variations in the economic costs and environmental benefits associated with achieving a specified level of environmental performance, and, in some circumstances, they may stifle innovation.[3]

Recent reform efforts have served up an array of innovative alternatives, including the following:

(1) Market-based or market-mimicking mechanisms, such as taxes, fees, and tradable permit systems.[4]

(2) Environmental contracting[5] on facility-,[6] firm-,[7] or sector-specific scales.[8]

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2. Daniel A. Farber, *Environmental Protection as a Learning Experience*, 27 LOY. L.A. L. REV. 791, 794 (1994) (stating that "the EPA cannot fully master the economics and technologies of dozens of industries" and consequently is "bound to make mistakes in both directions: asking more than some industries can reasonably achieve and letting others off too lightly").

3. *See* Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1335-36 (1985) (criticizing command-and-control regulations as costly, inefficient, inflexible, and in some cases ineffective, imposing "disproportionate penalties on new products and processes," creating "uncertainty and delay" in regulatory approvals for new plants, "discourag[ing] new investment," and retarding the development of "new, environmentally superior strategies").

4. *See id*. at 1348-49; Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era from an Old Idea?*, 18 ECOLOGY L.Q. 1, 7-12 (1991) (discussing fees, permit trading, and other market incentive-oriented regulatory mechanisms).

5. *See generally* E. Donald Elliott, *Toward Ecological Law and Policy*, *in* THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 170, 183-85 (Marian R. Chertow & Daniel C. Esty eds., 1997) (advocating a "command and covenant" system in which regulated parties contract around existing regulatory requirements); Eric W. Orts & Kurt Deketelaere, *Introduction: Environmental Contracts and Regulatory Innovation*, *in* ENVIRONMENTAL CONTRACTS: COMPARATIVE APPROACHES TO REGULATORY INNOVATION IN THE UNITED STATES AND EUROPE 1, 15-19 (Eric W. Orts & Kurt Deketelaere eds., 2001) [hereinafter ENVIRONMENTAL CONTRACTS] (discussing environmental contracting in the United States and Europe); Jody Freeman, *The Contracting State*, 28 FLA. ST. U. L. REV. 155, 191-97 (2000).

6. *See, e.g.*, David A. Dana, *The New "Contractarian" Paradigm in Environmental Regulation*, 2000 U. ILL. L. REV. 35, 36 (discussing "case-by-case, facility-by-facility, site-by-site" contracting in which "regulators contractually commit not to enforce some requirements . . . in return for the regulated entities' contractual commitments to take measures not required under existing formal law").

7. *See, e.g.*, Neil Gunningham & Darren Sinclair, *Community Empowerment and Regulatory Flexibility: EIPs and Accredited Licensing, in* LEADERS AND LAGGARDS: NEXT-GENERATION ENVIRONMENTAL REGULATION 157 (2002) (describing the Australian state of Victoria's Environmental Improvement Plan program, which encourages tripartite contracting among firms, regulators, and community organizations to achieve voluntary environmental performance improvements).

8. *See, e.g.*, Daniel J. Fiorino, *Toward a New System of Environmental Regulation: The Case for an Industry Sector Approach*, 26 ENVTL. L. 457 (1996) (urging a sector-based approach to environmental protection); Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 CAP. U. L. REV. 21, 80-86 (2001) (describing widespread use of sector-specific "environmental covenants" or "voluntary agreements" in Europe and Japan).

(3) Experiments in devolved, collaborative, "place-based" environmental governance, such as integrated watershed management[9] and ecosystem management.[10]

These varied reform initiatives proceed from the common assumption that regulatory agencies have a limited capacity to gather and process relevant information, constraining their ability to specify environmentally effective and economically efficient rules.[11] The alternative measures devolve important decisionmaking responsibilities to local actors presumed to be better situated to make particularized, context-sensitive decisions.[12]

Among these reform initiatives, market-mimicking strategies—especially marketable permit or cap-and-trade systems—have received a disproportionate share of scholarly attention. Less widely discussed, though arguably equally important, is the emergence of a "contractarian" paradigm[13] in which regulated entities are invited to "contract around" otherwise applicable regulatory rules by bargaining with regulators or, in some cases, regulatory beneficiaries.[14] Often these bargains take the form of conditional waivers that transform previously mandatory regulations into default rules defining the backdrop against which the parties bargain.

Experiments in collaborative place-based ecosystem management in places like the Chesapeake Bay and the Florida Everglades carry

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9. *See, e.g.*, Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 379 (2000).

10. *See, e.g.*, Bradley C. Karkkainen, *Collaborative Ecosystem Governance: Scale, Complexity, and Dynamism*, 21 VA. ENVTL. L.J. 189 (2001); J.B. Ruhl, *A Manifesto for the Radical Middle*, 38 IDAHO L. REV. 385 (2002).

11. *See* Ackerman & Stewart, *supra* note 3, at 1336-37 (criticizing conventional regulation for, *inter alia*, imposing burdens on centralized regulators to process large volumes of scientific and technical information); E. Donald Elliott, *Environmental Markets and Beyond: Three Modest Proposals for the Future of Environmental Law*, 29 CAP. U. L. REV. 245, 248 (2001) (stating that conventional command-and-control environmental regulation is "an inch wide and a mile deep," reaching too few problems because of high information costs); Bradley C. Karkkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?*, 89 GEO. L.J. 257, 263-86 (2001).

12. *Cf.* Dana, *supra* note 6, at 37 (stating that regulators seek "decentralized and contextualized" solutions because the "complexity and variability" of environmental problems "make centralized, one-shoe-fits-all solutions clumsy, costly, and, in some instances, perhaps unhelpful"); Daniel A. Farber, *Triangulating the Future of Reinvention: Three Emerging Models of Environmental Protection*, 2000 U. ILL. L. REV. 61 (identifying corporate self-regulation, bilateral bargaining, and collaborative governance as the leading models of environmental reinvention).

13. *See* Dana, *supra* note 6; Orts & Deketelaere, *supra* note 5.

14. *See* Shi-Ling Hsu, *A Game-Theoretic Approach to Regulatory Negotiation and a Framework for Empirical Analysis*, 26 HARV. ENVTL. L. REV. 33, 33 (2002) (stating that increased reliance on conciliatory negotiation-oriented strategies coincides with increased skepticism about the effectiveness of top-down regulation); Jason Scott Johnston, *The Law and Economics of Environmental Contracts*, *in* ENVIRONMENTAL CONTRACTS, *supra* note 5, at 271, 286 (describing environmental contracting against background status quo regulation as a "default rule approach").

this devolutionary thrust a step further. These initiatives feature locally or regionally based efforts at integrated management of an entire suite of causally interconnected natural resources and environmental stressors. Conventional natural resource and environmental programs have generally proceeded on a piecemeal basis, isolating and attempting to resolve discrete categories of problems through fixed uniform rules not calibrated to local circumstance. Because this fragmentary approach disregards both local variations in circumstance and the interconnectedness of the parts of the ecological system, it often leads to regulatory gaps, inconsistencies, redundancies, counterproductive interventions, and over- and underregulation. Integrated ecosystem management aims to address context-specific ecological conditions and causally interconnected ecological processes. This typically demands a great deal of interagency, intergovernmental, and public-private coordination, collaboration, and information-pooling, pitched at ecosystem-specific scales. The daunting complexity of the undertaking militates in favor of epistemic humility and an open-ended, experimentalist management approach capable of responding to new learning and changing conditions. Participating scientists and managers seek to deepen and continuously improve their understanding of the ecosystem through ongoing scientific investigation, ecological modeling, and monitoring, relying on "adaptive management" strategies that treat all management interventions as inescapably provisional and experimental, subject to reevaluation and revision in light of new learning.[15]

These hybrid, collaborative, public-private institutional configurations are the leading example of "new governance" approaches in contemporary U.S. environmental regulation. Like the new governance approaches emerging in other domains of regulation and public service delivery in both the United States and Europe,[16] they are "networked and multilevel," with "decisionmaking processes that are neither hierarchical nor closed and that permit persons of different ranks, units, and even organizations to collaborate as circumstances demand."[17]

Critics of these devolutionary and collaborative approaches argue that regulated parties will exploit opportunities to "game" the system through rent-seeking strategic bargaining; that powerful, self-interested economic actors will dominate collaborative arrangements,

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15. *See* Karkkainen, *supra* note 10, at 200-04.

16. *See* Orly Lobel, *The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought*, 89 MINN. L. REV. 342, 373-76 (2004); *see also* NEW GOVERNANCE AND CONSTITUTIONALISM IN EUROPE AND THE U.S. (Gráinne de Búrca & Joanne Scott eds., 2006).

17. Charles F. Sabel & William H. Simon, *Destabilization Rights: How Public Law Litigation Succeeds*, 117 HARV. L. REV. 1015, 1019 (2004).

systematically skewing the results in their favor; and, that collaborative deliberation will become mired in excessive transaction costs.[18]

This Article examines the potential role of regulatory penalty default rules as a mechanism to discipline and ensure accountability in these newly emerging institutional arrangements for collaborative, adaptive, integrated, place-based environmental governance.

Ian Ayres and Robert Gertner coined the term "penalty default" in the context of contract theory. Building on the insight that contract law consists largely of default rules designed to fill gaps in incompletely specified contracts, Ayres and Gertner observed that, counterintuitively, some contract default rules appear to be "nonmajoritarian"—that is, they impose harsher default terms than the contracting parties might prefer. To avoid these penalty default terms, parties will bargain around the default rule to reach explicit and presumptively less onerous contract terms.[19] The penalty default approach, Ayres and Gertner suggested, might have especially salutary effects under circumstances of information asymmetry, where one party might otherwise have a strategic incentive to shift undisclosed risks to the other party. By creating a countervailing incentive to disclose this sort of information in the course of bargaining to explicit terms, penalty default rules exhibit an information-forcing character.

Following closely on the contract model, this Article argues that some regulatory rules operate as regulatory penalty defaults. Such rules impose harsh background regulatory requirements coupled with an opportunity for regulated parties to "bargain around" the default baseline by securing regulatory approval for alternative arrangements. Ideally, the approval criteria would require that the

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18. *See* Cary Coglianese, *Is Consensus an Appropriate Basis for Regulatory Policy?*, *in* ENVIRONMENTAL CONTRACTS, *supra* note 5, at 93 (arguing that negotiated decisionmaking processes tend toward least-common-denominator solutions, are time consuming and resource intensive, and may heighten underlying conflicts); David B. Spence & Lekha Gopalakrishnan, *Bargaining Theory and Regulatory Reform: The Political Logic of Inefficient Regulation*, 53 VAND. L. REV. 599, 625-31 (2000) (arguing that strategic bargaining is a major impediment to effective regulatory negotiation); Rena I. Steinzor, *Regulatory Reinvention and Project XL: Does the Emperor Have Any Clothes?*, 26 ENVTL. L. REP. 10,527 (1996); Rena I. Steinzor, *Reinventing Environmental Regulation: The Dangerous Journey from Command to Self-Control*, 22 HARV. ENVTL. L. REV. 103, 141-43 (1998) (arguing that because collaborative decisionmaking is extremely complex and time consuming, it precludes meaningful participation by ordinary citizens and allows self-interested economic actors to dominate).

19. *See* Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 91-93 (1989).

> Penalty defaults are designed to give at least one party to the contract an incentive to contract around the default rule and therefore to choose affirmatively the contract provision they prefer. . . . [P]enalty defaults are purposefully set at what the parties would *not* want—in order to encourage the parties to reveal information to each other or to third parties . . . .

Id. (emphasis added).

"bargained-for" alternative achieve environmental outcomes equal or superior to those promised by compliance with the default rule itself. Much like contract penalty default rules, regulatory penalty defaults can be both information-forcing and "action-forcing"—that is, they can induce the regulated entity to investigate, disclose, and ultimately undertake affirmative self-regulatory measures that achieve public regulatory objectives more effectively and at less cost than might be achieved under conventional approaches.

Variants of the regulatory penalty default approach are widely used in U.S. environmental law and account for some of environmental regulation's most important policy successes. This Article discusses five extant examples.

Chuck Sabel and Bill Simon refer to a closely related type of disciplining rule as a "destabilization right."[20] Destabilization rights consist of legal standards and mechanisms that allow interested parties to intervene and disentrench failing institutional arrangements.[21] Sabel and Simon advanced the concept of destabilization rights in the context of contemporary "public law litigation"—civil rights or civil liberties—based constitutional or statutory challenges to current institutional arrangements in such areas as public education, welfare programs, mental health services, prisons, policing policy, and so on.[22] In these complex cases, they argue, courts have grown wary of imposing a detailed, comprehensive institutional reform blueprint on an unwilling governmental defendant—an approach Sabel and Simon characterize as the judicial equivalent of command-and-control intervention.[23] A more promising approach, they contend, is for the court to adopt a remedy that simply disentrenches the existing, failed institutional arrangement and sets out broad performance goals for its reconstructed successor, leaving the institutional design details to the defendant. To ensure accountability, however, the court retains jurisdiction and establishes mechanisms to monitor and evaluate the results, allowing subsequent readjustments as necessary. Thus, instead of relying on the court to specify the new institutional arrangements in detail—a task for which generalist judges are poorly equipped—the destabilization rights approach shifts the burden to the defendant government to undertake the necessary institutional reconstruction and to justify the results to the court's satisfaction. Frequently, Sabel and Simon contend, this process opens the door to new governance-style collaboration among all interested par-

20. *See* Sabel & Simon, *supra* note 17, at 1020.
21. *Id.*
22. *Id.* at 1021-53.
23. *See id*. at 1052.

ties in an open-ended, experimental process of institutional redesign, implementation, reevaluation and readjustment.[24]

This Article extends Sabel and Simon's work in several ways. First, it argues that retention of an administrative (rather than a judicially enforceable) destabilization right by a central regulatory body can be a useful disciplinary and accountability mechanism, ensuring that local experimentalist institutional configurations adhere to their commitments. A destabilization right retained by the regulatory center might also serve as a check on regulatory capture, strategic bargaining, policy distortions resulting from asymmetric information, and other procedural ills that critics contend are bound to infect collaborative new governance problem-solving institutions operating at local levels.[25]

Second, this Article argues that in U.S. environmental law, a type of destabilization right already exists in the form of the "citizen suit," a ubiquitous feature of federal (and some state) environmental statutes that allows interested citizens to seek judicial redress if regulated parties or agency administrators violate applicable legal requirements.[26] Although most frequently used to compel enforcement of fixed regulatory standards and procedures, citizen suits can also operate as destabilization rights, forcing the disentrenchment and reconfiguration of underperforming institutional arrangements. Employed in this way, the citizen suit can perform a useful role in ushering in opportunities for parties to initiate new governance approaches where conventional institutional arrangements have failed.

Finally, this Article argues that although the regulatory penalty default and destabilization rights concepts are distinct, they are closely related and merge at the boundaries. In particular, the background threat that either an administrative agency or an interested citizen might exercise a destabilization right can operate as a species of regulatory penalty default, inducing parties to undertake "voluntary" self-regulatory measures to avoid that undesirable outcome. In collaborative new governance settings, this mechanism might prove particularly useful as a means of inducing ongoing cooperation among the collaborative partners, countering self-interested incentives to "defect" through strategic bargaining or uncooperative behaviors.

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24. *See id.* at 1016-21.

25. *See* Coglianese, *supra* note 18*, passim* (advancing a series of objections to collaborative decisionmaking in the regulatory arena).

26. *See* Barton H. Thompson, Jr., *The Continuing Innovation of Citizen Enforcement*, 2000 U. ILL. L. REV. 185, 185 (characterizing citizen suit provisions as "a defining theme of the modern environmental era").

II. REGULATORY PENALTY DEFAULTS: THEORY AND PRACTICE

The pioneering work of Ayres and Gertner in contract theory suggested that penalty default rules can create powerful incentives for parties to bargain for explicit contract terms and in the process force disclosure of asymmetrically held information necessary to an efficient contract.[27]

In contract theory, a penalty default rule is a gap-filling rule that intentionally imposes a harsh outcome on one or more parties, thereby creating an incentive to contract around the default rule in favor of an explicit alternative contract term.[28]

Ayres and Gertner argued that penalty default rules are especially appropriate in the context of information asymmetry, where the goal is to enhance efficient contracting by eliciting privately held information that one party might otherwise decline to reveal for strategic bargaining reasons.[29] Their example-in-chief is *Hadley v. Baxendale*,[30] a nineteenth century contract case in which a miller sued a shipper to recover the lost profits resulting from delayed shipment of a replacement crankshaft necessary to run the mill.[31] The court ruled that consequential damages could not be recovered absent a showing that the defendant was aware of special circumstances that might give rise to such damages.[32] This, Ayres and Gertner argued, is a penalty default rule.[33] Although the miller (and other similarly situated parties) would prefer a rule allowing consequential damages for undisclosed risks, that rule would allow ultrasensitive parties to shift the risk to an unsuspecting shipper simply by remaining silent about their unusually large potential losses. Under the *Hadley* rule, ultrasensitive parties are penalized for nondisclosure. Consequently, they will either disclose to enable consequential damages under the *Hadley* default rule or bargain around the default rule to reach an explicit alternative contract damages term. In the course of that bargaining, the shipper is almost certain to demand disclosure of the extent of its potential liability. Because penalty default rules create an incentive to disclose this somewhat asymmetrically held information, Ayres and Gertner described them as information-forcing.[34]

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27. Ayres & Gertner, *supra* note 19, at 91, 94, 97.
28. *Id*. at 91.
29. *See id*. at 91, 94, 97.
30. (1854) 156 Eng. Rep. 145 (Exch. Div.).
31. *Id*. at 146-47.
32. *Id*. at 151.
33. Ayres & Gertner, *supra* note 19, at 101.
34. *See id.* at 91-100. This builds on the earlier work of Charles Goetz and Robert Scott. *See* Charles J. Goetz & Robert E. Scott, *Enforcing Promises: An Examination of the Basis of Contract*, 89 YALE L.J. 1261, 1300 (1980).

Unlike contract law, which consists primarily of interpretive or gap-filling default rules that apply in the absence of an explicit contract term,[35] environmental regulation typically starts from the premise that mandatory legal rules are required to alter the behavior of self-interested parties who otherwise would be inclined to externalize the environmental costs of their activities. Most environmental rules tackle this challenge head on: a governmental authority issues an authoritative command that prescribes directly and in detail the behavior that must be undertaken or avoided under pain of coercive sanctions for noncompliance.

In some cases, however, regulatory rules are designed to operate as default rules. Regulated entities have the option to avoid compliance with these rules by "voluntarily" undertaking a self-initiated alternative course of action that under specified conditions may be a satisfactory substitute for the otherwise applicable rule. *Regulatory penalty default* rules are a specialized subset of the broader category of regulatory default rules.[36] A regulatory penalty default is a default rule that imposes harsh terms, creating an incentive for the regulated party to voluntarily produce an acceptable alternative—in effect, to bargain around the otherwise applicable regulatory requirement. Like their contract cousins, regulatory penalty default rules are information-forcing: to secure agency approval for the proposed alternative, the regulated party tends to disclose information it asymmetrically holds.

Regulatory penalty default rules may also be information-forcing in the additional sense that they induce regulated parties to produce *new* information that may be required to construct the proposed alternative and secure its approval. This feature is likely to be especially useful when the regulated party does not presently hold the desired information but is the party best situated to produce it—a common occurrence in environmental regulation.

Finally, regulatory penalty defaults—especially those that trigger at a future date if the regulated party fails to produce and obtain approval for an alternative in the interim—can have an *action-forcing* character: inducing the regulated party voluntarily to design and im-

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35. *See* E. ALLAN FARNSWORTH, CONTRACTS § 1.10, at 37 (4th ed. 2004) ("[T]he great bulk of the general rules of contract law . . . are subject to contrary provision by the parties." (footnotes omitted)).

36. Ayres and Braithwaite were first to apply the penalty default concept to regulation, but they left the concept largely undeveloped. *See* IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE 108-09 (1992) (urging a regulatory scheme based on contracting around either "majoritarian" or "penalty" default rules); *see also* Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297, 315-16 & n.76 (1999) (suggesting that the "interesting body of scholarship" on contract penalty defaults "might have some lessons for environmental law").

plement an alternative plan to avoid complying with the undesired default requirement.

Despite the early predominance of mandatory command-and-control approaches to environmental regulation, one can discern examples of the penalty default approach in a number of 1970s-era regulatory enactments (although none of them has operated under that rubric).[37] In some cases, rules initially conceived as mandatory have been consciously reconfigured to operate as penalty default rules, in whole or in part. In other cases, regulatory programs have consciously incorporated penalty default strategies. Together, these categories encompass some of the most interesting and successful regulatory initiatives in U.S. environmental law to date.

In a recent article, I argued that the familiar environmental impact statement (EIS) requirement of the National Environmental Policy Act (NEPA) has inadvertently evolved into a regulatory penalty default scheme.[38] NEPA imposes costly and dilatory procedural requirements on federal agencies, compelling production of a comprehensive EIS disclosing all reasonably foreseeable environmental impacts and a range of reasonably foreseeable alternatives before undertaking any action that would "significantly affect" environmental quality.[39] Agencies have learned to avoid the procedural "penalty," however, by redesigning their proposals to include mitigation plans that reduce expected environmental impacts below the EIS-triggering threshold of "significant."[40] In effect, then, agencies bargain around the EIS requirement by identifying and agreeing to undertake alternative, self-regulatory, environmentally beneficial mitigation measures that plausibly satisfy the statutory threshold.

Other examples of regulatory penalty default rules embedded within conventional environmental regulation include the following:

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37. For example, wetlands permitting under the Clean Water Act imposes a default rule broadly prohibiting the discharge of dredged and fill material; however, if the applicant provides evidence that there is no "practicable alternative" available and all "appropriate and practicable" steps are taken to reduce adverse impacts, the Act authorizes permitting. *See* 33 U.S.C. § 1311(a) (2000) (forbidding "the discharge of any pollutant by any person" into waters of the United States); *id*. § 1344(a)-(b) (authorizing the issuance of permits for the "discharge of dredged or fill material into the navigable waters at specified disposal sites" pursuant to regulatory guidelines); 40 C.F.R. § 230.10(a), (d) (2002) (prohibiting discharge if there is a practicable alternative which would have a "less adverse impact on the aquatic ecosystem" and prohibiting discharge unless steps are taken to "minimize potential adverse impacts").

38. *See* Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903 (2002).

39. *Id.* at 904-05.

40. *See id.* at 932-33.

(1) RCRA's "land ban," an action-forcing "statutory hammer" that threatened draconian regulation of hazardous waste landfills unless the EPA developed alternative regulations by a certain date;[41]

(2) The Clean Air Act's federal implementation plan (FIP) provision induces states to develop and implement comprehensive state implementation plans (SIPs) to achieve federal air quality standards and thereby avoid the adverse economic and political consequences that might follow if implementation planning is left to the federal EPA in default of state action;[42] and

(3) The Endangered Species Act's prohibition on adverse modification of endangered species' habitat regardless of the economic costs, a harsh requirement that landowners can avoid through proactive habitat conservation planning satisfactory to the U.S. Fish and Wildlife Service.[43]

But the paradigmatic case of an information-forcing penalty default rule is California's Proposition 65.

III. PENALTY DEFAULT RULES IN U.S. ENVIRONMENTAL LAW: FIVE EXAMPLES

A. Proposition 65 and the Uncertain Threat of Civil Liability

In 1986, California adopted a ballot initiative popularly known as Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act.[44] Proposition 65 requires businesses to give "clear and reasonable warning" to anyone they expose to listed carcinogens and reproductive toxins.[45] Failure to give adequate warning may result in stiff civil penalties enforceable by the attorney general or by citizen suit[46] unless "the person responsible can show that the

41. *See* 42 U.S.C. § 6924 (2000); Richard Ottinger, *Strengthening of the Resource Conservation and Recovery Act in 1984: The Original Loopholes, the Amendments, and the Political Factors Behind Their Passage*, 3 PACE ENVTL. L. REV. 1, 22 & n.146 (1985) ("They are called 'hammer provisions' by EPA staff because of their *in terrorem* effect.").

42. 42 U.S.C. §§ 7408, 7410(c), 7661 (2000).

43. 16 U.S.C. §§ 1538-1539 (2000).

44. Proposition 65, Safe Drinking Water and Toxic Enforcement Act of 1986, CAL. HEALTH & SAFETY CODE §§ 25249.5-.13 (West, Westlaw through ch. 17 of 2006 regular Sess. urgency legislation). Proposition 65 was written by environmental activists in 1985 and adopted by voter initiative in November, 1986. Michael Barsa, Note, *California's Proposition 65 and the Limits of Information Economics*, 49 STAN. L. REV. 1223, 1223-24 (1997).

45. § 25249.6 ("No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual . . . ."). Businesses with fewer than ten employees are exempt. *Id*. § 25249.11(b).

46. *Id*. § 25249.7(b)-(d) (stating that a violation is subject to civil penalty of up to $2500 per day for each violation, and action may be brought by attorney general, district attorney, city prosecutor, or "any person in the public interest").

exposure poses no significant risk."[47] Implementing regulations define "significant risk" for carcinogens as a one-in-100,000 risk of cancer, assuming a lifetime of exposure.[48]

The effect of Proposition 65, then, is to place the burden on businesses to determine when exposures above a minimum risk threshold may occur, and it requires businesses to warn those likely to be exposed or, alternatively, to take preventive action to reduce exposures below the actionable risk threshold.[49] This reverses the usual regulatory presumption that chemical releases and exposures are permissible unless a regulation specifically provides otherwise. It also shifts the burden of producing the information needed to determine whether a particular level of emissions is permissible from the regulatory agency to the regulated industry.

Most commentary on Proposition 65 focuses on the ubiquitous warning labels it generates—whether these warnings are an effective and responsible means of informing the public of toxic hazards and whether such warnings create the proper incentives for businesses to reduce toxic exposures to optimal levels.[50] The evidence suggests that Proposition 65 warning labels affixed to consumer products have prompted consumers to avoid some products labeled hazardous, leading product manufacturers to alter some product formulations.[51]

The effects of Proposition 65 warnings on environmental exposures are murkier, however. Environmental exposure warnings typically consist of newspaper advertisements, mass mailings to affected communities, or signs posted at the fence line of a polluting facility.[52] The effectiveness of these means of communicating environmental risk is questionable.[53] Yet, many observers credit Proposition 65 with playing a significant role in reducing environmental releases of listed pollutants.[54]

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47. *Id*. § 25249.10(c).

48. CAL. CODE REGS. tit. 22, § 12703(b) (2006) (providing that "no significant risk" is generally a level "calculated to result in one excess case of cancer in an exposed population of 100,000, assuming lifetime exposure at the level in question").

49. *See* Barsa, *supra* note 44, at 1224, 1240-42 (describing actions by manufacturers to eliminate listed substances from products and environmental releases to avoid Proposition 65 warnings).

50. *See, e.g.*, *id*. at 1224; Clifford Rechtschaffen, *The Warning Game: Evaluating Warnings Under California's Proposition 65*, 23 ECOLOGY L.Q. 303, 321-55 (1996).

51. *See* Clifford Rechtschaffen, *How to Reduce Lead Exposures with One Simple Statute: The Experience of Proposition 65*, 29 ENVTL. L. REP. 10,581, 10,582-91 (1999) (stating that manufacturers removed lead from faucets, ceramics, crystal glassware, foil caps on wine bottles, and other consumer products to avoid Proposition 65 warning requirements); Rechtschaffen, *supra* note 50, at 341-48; Randolph B. Smith, *California Spurs Reformulated Products*, WALL ST. J., Nov. 1, 1990, at B1 (describing Proposition 65's national impact as manufacturers reformulate products to avoid its labeling requirements).

52. Rechtschaffen, *supra* note 50, at 333-34.

53. *See id.* at 320-59.

54. *See* Barsa, *supra* note 44, at 1226 (summarizing the evidence and discussing confounding factors, such as the effects of the federal Toxics Release Inventory, conventional

One explanation for this seemingly anomalous result is that in the environmental pollution context warnings appear to do little of the actual work. Instead, legal uncertainty concerning the adequacy of warnings drives toxic polluters.

Because environmental exposure pathways may be difficult to trace, the manager of a polluting facility may be uncertain about who is exposed, the level of exposure, the size of the exposed area, and the best method to communicate warnings to the entire class of exposed persons within that area. The statute demands "clear and reasonable" warnings to all exposed persons, but it does not define what constitutes clear and reasonable warning. Implementing regulations authorize a variety of methods for warning of environmental exposures: warning signs "in the affected area," public media advertisements "which target the affected area," and mass mailings to "occupant[s] in the affected area."[55] But the polluter must determine the "affected area" and choose the "most appropriate" of these methods under the circumstances, and the warning must be provided "in a conspicuous manner and under such conditions as to make it likely to be read, seen or heard and understood by an ordinary individual in the course of normal daily activity."[56]

These highly indefinite standards leave ample room for case-by-case litigation over the adequacy of any particular warning. Polluters relying on newspaper advertisements and mass mailings, for example, have faced legal challenges arguing that their warnings reached an insufficient number of people or targeted the wrong communities.[57] Under California law, these are questions of fact for jury determination.[58]

In principle, toxic polluters can avoid these warning requirements if they reduce pollution below the "no significant risk" exposure threshold.[59] However, the complex risk assessments necessary to de-

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regulatory standards, industrial self-regulation, and changing norms of environmental stewardship); David Roe, *Toxic Chemical Control Policy: Three Unabsorbed Facts*, 32 ENVTL. L. REP. 10,232, 10,232 (2002) (crediting Proposition 65 with an eighty-five percent reduction in air emissions of carcinogens from 1988 to 1997, in comparison with a fifty percent decline nationally).

55. CAL. CODE REGS. tit. 22, § 12601(1)(C)-(D) (2006).

56. *Id*. § 12601(d)(2).

57. *See* Michael Freund, *Proposition 65 Enforcement: Reducing Lead Emissions in California*, 10 TUL. ENVTL. L.J. 333, 345-59 (1997) (describing cases in which plaintiffs successfully challenged adequacy of warnings of environmental exposures, including warnings by posting at plant gates, newspaper publication, and mass mailings).

58. *See* Ingredient Commc'n Council, Inc. v. Lungren, 4 Cal. Rptr. 2d 216, 219 n.3 (Cal. Ct. App. 1992) (quoting CAL. GOV'T CODE § 11,346.7).

59. *See* CAL. HEALTH & SAFETY CODE § 25,249.10(c) (West, Westlaw through ch. 17 of 2006 regular Sess. urgency legislation) (exempting from the warning requirement any "exposure for which the person responsible can show that the exposure poses no significant risk assuming lifetime exposure at the level in question").

termine whether pollution exceeds this threshold often lie beyond the scientific and technical capabilities of the ordinary polluting facility. Moreover, given the scientific uncertainties surrounding toxic risks, risk assessments are open to dispute and legal challenge. In addition, California law holds that in a lawsuit based on alleged failure to warn, the burden of proving no significant risk lies with the defendant[60] who must demonstrate that the exposure "poses no significant risk . . . based on evidence and standards of comparable scientific validity to the evidence and standards which form the scientific basis for the listing of such chemical."[61] As Proposition 65 co-author David Roe explains, "Scientific uncertainty results in legal uncertainty for private industry."[62]

Just when things look bleakest from the toxic polluter's perspective, however, Proposition 65 throws out a lifeline. It authorizes (but does not require) a regulatory agency, the Office of Environmental Health Hazard Assessment (OEHHA), to establish numerical exposure standards that will be deemed to meet the no significant risk test.[63] By voluntarily meeting these numerical standards, toxic polluters can avoid the duty to warn and inoculate themselves against liability for failure to warn adequately. However, OEHHA must first promulgate the numerical standards. This gives toxic polluters in California an unusual incentive to cooperate with state regulators in setting, justifying, and defending numerical regulatory standards and to produce and disclose as much credible toxicity and exposure information necessary to enable regulators to implement these regulatory standards.[64] Under Proposition 65, California has managed to establish nearly three hundred regulatory standards for toxic pollutants, operating at a far faster pace and lower administrative cost than conventional regulatory approaches, in large measure due to

60. *See* Consumer Cause, Inc. v. SmileCare, 110 Cal. Rptr. 2d 627, 641-42 (Cal. Ct. App. 2001) (In a Proposition 65 suit for failure to warn, the burden is on defendant to prove affirmative defense of "no significant risk" even if plaintiff offers no evidence of health risk at expected exposure levels.). In *SmileCare,* plaintiffs sued dentists for failure to warn patients that amalgam fillings contained mercury, a listed carcinogen. *Id.* at 636. Although the plaintiffs produced no evidence that these exposures were medically harmful, the court ruled that the mere allegation of failure to warn shifted the burden to the defendants to prove "no significant risk." *Id.* at 637-38.

61. *See* § 25,249.10(c).

62. Roe, *supra* note 54, at 10,235.

63. *See* § 25,249.12 (authorizing state agencies broadly to adopt implementing regulations); CAL. CODE REGS. tit. 22, §§ 12,701-,711 (authorizing regulatory adoption of No Significant Risk Levels (NSRLs) for carcinogens at numerical exposure thresholds deemed to pose no significant risk); *id.* §§ 12,801-,805 (authorizing regulatory adoption of No Observable Effect Levels (NOELs) for reproductive toxins).

64. *See* Roe, *supra* note 54, at 10,235-36.

the extraordinary degree to which California industries have cooperated in the standard-setting process.[65]

Proposition 65 uses a creative penalty default approach to advance environmental regulation. Under conventional approaches, the regulatory agency bears the burden of producing the information necessary to justify regulation, and polluters have a perverse incentive *not* to produce or reveal toxicity and exposure information that might lead to regulation.[66] Proposition 65 reverses the incentive, adopting a background rule intentionally designed to be unpalatable to polluters—specifically, a broad and indefinite duty to warn coupled with stiff liability for breach of that duty. Against this harsh backdrop of uncertain and potentially large-scale liability, Proposition 65 invites polluters to contract around the penalty provision by cooperating with regulators: first, by revealing (and if necessary by generating) information needed to establish health-protective numerical regulatory standards, and then by voluntarily reducing emissions below the established numerical thresholds. The Proposition 65 penalty default rule thus exhibits both an information-forcing and an action-forcing character.

Critics in California and elsewhere argue that Proposition 65 is too draconian and contrary to initial expectations; moreover, it has spawned few imitators elsewhere.[67] A detailed assessment of the merits and faults of Proposition 65 is beyond the scope of this Article, but whatever its merits, Proposition 65 illustrates a creative and powerful application of the regulatory penalty default mechanism.

B. Reinterpreting Mandatory Rules as Penalty Defaults: The Endangered Species Act's Prohibition as Penalty Default

Recognizing the burdens placed on regulated entities by command-and-control regulation, some agencies have sought to reconfigure con-

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65. *See id*. at 10,235; John S. Applegate, *The Perils of Unreasonable Risk: Information, Regulatory Policy, and Toxic Substances Control*, 91 COLUM. L. REV. 261, 309-10 & n.263 (1991); Barsa, *supra* note 44, at 1240 (stating that under Proposition 65's nearly 300 regulatory standards have been set "without [triggering] a single legal challenge," prompting a review panel to declare that " 'by federal standards, Proposition 65 has resulted in 100 years of progress in the areas of hazard identification, risk assessment and exposure assessment' " (quoting Jessica Mathews, *An Opening for Environmentalists*, WASH. POST, Apr. 16, 1996, at A15)).

66. *See* Mary L. Lyndon, *Information Economics and Chemical Toxicity: Designing Laws to Produce and Use Data*, 87 MICH. L. REV. 1795, 1814-15, 1819 (1989).

67. *See* Paulette L. Stenzel, *Right-to-Know Provisions of California's Proposition 65: The Naivete of the Delaney Clause Revisited*, 15 HARV. ENVTL. L. REV. 493, 494 & n.8 (1991) (indicating early hopes of Proposition 65's backers that the approach would be adopted in other states); Richard A. Lovett, *Prop 65's Non-Toxic Legacy*, SACRAMENTO BEE, Nov. 30, 1997, at F1 (presenting criticisms that Proposition 65 is too inflexible and stringent and reporting failed efforts to enact similar bills in Ohio, New York, Massachusetts, Illinois, and Texas).

ventional rules into penalty defaults. Broadly speaking, these are a subset of what Dan Farber calls "positive slippage": a divergence between the nominal requirements of a regulatory provision and actual practice, when such divergence is authorized by the regulatory agency itself in pursuit of more effective or cost-efficient regulation.[68]

One of the boldest efforts to reconfigure conventional environmental regulation into a penalty default regime was the Department of the Interior's aggressive expansion of Habitat Conservation Plans (HCPs) during Bruce Babbitt's tenure as Secretary of the Interior under the Clinton Administration. Babbitt took a previously obscure and rarely used waiver provision, section 10(a) of the Endangered Species Act of 1973 (ESA), and transformed it into the centerpiece of his endangered species and ecosystem conservation policy.[69]

Section 9 of the ESA famously prohibits the "take" of listed species of fish and wildlife.[70] The statutory definition of take includes "harm,"[71] and by regulation, harm includes adverse habitat modification that disrupts essential behaviors.[72] The result can be a blanket prohibition on economically valuable but habitat-modifying activities, such as forestry and urban development on privately held lands where endangered species occur.[73]

The statute was amended in 1982 to create an escape hatch for landowners caught in the grip of this sweeping prohibition. The presence of listed species of butterflies had barred developers from building housing on San Bruno Mountain, one of the last remaining undeveloped areas on the San Mateo peninsula immediately south of San Francisco.[74] Seeking a mutually beneficial compromise, the developers offered to scale back the acreage of the proposed development,

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68. Farber, *supra* note 36, at 299-306 (defining "positive slippage" and noting in passing that some cases of "affirmative slippage" involve penalty default rules).

69. J.B. Ruhl, *Regulation by Adaptive Management: Is It Possible?*, 7 MINN. J. L. SCI. & TECH. 21, 41-42 (2005) (describing how Babbitt revived a moribund HCP program and turned it into an expansive vehicle for ecosystem-based species protection and increased flexibility for landowners).

70. 16 U.S.C. § 1538(a)(1) (2000) (making it unlawful for any person to "take" any species of fish or wildlife listed as "endangered"); 50 C.F.R. § 17.31(a) (2005) (extending, by regulation, statutory prohibition on "take" to fish and wildlife species listed as "threatened").

71. 16 U.S.C. § 1532(19) (defining "take" to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct").

72. 50 C.F.R. § 17.3(c)(3) (defining "harm" to include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering"); *see also* Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or., 515 U.S. 687, 697 (1997) (upholding habitat modification rule as a reasonable agency interpretation of the statutory term "take").

73. The Fish & Wildlife Service's limited monitoring and enforcement capabilities probably allow many violations to proceed undetected and undeterred, however. *See* Dana, *supra* note 6, at 38-39 (describing the ESA as "underinclusive and underenforced"); Hsu, *supra* note 14, at 58-61.

74. Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 979 (9th Cir. 1985).

dedicate most of the remaining undeveloped land as a habitat reserve, undertake affirmative enhancements to the (somewhat degraded) butterfly habitat by removing invasive vegetation, replanting native species upon which the butterflies were dependent, and fund an ongoing habitat management program.[75] This approach, they argued, would trade off small reductions in habitat acreage for significant improvements in habitat quality, potentially leaving the butterflies better off than under the "hands-off," no-modification rule.[76]

The U.S. Fish and Wildlife Service (FWS) accepted the logic of this proposal but said it had no legal authority to strike such a deal.[77] To break the impasse, Congress amended the statute, adding a new section, 10(a), authorizing the FWS to issue permits for the "incidental take" of a listed species provided it would not "appreciably reduce" the species' prospects for survival and recovery in the wild.[78] The new section provided further that the applicant submit and win regulatory approval for a habitat conservation plan designed to "mitigate and minimize" adverse impacts on protected species.[79]

In enacting section 10(a), Congress anticipated that similar "win-win" opportunities to exchange minor variances from the blanket "no-take" rule for enhanced species protection would arise in the future.[80] For many years, however, landowners rarely invoked the section 10(a) waiver provision. Most landowners found that the cost of producing a habitat conservation plan outweighed the expected benefits, especially given the uncertain prospects of securing an incidental take permit under the indefinite and highly discretionary standards provided in the statute.[81] In addition, a history of spotty sec-

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75. *Id.* at 980-82.

76. *Id*. at 982-83; Craig Anthony (Tony) Arnold, *Conserving Habitats and Building Habitats: The Emerging Impact of the Endangered Species Act on Land Use Development*, 10 STAN. ENVTL. L.J. 1, 20-21 (1991) (stating that the two-year biological study commissioned by the San Bruno Mountain Steering Committee concluded that the butterfly habitat would be lost even if no development occurred).

77. *See* Graham M. Lyons, *Habitat Conservation Plans: Restoring the Promise of Construction*, 23 ENVIRONS 83, 90 (1999) (stating that the HCP could not be implemented without a section 9 amendment authorizing such agreements).

78. 16 U.S.C. § 1539(a) (2000).

79. *Id.*

80. *See* S. REP NO. 97-418, at 10 (1982). The Senate Committee Report states:

> In some cases, the overall effect of a project [approved under § 10(a)] can be beneficial to a species, even though some incidental taking may occur. An example is the development of some 3000 dwelling units on the San Bruno Mountains near San Francisco. . . . Absent the development of this project these butterfly recovery actions may well have never been developed.

Id.

81. *See* Karin P. Sheldon, *Habitat Conservation Planning: Addressing the Achilles Heel of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 279, 301-10 (1998). Under section 10(a), incidental take permits are not available "as of right," but instead are discretionary. *See* 16 U.S.C. § 1539(a) (2000) (noting the Secretary may issue an incidental take permit

tion 9 enforcement tended to undercut any incentive landowners might have to seek formal permits for activities that, if pursued quietly, were unlikely to trigger FWS scrutiny anyway.[82]

Then along came Bruce Babbitt and the California gnatcatcher, a small and rather ordinary-looking songbird, a denizen of the southern California coastal sage scrub habitat that was rapidly vanishing into urban sprawl.[83] Listing the gnatcatcher under the ESA would threaten development across a broad swath of fast-growing San Diego, Orange, and Riverside Counties, at huge cost to landowners, developers, and local governments.[84] Babbitt correctly calculated that listing the bird would force southern California to seek alternatives to sprawl and would possibly forestall threats to other coastal sage-dependent species. Faced with the threat of ESA enforcement, landowners and developers joined with state and local officials, conservationists, and federal agents to devise ambitious regional multiparty, multispecies conservation plans.[85] The plans set aside thousands of acres of core habitat reserves and rewrote local land use regulations to restrict development on the reserves' periphery to prevent adverse spillover effects in the core reserves.[86]

From that point forward, HCPs became a showcase of Clinton-era regulatory reinvention. More than 360 HCPs covering 30 million acres were negotiated by September 2001.[87] This process transformed the ESA's no-take rule from an inflexible, uniform, and draconian mandatory rule into a penalty default rule around which landowners and other affected parties may bargain for locally tailored solutions. To secure regulatory approval, regulated parties must produce and disclose detailed information on land characteristics, species counts,

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provided the applicant meets all statutory requirements and "such other measures that the Secretary may require").

82. Bradley C. Karkkainen, *Adaptive Ecosystem Management and Regulatory Penalty Defaults: Toward a Bounded Pragmatism*, 87 MINN. L. REV. 943, 972 (2003).

83. *Id.* at 973-74

84. *See generally* Marc J. Ebbin, *Is the Southern California Approach to Conservation Succeeding?*, 24 ECOLOGY L.Q. 695, 702 (1997) (describing the potential for a "showdown" between economic interests and environmentalists as a consequence of listing California gnatcatcher).

85. Technically, the Orange and San Diego County plans did not arise under section 10(a), but instead under section 4(d), which authorizes the Secretary of the Interior to promulgate special rules for the protection of "threatened" species. However, by avoiding an otherwise applicable default regulation subjecting "threatened" species to the section 9 "no-take" provision in the absence of a species-specific rule, the special section 4(d) rule for the gnatcatcher operates as the functional equivalent of a section 10(a) incidental take permit and HCP. *See* Robert L. Fischman & Jaelith Hall-Rivera, *A Lesson for Conservation from Pollution Control Law: Cooperative Federalism for Recovery Under the Endangered Species Act*, 27 COLUM. J. ENVTL. L. 45, 94-109 (2002).

86. *Id.*

87. *See* U.S. FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR HABITAT CONSERVATION PLANS AND THE INCIDENTAL TAKE PERMITTING PROCESS 1 (2001), http://training.fws.gov/EC/Resources/HCP/HCP/HCPs-and-Incidental-Take.pdf.

habitat requirements, vegetation types, and environmental stressors. On the basis of such information, they must also develop and implement location-specific affirmative conservation measures at a level of contextual detail that is almost certainly impossible to achieve through top-down regulatory prescription.

In contrast to Proposition 65, the de facto penalty default rule in the HCP context was not a rule initially designed to function as a penalty or as a default rule. Instead, section 9 was intended as a mandatory rule. But the rule turned out to have such harsh consequences that it could be easily converted to a penalty default rule by exploiting an obscure waiver provision. The default position sometimes imposes unacceptably high costs or can be made to do so by the strategic exercise of governmental authority—in this case, the ESA listing determination. In the southern California case, some landowners complained that the voluntary, or cooperative, process of negotiating a binding regional land use plan consistent with habitat protection looked, from their vantage point, suspiciously like extortion, and it must be acknowledged that the line between principled application of a penalty default strategy and outright regulatory extortion is a fine one.

C. Accidental Penalty Defaults: NEPA and the Burden of Procedure

The National Environmental Policy Act (NEPA) is one of oldest, most venerated, and most reviled of the major federal environmental statutes. It is also one of the most misunderstood. Much of the academic commentary surrounding NEPA concerns the effectiveness (or lack thereof) of the environmental impact statement (EIS), the encyclopedic compendium of expected impacts and alternatives that a federal agency must produce before undertaking any action that significantly affects the environment.[88] In all but the extreme cases, however, federal agencies can avoid NEPA's EIS production requirements by redefining projects or adding mitigation measures to keep the expected environmental impacts of proposed actions below the triggering threshold for EIS production.[89] This is the phenomenon known as the "mitigated FONSI" (Finding of No Significant Impact).[90]

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88. 42 U.S.C. § 4332(C)(i)-(iii) (2000) (requiring all federal agencies to "include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on the environmental impact[s]" and "alternatives to the proposed action").

89. *See* Karkkainen, *supra* note 38, at 908.

90. *See generally Mitigation and Mitigated Findings of No Significant Impact*, APHIS, http://www.aphis.usda.gov/ppd/es/g17.html. Mitigation methods or measures are recommended for the purpose of avoiding, reducing, or rectifying environmental impact. 40 C.F.R. § 1508.20 (2005).

> Mitigation measures may be relied upon to prepare a FONSI only if they are imposed by statute or regulation, or submitted by an applicant or agency as

A mitigated FONSI allows the agency to avoid triggering a full-scale EIS by redefining its proposed project to include mitigation measures and then conducting a scaled-down inquiry—known as an environmental assessment (EA)—that leads to a formal finding that the mitigated project will have "no significant impact" on the environment. The courts have upheld the use of mitigated FONSIs,[91] and their popularity with agency managers suggests that the mitigation measures needed to justify the FONSI generally prove less costly to the agency than the lengthy and cumbersome EIS process.[92]

Detailed information on the number and kinds of mitigated FONSIs produced annually is unavailable because agencies are not required to report EAs and FONSIs to a centralized information source (and in some cases regional offices are not even required to report them to agency headquarters), but a 1993 survey of federal agencies concluded that "agencies appear to rely heavily on mitigation measures to justify EAs and . . . findings of no significant impact (FONSIs)."[93] Mitigated FONSIs most likely represent a large fraction of the 50,000 or so FONSIs produced annually.[94]

Environmentalists and some legal scholars regard the mitigated FONSI as a dodgy means of avoiding NEPA's information production and disclosure requirements.[95] It is reasonable to assume that pro-

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> part of the original proposal. As a general rule, the regulations contemplate that agencies should use a broad approach in defining significance and should not rely on the possibility of mitigation as an excuse to avoid the EIS requirement. A "mitigated FONSI" is based upon mitigations that are enforceable through the record of decision. The integration of mitigation measures into these environmental documents is required from the beginning.

Mitigation and Mitigated Findings of No Significant Impact, *supra* (citation omitted).

91. As the D.C. Circuit explained:

> [A]n EIS must be prepared only when significant environmental impacts will occur as a result of the proposed action. If, however, the proposal is modified prior to implementation by adding specific mitigation measures which completely compensate for any possible adverse environmental impacts stemming from the original proposal, the statutory threshold of significant environmental effects is not crossed and an EIS is not required.

Cabinet Mountains Wilderness v. Peterson, 685 F.2d 678, 682 (D.C. Cir. 1982).

92. Albert I. Herson, *Project Mitigation Revisited: Most Courts Approve Findings of No Significant Impact Justified by Mitigation*, 13 ECOLOGY L.Q. 51, 69 (1986) (stating that agencies "know that the EIS process involves considerably more expense and delay than the" simpler EA/mitigated FONSI procedure). Cost differential is the principal motivation for agencies to choose mitigated FONSIs over EISs. *Id.* at 68-69.

93. Elisabeth A. Blaug, *Use of the Environmental Assessment by Federal Agencies in NEPA Implementation*, 15 ENVTL. PROF. 57, 57 (1993). Some agencies say they rarely or never use mitigated FONSIs, while others use them frequently. According to Blaug, "Nine agencies stated that 11 percent to 50 percent of their EAs result in mitigated FONSIs," one said a "majority," one said eighty percent, and one said ninety-five percent. *Id.* at 59.

94. COUNCIL ON ENVTL. QUALITY, NATIONAL ENVIRONMENTAL POLICY ACT: A STUDY OF ITS EFFECTIVENESS AFTER TWENTY-FIVE YEARS 19 (1997), http://ceq.eh.doe.gov/nepa/nepa25fn.pdf.

95. *See, e.g.*, WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 893-94 (2d ed. 1994) ("[T]here always has been something suspiciously circular about the practice of mitigated

jects proceeding under mitigated FONSIs start out above, or very near, the statutory threshold of significant environmental impacts—otherwise, the agency could avoid an EIS through an ordinary unmitigated FONSI. In that terrain, NEPA normally requires an EIS to ensure fully informed decisionmaking.[96] Because the mitigation plan is developed without the benefit of an EIS, however, it raises concerns that the agency is proceeding with only partial information and that its mitigation strategy may not be based on consideration of the full range of environmental impacts and mitigation alternatives.[97]

Nonetheless, the mitigated FONSI arguably operates as a simplified means to advance NEPA's core objective of improving the government's environmental performance.[98] In a mitigated FONSI, the agency attempts to identify the most important expected environmental impacts of its proposed action and undertakes to limit environmental harm to an insignificant level. Through this indirect route, the mitigated FONSI advances NEPA's goal of integrating environmental considerations into project design, evaluation, decision, and implementation, arguably producing environmentally beneficial results.

To be sure, the approach is backhanded. NEPA's authors expected the information revealed in the EIS, together with political pressure produced by public disclosure, to inform the selection of mitigation measures and drive improvements in the government's environ-

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FONSIs: the agencies contend with conviction that they don't have to write EISs to consider all the bad things that might happen because they already have given careful thought to, and taken precautions against, all the bad things that might happen."); Eric Glitzenstein, *Project Modification: Illegitimate Circumvention of the EIS Requirement or Desirable Means to Reduce Adverse Environmental Impacts?*, 10 ECOLOGY L.Q. 253, 271-78 (1982) (arguing for more robust judicial review to ensure that agencies do not circumvent the EIS requirement through project modification).

96. Strycker's Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) (stating that NEPA "imposes upon agencies duties that are 'essentially procedural,' " designed to ensure fully informed decisionmaking).

97. *See* Peter J. Eglick & Henryk J. Hiller, *The Myth of Mitigation Under NEPA and SEPA*, 20 ENVTL. L. 773, 776 (1990); *cf.* Michael Herz, *Parallel Universes: NEPA Lessons for the New Property*, 93 COLUM. L. REV. 1668, 1712-13 (1993) (noting the "inherent circularity" in the requirement that an EIS be prepared only if environmental impacts are "significant," a determination that presumably requires an investigation of the environmental impacts, so that paradoxically, "only by going through the process can the agency decide whether it is necessary to go through the process").

98. *See* Herson, *supra* note 92, at 68 (stating that if mitigated FONSIs prevent environmental harms, the result "would be consistent with NEPA's underlying purpose of 'promot[ing] efforts which will prevent or eliminate damage to the environment' " (alteration in original) (quoting 42 U.S.C. § 4321 (1982))); Geoffrey T. McDonald & Lex Brown, *Going Beyond Environmental Impact Assessment: Environmental Input to Planning and Design*, 15 ENVTL. IMPACT ASSESSMENT REV. 483, 487 (1995) (stating that the integration of environmental considerations into project design and planning "has occurred through EIA practice, not theory," as "practitioners . . . have simply found it more expedient and logical to do this rather than waiting until the 'EIA Report' was completed . . . [at] a stage inconveniently late in the project to make design changes").

mental performance.[99] Instead, they constructed a formal EIS process so costly and cumbersome that agencies go to great lengths to avoid it, even if doing so requires costly mitigation measures. Ironically, then, the formal EIS becomes not the direct vehicle for improving environmental decisionmaking, but a *penalty default* requirement that applies only if the agency is unable to identify a mitigation plan that would bring the expected adverse environmental impacts of its proposed action below the EIS-triggering threshold of significant. The EIS, in short, becomes the price the agency pays for failure to mitigate adverse environmental impacts at an early stage of project design.

This story of inadvertent policy success is not without complications, however. NEPA does not clearly require that the promised mitigation measures actually be implemented, and the courts have interpreted the subject as nonbinding.[100] Similarly, projects are not typically monitored to verify the accuracy of predictions or to adjust mitigation measures in response to unexpected results.[101] Thus, it is possible that a mitigation plan set forth in a mitigated FONSI will not be implemented at all, or if implemented, may turn out to be less effective than advertised.

The solution is straightforward: post-project monitoring to ensure that mitigation measures are effective, coupled with "adaptive mitigation" strategies to adjust mitigation measures as necessary to ensure that environmental objectives are met.[102] With these modifications, the NEPA regime could become a model penalty default regulation by imposing a burdensome—but hardly pointless—default procedure, the full environmental impact statement, while simultane-

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99. *See* Karkkainen, *supra* note 38, at 911-12.

100. *See* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989) (noting that NEPA requires "that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated," but does not require that "a complete mitigation plan be actually formulated and adopted"). CEQ guidance suggests that only binding mitigation measures can provide the basis for a mitigated FONSI, but this document has been held to be nonbinding. *See* Cabinet Mountain Wilderness v. Peterson, 685 F.2d 678, 682-83 (D.C. Cir. 1982) (characterizing CEQ guidance document as "merely an informal statement, not a regulation," and "not . . . persuasive authority"). Some courts have insisted that the mitigation plans used to justify a FONSI be enforceable, but others have found a general commitment sufficient. *See* RODGERS, *supra* note 95, at 894 ("The case law on mitigated FONSIs is thoroughly divided around the proposition of how firm and binding the mitigation must be to avoid an EIS.").

101. CEQ regulations recommend, but do not mandate, monitoring to verify implementation of mitigation measures. *See* 40 C.F.R. § 1505.2(c) (2005) ("A monitoring and enforcement program shall be adopted . . . *where applicable* for any mitigation." (emphasis added)). Each agency has discretion to determine whether a monitoring and enforcement program is applicable. *See* Karkkainen, *supra* note 38, at 936-37. Neither the statute nor regulations require monitoring of the *effectiveness* of mitigation measures.

102. *See* Karkkainen, *supra* note 38, at 938-46 (proposing post-project monitoring, adaptive mitigation, and creation of a new category of "contingent FONSI" subject to post-project verification and correction requirements).

ously inviting regulated parties (here, federal agencies) to step forward with creative solutions that avoid the penalty default by building environmentally protective design and mitigation elements into the project at the preproject planning stage.

D. Action-Forcing Penalty Defaults

1. Penalty Defaults on a Time Fuse: The "Statutory Hammer" of RCRA's Land Ban

Frustrated with the slow pace of EPA action to promulgate hazardous waste disposal standards, Congress amended the Solid Waste Disposal Act in 1984 to add the Land Disposal Restriction (LDR) Program, better known as the land ban.[103] Notwithstanding its name, the land ban is not an outright prohibition on land disposal. Instead, it provided for phased prohibitions on land disposal of specified categories of waste to take effect on specified dates unless the wastes are processed in accordance with EPA-promulgated treatment standards.[104]

The intent and effect of the land ban was to pressure the EPA to promulgate treatment standards before the specified statutory deadlines, lest the harsher default prohibitions take effect. Despite an abysmal record of inaction over the previous decade, the agency accomplished this Herculean regulatory task on time for every category of waste subject to the land ban.[105] The land ban threat also created powerful incentives for the hazardous waste disposal industry to produce and disclose the information the EPA would need to promulgate the requisite standards and not interfere with the standard-setting process.[106]

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103. Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221 (codified as amended in scattered sections of 26 U.S.C.); *see* Stewart, *supra* note 8, at 58 (attributing enactment of the RCRA land ban to congressional perceptions of "gross neglect of duty by EPA Administrator Gorsuch in failing to implement RCRA").

104. 42 U.S.C. § 6924(d) (2000); 40 C.F.R. § 268 (2005).

105. *See* Randolph L. Hill, *An Overview of RCRA: The "Mind-Numbing" Provisions of the Most Complicated Environmental Statute*, 21 ENVTL. L. REP. 10,254, 10,268 (1991) (noting the land ban provides "a strong incentive for EPA to develop and promulgate the required standards on time to avoid the serious disruptions in the economy that would result from an inability to legally dispose of any hazardous wastes" with the result that the "EPA issued all of its § 3004(m) regulations on time").

106. *See* Matthew D. Zinn, *Policing Environmental Regulatory Enforcement: Cooperation, Capture, and Citizen Suits*, 21 STAN. ENVTL. L.J. 81, 114 (2002) (stating that the land ban "made regulatory advocates of regulated firms, which hoped to forestall the land ban by encouraging EPA to adopt more palatable rules within the 32-month deadline").

The land ban is often characterized as a statutory hammer.[107] The underlying logic is that of a regulatory penalty default on a time fuse, triggered by statutory command on a date certain if the agency fails to act within the prescribed period.[108] Not all statutory hammers have the character of penalty defaults, however. For example, if the permitting agency fails to act on the permit application by a date certain, some permitting schemes automatically deem that a permit has been issued.[109] Others provide that proposed rules automatically take effect if the agency fails to promulgate final rules by a certain date.[110] In such cases, the agency may be indifferent to the outcome and may allow the permit to issue by default without expenditure of additional agency resources. For its part, the legislature may simply want to ensure that *some* rule is in effect by the end of the specified period and grant the agency discretion to allow the default rule to take effect or to devise some alternative. Plainly, however, the RCRA land ban was intentionally designed to operate as a regulatory penalty default, and all available evidence suggests that the land ban has been a highly effective use of the penalty default within the context of conventional environmental regulation.

2. *Forcing "Cooperative" Federalism: SIPs, FIPs, and the Clean Air Act*

The Clean Air Act is founded upon a federalist division on labor.[111] Under the statute, the federal EPA establishes health-based national ambient air quality standards (NAAQS) for so-called criteria pollutants.[112] The states must then develop state implementation plans (SIPs) specifying enforceable emission limitations, monitoring re-

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107. *See, e.g.*, Sidney A. Shapiro & Robert L. Glicksman, *Congress, the Supreme Court, and the Quiet Revolution in Administrative Law*, 1988 DUKE L.J. 819, 839 ("Congress has given the EPA a certain period of time to regulate; if at the end of the specified time the agency has failed to act, the 'hammer' falls, and the regulatory result set forth in the statute automatically goes into effect.").

108. *See id.*

109. *See* James T. O'Reilly, *Burying Caesar: Replacement of the Veterans Appeals Process Is Needed to Provide Fairness to Claimants*, 53 ADMIN. L. REV. 223, 249-50 & n.160 (2001) (describing permit issuance in default of agency action by a date certain and recommending a similar procedure for veterans benefits claims).

110. *See* M. Elizabeth Magill, *Congressional Control over Agency Rulemaking: The Nutrition Labeling and Education Act's Hammer Provisions*, 50 FOOD & DRUG L.J. 149, 150-51 (1995) (describing statutory hammer in which if FDA fails to promulgate final regulations, proposed regulations automatically take effect).

111. *See* John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 MD. L. REV. 1183, 1193 (1995).

112. 42 U.S.C. § 7409 (2000). The statute nominally requires two standards, a "primary" standard at a level "requisite to protect the public health" with "an adequate margin of safety," and a "secondary" standard at a level "requisite to protect the public welfare," including property damage and nonhuman environmental impacts. *Id.* § 7409(b)(1)-(2). In most cases, the secondary standard is set at the same level as the primary health-based standard. *See* 40 C.F.R. §§ 50.6-.12 (2005).

quirements and enforcement programs.[113] States have broad discretion to choose the appropriate mix of regulatory tools and to allocate the pollution reduction burden among sources, but their SIPs require approval by the federal EPA, which reviews their submissions both for completeness and for substantive adequacy in achieving national air quality standards.[114] Backstopping this "cooperative federalism" scheme, the EPA is mandated to impose a federal implementation plan (FIP) in default of an approved SIP.[115]

The background threat of direct federal regulatory intervention is a powerful inducement for states to develop their own Clean Air Act implementation plans. The vast majority of states are now operating under EPA-approved SIPs,[116] and in most cases, these have led to major reductions in air pollution[117] and substantial benefits to human health,[118] even where compliance with federal air quality standards has been less than perfect.[119]

The Clean Air Act SIP-FIP requirement clearly exhibits the architecture of a penalty default scheme: direct federal regulation kicks in if the state fails to produce an acceptable pollution control plan, and states, seeking to avoid that undesired result, voluntarily produce, secure federal approval for, and implement SIPs. Why such a scheme? The standard explanation urges that the highly technical task of setting health-based air quality standards is most efficiently assigned to a single expert (federal) agency that can exploit superior technical, administrative, and fiscal capacities, while also eliminat-

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113. 42 U.S.C. § 7410(a).

114. *Id.* § 7410(c).

115. *Id.* § 7410(c)(1).

116. *See* Dwyer, *supra* note 111, at 1198 (stating "the vast majority of states" have developed state implementation plans in lieu of federal regulation because allocation of the pollution reduction burden is "enormously important on the state and local level").

117. According to EPA, ambient levels of carbon monoxide fell 65% nationally between 1983 and 2002; ground-level ozone 29% (1980-2003); lead 94% (1983-2002); NO_2 21% (1980-2002); particulate matter (PM_{10}) 17% (1993-2002); and sulfur dioxide 54% (1983-2002), despite substantial population and GDP growth. EPA, *Air Emissions Trends Continued Progress Through 2004*, http://www.epa.gov/oar/airtrends/2005/econ-emissions.html.

118. EPA estimates that Clean Air Act regulations save approximately 205,000 lives and prevent over 22 million lost work days annually. *See* EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970 TO 1990, at 37 tbl.9, 38 tbl.10 (1997). A separate OMB analysis concluded the health benefits of EPA's major air quality programs outweighed costs by at least five-to-one. OFFICE OF INFO. & REGULATORY AFFAIRS, OFFICE OF MGMT. AND BUDGET, INFORMING REGULATORY DECISIONS: 2003 REPORT TO CONGRESS ON THE COSTS AND BENEFITS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL AND TRIBAL ENTITIES 9 tbl.3, *available at* http://www.whitehouse.gov/omb/inforeg/2003_cost-ben_final_rpt.pdf.

119. In 2003, 124 air quality control regions in 33 states were in nonattainment of air quality standards for one or more criteria pollutants. *See* EPA, CRITERIA POLLUTANT AREA SUMMARY REPORT (2005), *available at* http://www.epa.gov/oar/oaqps/greenbk/ancl2.html. Some 126 million people lived in these nonattainment areas. *Id.*

ing redundancy of regulatory effort.[120] States, however, are thought to be better situated to make the location-specific trade-offs involved in allocating the pollution control burden among various sources, decisions that implicate local patterns of land use and economic development.[121] Before federal intervention, most states failed to regulate air pollution effectively.[122] The prospect of direct federal regulation threatens loss of local control over economic development with potentially severe economic and political consequences. The choice for the states, then, is no longer whether to regulate, but rather who will do the regulating. They have a choice: either try to regulate wisely and well or entrust the task to distant federal officials who may be less sensitive to local economic and political conditions. Against that background threat, the incentive to undertake the politically difficult and administratively costly and challenging task of regulating air pollution becomes compelling.

The courts have held that this penalty default approach, which we may call "forced cooperative federalism," does not violate the anti-commandeering principle of *New York v. United States*[123] because it involves mere "inducement" and not "outright coercion."[124] As one leading commentator notes, "Formally, at least, the states always have an exit option"—they can simply decline to adopt a SIP and leave the job to the federal EPA.[125]

Some critics contend that SIPs are actually one of the weak points of the Clean Air Act. They argue that the EPA lacks the administrative, financial, and technical capacity to fill the regulatory void that would result from widespread failure by the states to adopt SIPs.[126] This factor, combined with bureaucratic concern about the political fallout that would attend overly aggressive SIP review, renders the

120. *See* Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 615 & n.165 (1996).

121. *See id*. at 614-17 (examining the argument that when solutions to problems depend on "locality-specific factors," states or local communities should decide); Dwyer, *supra* note 111, at 1198 ("[B]ecause air pollution regulation has a substantial impact on local economic development, states may believe they can achieve the federal goals more efficiently and with less disruption of local economies than bureaucrats who answer to headquarters in Washington, D.C.").

122. *See* ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY 86 (4th ed. 2003).

123. 505 U.S. 144, 161 (1992) (striking down federal statute compelling states to adopt nuclear waste regulatory programs on grounds that "Congress may not simply 'commandee[r] the legislative processes of the States' " (quoting Hodel v. Va. Surface Mining & Reclamation Ass'n., Inc., 452 U.S. 264, 288 (1981))).

124. Virginia v. Browner, 80 F.3d 869, 881 (4th Cir. 1996).

125. Dwyer, *supra* note 111, at 1193.

126. *See, e.g*., Thomas Julian Page, *The Limits of Devolution in Environmental Law: A Comparison of Regional and Statewide Ambient Air Quality Planning in the United States and Germany*, 1997 U. CHI. LEGAL F. 527, 533; G. Nelson Smith & Evelio M. Grillo, *Let's Clear the Air Once and for All: Municipal Liability for Failing to Comply with Section 110 of the Clean Air Act*, 44 CATH. U. L. REV. 1103, 1130 (1995).

FIP threat weaker in practice than it appears on paper.[127] In addition, the EPA's review of SIPs rests mainly on information supplied by the states themselves, which may reflect incomplete pollution source inventories, uncertain air quality modeling, and inadequate monitoring. Consequently, states may have both the opportunity and motive to game the SIP review process by producing rosier air quality forecasts than are borne out in practice.[128]

Notwithstanding these criticisms, the Clean Air Act's SIP-FIP scheme is at least a moderately successful application of the regulatory penalty default device within the confines of conventional environmental regulation. It has induced the vast majority of states to undertake responsibility for air pollution control within their boundaries. Despite the obvious political and financial costs, most states have committed substantial legal, technical, and administrative resources to the task—far greater commitments than many would have undertaken absent the FIP incentive.

A notable feature of the SIP-FIP scheme is that it is highly structured, setting out clear, objective criteria for determining what triggers the default rule and when it is avoided. The state's proposed SIP must be both "complete" and substantively adequate to achieve numerically specific air quality targets for all pollutants subject to NAAQS and in every air quality control region in the state.[129]

Like the RCRA land ban, the SIP-FIP scheme operates on a short time fuse: states are granted a statutory grace period within which to develop, submit, and win EPA approval for their SIPs, and the EPA may not impose a FIP until that period expires.[130] The presumption here, as with the land ban, is that the penalty default is only a backup, taking effect only if the party fails to undertake the regulatory effort that would allow it to avoid the default.

Note, however, that the FIP mechanism differs from the land ban in at least one crucial respect: the FIP is not expressly designed to produce a draconian regulatory consequence. The EPA has broad discretionary authority to include whatever control measures the agency deems necessary in its FIP, and in principle these need not be

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127. *See* Dwyer, *supra* note 111, at 1201-06.

128. *See* Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons from the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203, 243-45 (1999).

129. 42 U.S.C. § 7410(a)(1) (2000) (requiring SIP to achieve NAAQS in each quality control region in the state); *id.* § 7410(k) (requiring the EPA to deterimine whether SIP submissions are complete and substantially adequate).

130. States have three years after a NAAQS is promulgated to submit a SIP. *Id.* § 7410(a)(1). EPA then has twelve months to approve or disapprove, and twenty-four months to promulgate a FIP. *Id.* § 7410(k)(2).

more onerous than those in a well-designed SIP.[131] As in the Proposition 65 case, then, the operative penalty in the FIP case is not the certainty of harsh regulatory outcomes, but rather uncertainty—here, the political and economic uncertainty associated with loss of local control over regulatory matters of great local significance.

IV. STRUCTURING "NEW GOVERNANCE" COLLABORATION

The foregoing examples—Proposition 65, the Endangered Species Act, NEPA, the RCRA land ban, and the Clean Air Act SIP-FIP provisions—illustrate extant uses of penalty default mechanisms in conventional environmental regulation that have had varying degrees of success. These range from the highly effective (Proposition 65 and the land ban), to the moderately successful (FIPs in the Clean Air Act), to intriguing but not yet fully proven possibilities of turning conventional regulation toward experimentalist ends (HCPs and mitigated FONSIs).

What has any of this to do with new governance? Properly structured, penalty default rules might be used to induce meaningful participation in locally devolved, place-based, collaborative, public-private hybrid, new governance institutions, aimed at integrated, adaptive, experimentalist management of watersheds and other institutions.

Consider the problem of integrated watershed management. Although nationally uniform, technology-based regulations have dramatically curbed pollution from large industrial and municipal wastewater "point" sources, the Clean Water Act (CWA) does little to address polluted run-off from diffuse "nonpoint sources" like farms and city streets.[132] As a result, water quality remains poor in many lakes and streams.[133] In addition, despite the statute's stated goals to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters"[134] and to "conserve such waters for the protection and propagation of fish and aquatic life,"[135] its narrow operational focus on point-source pollution control leaves broader questions of aquatic ecosystem health unattended—leading to the fragmentation and degradation of wetlands and other important aquatic and riparian habitats, declining populations of aquatic species, pro-

131. *Id.* § 7410(c)(1) (authorizing the EPA Administrator to promulgate a federal implementation plan if a state fails to submit a SIP or submits an inadequate SIP and fails to correct the deficiency).

132. *See* Wendy E. Wagner, *Restoring Polluted Waters with Public Values*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 429, 430-31 (2000).

133. Robert W. Adler, *Addressing Barriers to Watershed Protection,* 25 ENVTL. L. 973, 990 (1995) ("Polluted runoff is the largest source of water pollution in the United States and a major source of physical and hydrological impairment and habitat loss."). *See* Wagner, *supra* note 132, at 430-31.

134. 33 U.S.C. § 1251(a) (2000).

135. *Id*. § 1252(a).

liferation of invasive species, and related ills.[136] These are interconnected problems. Poor water quality degrades aquatic habitats and contributes to declines in species populations. The loss of riparian buffers, filtering wetlands, and filter-feeding shellfish compounds water quality problems. The precise mix and severity of these problems vary from one watershed to the next.

Scientists, natural resource managers, and environmental policy experts have long urged a reorientation of law and public policy toward integrated management of this entire suite of problems at watershed scales.[137] Yet, despite broad support for this policy transformation from the highest policy circles to local grassroots levels, technology-based point-source controls retain their central role in U.S. regulatory policy, with integrated watershed management relegated to the periphery.

A newly revived total maximum daily load (TMDL) program in the 1990s, reinforced by a new and far-reaching TMDL rule promulgated late in the Clinton Administration, brought renewed hope that states might finally be compelled to address nonpoint-source pollution and integrated watershed management.[138]

The CWA requires states to identify "impaired" waters not meeting water quality standards and to establish TMDLs—binding caps on total pollutant loadings, translatable into individual allocations for each pollution source—for pollutants entering those waters.[139] TMDLs thus threaten to impose stricter limits on pollutant discharges into impaired waters than are ordinarily required under the first-tier CWA permit system. If a state fails to produce an adequate

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136. *See* COMM. ON RESTORATION OF AQUATIC ECOSYSTEMS, NAT'L RESEARCH COUNCIL, RESTORATION OF AQUATIC ECOSYSTEMS: SCIENCE, TECHNOLOGY, AND PUBLIC POLICY 277-80 (1992).

137. *See id*. at 342 (recommending restoration of aquatic ecosystems through "management of all significant ecological elements be coordinated in a comprehensive approach . . . on a watershed or other landscape scale"); Adler, *supra* note 133, at 977 (noting the growing interest in watershed management due to "the futility of trying to solve complex, interrelated water problems through individual decisions on thousands of discrete but connected activities"). *But cf*. Oliver A. Houck, *TMDLs: The Resurrection of Water Quality Standards-Based Regulation Under the Clean Water Act*, 27 ENVTL. L. REP. 10,329, 10,331-43 (1997) (arguing integrated watershed management is impossibly ambitious given its complexity and urging reliance on technology-based command-and-control regulation which has achieved significant water quality improvements).

138. As one EPA official explained, TMDLs "if done properly, and properly conceived, can inform, empower, and energize citizens, local communities and States to improve water quality at the local watershed level. The basic information derived from a sound TMDL could liberate the creative energies of those most likely to benefit from reduced pollutant loadings to their own waters in their own neighborhood." *The Future of the TMDL Program: How to Make TMDLs Effective Tools for Improving Water Quality: Hearing Before the H. Subcomm. on Water Resources & Environment of the H. Comm. on Transportation and Infrastructure*, 107th Cong. 4 (2001) (statement of Tracy Mehan, Assistant Administrator for Water, EPA).

139. 33 U.S.C. § 1313(d)(1)(A), (C) (2000).

TMDL, the obligation shifts to the EPA to produce a federal TMDL.[140] This forced cooperative federalism structure closely resembles the Clean Air Act's SIP-FIP scheme.[141]

Because the statute lacks firm deadlines for submission and approval of impaired waters lists and TMDLs, however, the EPA and states largely ignored section 303(d) until the late 1980s.[142] At that point, a rash of citizen suits successfully advanced the theory that persistent failure to submit the required lists amounted to "constructive submission" of inadequate lists, obligating the EPA to impose TMDLs where states had failed to do so.[143]

This litigation blitz forced the EPA to reexamine section 303(d). Reversing course, the Clinton Administration abandoned its defensive litigation posture in favor of an aggressive policy offensive, promulgating a new rule reinterpreting the section 303(d) TMDL requirement to promote integrated, watershed-based planning and to require states to include enforceable controls on nonpoint—source and point—source pollution in their TMDLs.[144] The rule—later suspended and subsequently withdrawn by the Bush Administration[145]—would also require states to establish continuous water quality monitoring and modeling programs and to provide the basis for subsequent adjustments to their TMDLs if the initial measures did not improve water quality to acceptable levels.

It is apparent that the Clean Water Act's TMDL requirements incorporate a federalism-based penalty default scheme resembling the Clean Air Act's SIP-FIP provisions. States can be expected to develop TMDLs because they fear the harsh consequences for land use and economic development that might ensue if they leave the job to the

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140. *Id*. § 1313(d)(2).

141. *See* Sarah Birkeland, *EPA's TMDL Program*, 28 ECOLOGY L.Q. 297, 318-19 (2001) ("Both programs confer substantial responsibility on states to devise and implement pollution controls according to local economic and environmental conditions, within parameters set by applicable air or water quality standards. . . . [The] EPA may exercise substitution authority where a state fails to meet its statutory and regulatory obligations . . . .").

142. *See* Robert L. Glicksman, *The Value of Agency-Forcing Citizen Suits to Enforce Nondiscretionary Duties*, 10 WIDENER L. REV. 353, 373-74 (2004) (attributing EPA's inaction to a desire to adopt technology-based regulation first, and states' inaction to a lack of pressure from EPA).

143. *See id*. at 375-79. Initial lawsuits failed, as courts construed the absence of statutory deadlines to confer discretion on EPA to determine its own TMDL timetable. The legal breakthrough came when the Seventh Circuit held that "if a state fails over a long period of time to submit proposed TMDL's, this prolonged failure may amount to the 'constructive submission' by that state of no TMDL's," obligating EPA to act. Scott v. City of Hammond, 741 F.2d 992, 996-97 (7th Cir. 1984).

144. *See* 65 Fed. Reg. 43,586 (July 13, 2000) (stating the final EPA rule revising requirements for states to establish and enforce TMDLs of pollution from point and nonpoint sources for waterways with impaired water quality).

145. *See* 66 Fed. Reg. 53,044 (Oct. 18, 2001) (postponing effective date of July 13, 2000 TMDL rule to April 30, 2003); 68 Fed. Reg. 13,608 (Mar. 19, 2003) (withdrawing July, 13 2000 TMDL rule).

federal EPA. In some cases, the TMDL program appears to have had just that effect. For example, New York and Connecticut jointly developed and won EPA approval for a TMDL for dissolved oxygen in Long Island Sound incorporating a series of phased reductions in nitrogen loadings from various categories of point and nonpoint sources in both states.[146]

But TMDLs also embrace a second, subtler, and ultimately more interesting penalty default mechanism. Developing and implementing TMDLs is a costly and technically demanding task, requiring comprehensive water quality and discharge data, detailed scientific information, and sophisticated hydrological and pollutant dispersal modeling capabilities that severely test the fiscal, technical, and administrative capacities of most states.[147] Some argue that the financial and technical resources required to meet the demands of the TMDL process could effectively bankrupt state environmental protection efforts, thus undermining other, potentially more cost-effective water quality and aquatic ecosystem management strategies. This has led many states to oppose the Clinton-era EPA's aggressive effort to expand the TMDL program, or at a minimum to argue for a more flexible approach.[148]

But the costly, straightjacketing character of the formal TMDL process has also triggered a new round of aggressive, proactive efforts on the part of some states to improve water quality in waters currently on their impaired waters lists, to preempt the need to produce TMDLs at all. For example, the Chesapeake Bay Program—a basin-wide collaborative effort by the EPA, the states of Maryland, Virginia, and Pennsylvania, local governments, NGOs, and leading private sector actors to restore aquatic ecosystem health in the nation's largest estuary, widely regarded as the most sophisticated and institutionally well-articulated of the new governance watershed management initiatives—has undertaken, with the EPA's approval, a self-designed, collaborative, and experimental parallel TMDL process to assign pollutant loads basin-wide and on a tributary-specific basis, with the goal to improve water quality to levels that would allow participating states to remove Bay waters and tributaries from their impaired waters lists by 2010, a year before TMDLs would be

146. *See* Press Release, Long Island Sound Office of the Envtl. Protection Agency, EPA Takes Action to Control Nitrogen Pollution in Long Island Sound (Apr. 5, 2001), http://www.longislandsoundstudy.net/press/TMDL.rls.PDF.

147. *See* Oliver A. Houck, *The Clean Water Act TMDL Program V: Aftershock and Prelude*, 32 ENVTL. L. REP. 10,385, 10,389-96 (2002).

148. *See* Letter from Governors Kenny C. Guinn & Thomas J. Vilsack, Nat'l Governors' Ass'n to President Clinton (July 6, 2000) (expressing governors' concerns about fiscal impact estimated at $1-2 billion annually and perceived "inflexibility" and onerous procedural requirements of July 2000 TMDL rule), *available at* http://www.nasda.org/joint/00June-TMDL-President.htm.

required. The Chesapeake Bay Program acknowledges that achieving these ambitious, tributary-specific pollutant load reduction goals will require an integrated effort, including aggressive new land use policies, agricultural nutrient management planning, restoration of wetlands and riparian forest buffers, integration of groundwater and surface water management, and restoration of filter-feeding oyster populations. By obviating the need for a formal TMDL through proactive watershed management, however, Chesapeake Bay Program partners argued they would protect flexibility for ongoing experimentation and integrated approaches to ecosystem restoration and management.[149] The TMDL penalty default threat thus appeared to lend discipline and urgency to a collaborative new governance effort in the basin that has tended to advance by fits and starts.

These creative efforts may be undercut by the Bush Administration's withdrawal of the Clinton-era TMDL rule and restoration of the *status quo ante* of an earlier TMDL rule widely viewed as ineffective. The EPA insists that it is continuing to develop new TMDL revisions that will improve upon both the status quo and the Clinton-era rule,[150] but the current Administration's broad retreat from longstanding environmental protection objectives suggests little cause for optimism.

For purposes of this Article, however, the status of the TMDL rule per se is not as important as the underlying regulatory mechanism this example illustrates. Suppose the case for multiparty, collaborative, integrated, experimentalist approaches to watershed management is as strong as new governance advocates, leading scientists, and natural resource managers claim. Skeptics, however, contend that good intentions alone are insufficient; sometimes stronger medicine is needed to induce parties to undertake the burdens of environmental protection and to refrain from potentially counterproductive strategic behavior.

Consider, then, what might be gained by adopting a penalty default rule, structured along the lines of the Clinton-era TMDL rule to impose onerous procedural and substantive requirements on a time-delayed basis, to be triggered if flexible experimentation fails to achieve satisfactory objective results within the specified period. Such an approach could act as a powerful spur to action, focusing the attention of local actors squarely on objectively measurable environmental performance targets and creating a sense of urgency in the

149. *See Chesapeake Bay Water Quality Protection and Restoration: An Innovative Approach*, BACKGROUNDER, Apr. 14, 2003, *available at* http://www.chesapeakebay.net/pubs/waterqualitycriteria/doc_wq_backgrounders_081601.pdf.

150. *See* Press Release, EPA, Final Withdrawal of 2000 TMDL Rules Takes Effect; Existing Rules Make Progress Cleaning Up Impaired Wates [sic] (Mar. 13, 2003), http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/601385d1f25da12485256ce800824d38?OpenDocument.

task of identifying and implementing effective, locally tailored strategies to achieve those performance targets, while still allowing broad-ranging discretion for local institutional and policy experimentation. A properly designed penalty default approach, in short, appears capable of imposing discipline, accountability, and transparency from above on locally flavored, bottom-up, flexible new governance experimentation from below.

V. DESTABILIZATION RIGHTS AS PENALTY DEFAULTS

A. Administrative Destabilization Rights: Disentrenchment from Above

Chuck Sabel and Bill Simon recently advanced a provocative theory of destabilization rights, understood as "claims to unsettle and open up public institutions that have chronically failed to meet their obligations and that are substantially insulated from the normal processes of political accountability."[151] On Sabel and Simon's view, much recent public law litigation—typically, litigation to vindicate constitutional or statutory civil rights or civil liberties allegedly violated in the course of operations of important public institutions like schools, prisons, police forces, or various arms of the welfare state—seeks as a remedy the destabilization and disentrenchment of the failing institutions. The aim and effect of these suits, they argue, is to "widen the possibilities of experimentalist collaboration"[152] in creating far-reaching institutional restructuring, while avoiding the pitfalls of a detailed, prescriptive, judicially imposed remedy. This reorientation in public law litigation, they argue, is part of a broader trend away from command-and-control solutions and toward experimentalist new governance. Surveying the cases, they conclude that a prima facie case for destabilization consists of two elements: first, a clear and persistent violation of standards, and second, "political blockage,"[153] that is, a defect in the conventional mechanisms of political accountability that systematically blocks movement toward a resolution of the underlying problem.

Sabel and Simon identify several broad classes of public law litigation where the destabilization rights model has taken hold, including school equity and adequacy, mental health, prisons, police abuse, and housing.[154] All the examples they cite revolve around federal and state constitutional and statutory civil rights provisions.

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151. Sabel & Simon, *supra* note 17, at 1020.

152. *Id*.

153. *Id*. at 1062.

154. *Id*. at 1022-28 (school equity and adequacy); *id*. at 1029-34 (mental health); *id*. at 1034-43 (prisons); *id*. at 1043-47 (police abuse); *id*. at 1047-52 (housing).

The destabilization rights construct also has applications beyond civil rights litigation, however. In particular, a form of *administrative* destabilization right may prove useful as a disciplining mechanism in the context of centrally coordinated networks of locally devolved, collaborative new governance institutions—the sort of two-tiered structure of accountability contemplated by advocates of the brand of new governance-styled democratic experimentalism.

In their seminal work *A Constitution of Democratic Experimentalism*, Chuck Sabel and Mike Dorf argued that more was required of an effective new governance regime than simple devolution of authority to local, multiparty collaborative institutions.[155] Central to their experimentalist vision is the notion that local experiments should run in parallel, allowing tailoring to unique local circumstances while also maximizing opportunities for local experimentation, comparative benchmarking, and horizontal diffusion of successful innovations.[156] A critical element in this new regulatory architecture is a central coordinating and monitoring body—the "new center" as democratic experimentalists style it, distinguishing its role from the traditional, hierarchical, rule-imposing regulatory center of command-and-control style regulation.[157] The function of the new center is to collect and pool information from varied local experiments, distill and diffuse the lessons learned, formulate (in consultation with local units) provisional minimum performance standards, and intervene when local experiments go awry.[158]

In a subsequent work, *Beyond Backyard Environmentalism*, Sabel and his colleagues argued that a similar structure should form the backbone of an experimentalist environmental policy, again contending that simple devolution of authority to local collaborative watershed management initiatives or to regional-scale habitat conservation planning efforts was not an adequate response to the deficiencies of conventional command-style regulation. Central coordination and monitoring, they argued, were essential to ensure accountability, transparency, diffusion of successful experimental models, and achievement of minimum performance objectives. More generally, managing complex ecological problems intelligently over the long run would require the development of mechanisms for rigorous, system-wide institutional

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155. *See* Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267 (1998).

156. *Id.* at 287-88 (describing a model of public sector decisionmaking based on "linked systems of local and inter-local or federal pooling of information," applying principles of "benchmarking, simultaneous engineering, and error correction" so that "actors . . . learn from one another's successes and failures").

157. Charles F. Sabel et al., *Beyond Backyard Environmentalism*, *in* BEYOND BACKYARD ENVIRONMENTALISM 3, 14-15 (Joshua Cohen & Joel Rogers eds., 2000) (describing the role of the central monitoring body in relation to semiautonomous local units).

158. *Id.*

learning, which in turn would depend on effective central coordination of the disparate parts of the new regulatory system.[159]

Reactions to these proposals have ranged from enthusiasm,[160] to quizzical interest,[161] to deafening silence, to noisy rejections[162] and even some surprisingly vituperative *ad hominem* attacks.[163] A common theme among the critics and the less-than-fully-persuaded is doubt concerning the coordinating and disciplining role of the new center. How, the skeptics ask, might the new regulatory center impose discipline and minimum standards on the locally devolved parts, without falling back on the same old rigid, hierarchical, top-down, command-style rulemaking and straightjacketing procedural formalization that this new regulatory system sought so assiduously to avoid? Aren't the democratic experimentalists trying to have it both ways, they ask: to "have our central government and reject it too"?[164]

The answer, of course, is yes. The democratic experimentalist architecture seeks to retain an important role for the regulatory center, but to redefine that role by replacing a highly prescriptive, rule-bound, top-down management approach with one that devolves most operational authority to decentralized units but insists on accountability for performance and retains the right to intervene in local government in the event of palpable failure.

That architecture is not difficult to imagine in other organizational settings. A business corporation, for example, might be so centralized that lower-level operating units simply carry out a series of detailed commands from corporate headquarters. Alternatively, the corporation might adopt a decentralized structure in which individual operating units have greater autonomy to set their own goals, targets, work

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159. *Id.* at 8-9.

160. *See, e.g.*, Lobel, *supra* note 16, at 424-32 (describing the emergence of "new governance" approaches to environmental regulation); *id.* at 469 (optimistically concluding that "advances in legal theory are increasingly pointing to the possibility of renewal through governance").

161. *See, e.g.*, Farber, *supra* note 12; William E. Scheuerman, *Democratic Experimentalism or Capitalist Synchronization? Critical Reflections on Directly-Deliberative Polyarchy*, 17 CAN. J.L. & JURIS. 101 (2004).

162. *See, e.g.*, Oliver A. Houck, *On the Law of Biodiversity and Ecosystem Management*, 81 MINN. L. REV. 869, 974-75 (1997) (dismissing ecosystem management as "politics with a strong flavor of law-avoidance"); Sheila Foster, *Environmental Justice in an Era of Devolved Collaboration*, 26 HARV. ENVTL. L. REV. 459, 498 (2002) (arguing that "devolved collaboration" is "indifferent to the ecological, social, and political conditions necessary to realize its own promise" and "may in fact further solidify . . . procedural and distributional injustice").

163. *See, e.g.*, Theodore J. Lowi, *Frontyard Propaganda*, *in* BEYOND BACKYARD ENVIRONMENTALISM, *supra* note 157, at 70, 71, 75 (dismissing *Beyond Backyard Environmentalism* as "propaganda" for "the decadent phase of classical liberalism," revealing the "insidious neoclassical liberal (Republican party) influence on the thinking of intelligent policy analysts and advocates").

164. *Id.* at 71.

rules, production plans, and so on, but nonetheless remain accountable to the corporate center for financial performance, product quality, environmental outcomes, and other firm-wide performance objectives.[165] Persistent failure on the part of one or more operating units to achieve satisfactory results along these measurable dimensions of performance would invite an intervention from headquarters—for example, reassigning key managers or re-examining goals, targets, and operating assumptions. We are not accustomed to government operating this way, but at bottom, the concept of coordinated decentralization is not terribly difficult to understand.

My modest ambition here is to adapt the Sabel-Simon notion of destabilization rights to elaborate on the redefined role of the new center in experimentalist regulation. The idea is that while refraining from prescribing ex cathedra and in excruciating detail the procedures, standards, goals, objectives, performance targets, operating principles, institutional forms, and mandatory rules by which local units must operate, the new center might retain the ultimate whip hand through an administrative destabilization right over local arrangements. That is, the center would retain the right to intervene, unsettle, and disentrench local efforts that were deemed to be failing because the local efforts were chronically underperforming relative to expectations; or, because they evidenced indications of regulatory capture, distortions arising from strategic bargaining by one or more participants, or any of the assorted procedural defects that the critics claim will inevitably infect devolved, collaborative deliberation. Notice that these two elements—chronic underperformance relative to established norms coupled with political blockage—correspond to Sabel and Simon's prima facie case for a destabilization remedy in the public law litigation context.

The only difference is that the destabilization right I propose here is an administrative control mechanism, not a judicial remedy for a constitutional or statutory violation. But the two are certainly not incompatible. In principle at least, we might authorize both external checks on the entire system through the judicial process and internal checks on the performance of local units through central administrative oversight and a right of destabilizing administrative intervention. In either case, the destabilization right concept captures the sort of cure that experimentalists would think appropriate in cases of chronic underperformance and process failure: disentrenchment of the failing institutional arrangements coupled with a normative critique, creating an opening for a fresh start under new arrangements

165. *See* William H. Simon, *Toyota Jurisprudence: Legal Theory and Rolling Rule Regimes* (Columbia Pub. Law & Legal Theory Working Papers Group, Paper No. 04-79, 2004), *available at* http://lsr.nellco.org/cgi/viewcontent.cgi?article=1004&context=columbia/pllt.

that are not prescribed in detail from above, but instead are fashioned by the participants themselves in response to the critique. In such cases, the destabilization remedy can have powerful and far-reaching effects, and its availability can serve as a useful disciplining influence on participants in locally devolved processes.

This conception, I submit, should go some way toward clarifying the relationship between the new center and the local parts in democratic experimentalist theory.

B. Citizen Suits: Disentrenchment from Below

Most U.S. environmental statutes authorize private citizens to sue to enforce the law against either private parties who breach regulatory requirements or against government officials who fail to perform mandatory duties.[166] Most citizen suits are of the first type: for example, a citizen—or an NGO on behalf of members directly and concretely harmed by the legal infraction—might sue a polluter for violating an effluent limitation standard under the Clean Water Act.[167] Typically, these suits aim to secure strict enforcement of conventional regulatory rules and standards, often in circumstances where the government enforcement agency has overlooked the violation, whether inadvertently or as a matter of policy or enforcement priorities.[168]

Citizen suits compelling agencies to perform nondiscretionary duties are the more interesting category for our purposes. Many suits of this type, and typically the easiest to win, are "deadline suits" to compel the agency to promulgate a rule, issue a report, or take some other mandatory action by a certain date required by the statute.[169]

While some suits to enforce nondiscretionary duties may amount to little more than procedural nitpicking,[170] others have had far-

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166. The Clean Water Act citizen suit provision is typical:

> [A]ny citizen may commence a civil action on his own behalf—
>
> (1) against any person . . . alleged to be in violation of (A) an effluent standard or limitation under this Act or (B) an order issued by the Administrator or a State with respect to such a standard or limitation, or
>
> (2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary . . . .

33 U.S.C. § 1365(a) (2000).

167. *See* Thompson, *supra* note 26, at 204 (stating that "the vast majority of citizen suits to date have been brought" to enforce permit requirements under the Clean Water Act "where the filing by permittees of periodic discharge reports has made citizen suits easier to pursue").

168. *See id.* at 190-92 (stating that public enforcement of environmental laws is incomplete due to undetected violations, deferential enforcement policies, and inadequate agency staffing and funding).

169. *See* Glicksman, *supra* note 142, at 356.

170. For example, critics charge that suits to compel the Fish & Wildlife Service (FWS) to designate critical habitat and produce recovery plans for endangered wildlife species force expenditure of scarce agency resources on procedurally mandatory but legally ineffec-

reaching effects. Citizen suits have compelled agencies to launch entire new regulatory programs like the prevention of significant deterioration (PSD) regulations under the Clean Air Act[171] or the ambitious Clinton-era total maximum daily load (TMDL) rule to address water pollution exceeding established water quality standards.[172] Endangered Species Act lawsuits have been especially potent, occasioning large-scale reconfigurations of federal land management policies, such as the Clinton-era Northwest Forest Plan—an ambitious ecosystem management, monitoring, and restoration plan for federally owned forests in the Pacific Northwest devised in response to a series of ESA citizen suits to protect the endangered northern spotted owl and various salmon species, incorporating elements of collaborative watershed-based planning and adaptive management.[173] ESA citizen suits were also important factors motivating the launch of the Everglades restoration project.[174]

Occasionally, citizen suits have been used to thwart novel collaborative governance regimes. For example, in *Oregon Natural Resources Council v. Daley*,[175] environmentalists successfully invoked the citizen suit provision of the Endangered Species Act to undercut the Oregon Coastal Salmon Restoration Initiative, a collaborative, adaptive ecosystem management governance effort undertaken in hopes of averting Endangered Species Act listings of several salmon species.[176] The court held that the National Marine Fisheries Service could not rely on "future efforts" and "voluntary measures" in the

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tive designations, diverting effort from other tasks that have far reaching legal consequences, such as additional endangered species listings. *See* Federico Cheever, *Recovery Planning, the Courts and the Endangered Species Act*, 16 NAT. RESOURCES & ENV'T 106, 108-09 (2001) (stating that courts have held recovery plans can be reviewed for substantive adequacy but their provisions are unenforceable); Daniel J. Rohlf, *Section 4 of the Endangered Species Act: Top Ten Issues for the* Next *Thirty Years*, 34 ENVTL. L. 483, 526 (2004) (quoting an Assistant Secretary of the Interior who warns that the "flood of litigation over critical habitat designation is preventing the Fish and Wildlife Service from protecting new species and reducing its ability to recover plants and animals already listed").

171. *See* Glicksman, *supra* note 142, at 358-61 (describing the history of the PSD program).

172. *See supra* notes 138-50 and accompanying text.

173. *See* Michael C. Blumm, *The Amphibious Salmon: The Evolution of Ecosystem Management in the Columbia River Basin*, 24 ECOLOGY L.Q. 653, 663-74 (1997) (recounting the history of ESA citizen suits in the Pacific Northwest and the development of the Northwest Forest Plan as an administrative effort to break the policy gridlock through a collaborative, multiparty ecosystem management initiative).

174. *See* John J. Fumero & Keith W. Rizzardi, *The Everglades Ecosystem: From Engineering to Litigation to Consensus-Based Restoration*, 13 ST. THOMAS L. REV. 667 (2001) (describing history of the citizen suit and intergovernmental litigation in the Florida Everglades leading to destabilization of longstanding water management arrangements and initiation of collaborative ecosystem restoration initiatives).

175. 6 F. Supp. 2d 1139 (1998).

176. *See* A. Dan Tarlock, *The Future of Environmental "Rule of Law" Litigation*, 17 PACE ENVTL. L. REV. 237, 267-68 (2000) (describing the *Daley* case as "a hard one" that can be interpreted either as a "laudable effort by a court to expose a pseudo-protection plan" or as a "premature intervention in a risky but promising management strategy").

Restoration Initiative in making its listing determinations.[177] Since the parties had agreed to collaborate in large measure to avoid the straightjacketing regulatory restrictions that would accompany ESA listing—that is, to avoid the regulatory penalty default of ESA regulation—the court's ruling was a major setback that, if widely followed, may bode ill for future efforts to use the penalty default threats of ESA listing to motivate voluntary participation in new governance undertakings.

Daley should not be taken as the archetypal case, however. Cases in which citizen-initiated litigation has been used to destabilize and disentrench established institutional practices and modes of governance that are palpably failing to provide integrated, place-sensitive, and adaptive environmental and natural resource management appear to be widespread. A particularly instructive example is the litigation surrounding Mono Lake, a saline terminal lake in California's Sierra Nevada whose freshwater tributaries were being diverted by the Los Angeles Department of Water and Power (DWP) under appropriative water rights granted by the state Water Resources Board, leading (predictably) to declining lake levels, increased salinity, and associated ecological harms.[178] The National Audubon Society sued to force administrative reconsideration of these water diversions. The California Supreme Court held that in initially awarding and continuing to recognize Los Angeles's water rights, the state had failed to discharge its ongoing "public trust" obligation to manage Mono Lake—a navigable water body—in a manner consistent with protection of ecological, recreational, and aesthetic values.[179] Recognizing that a once-off reassignment of water rights would not be sufficient to reconcile the ongoing conflict between Los Angeles's legitimate water supply needs and the ecological demands of Mono Lake, the court remanded the matter to the Water Board. What eventually emerged out of follow-up litigation, administrative proceedings, and complex negotiations among the DWP, city officials, environmentalists, state agencies, and others was an ongoing, collaborative conservation effort that seeks to couple demand-side water conservation

177. *See Daley*, 6 F. Supp. 2d at 1159 ("However laudable Oregon's efforts to employ new management techniques to try to restore the [salmon], such future, voluntary conservation efforts cannot be a legal substitute for listing.").

178. *See* Craig Anthony (Tony) Arnold, *Working Out an Environmental Ethic: Anniversary Lessons from Mono Lake*, 4 WYO. L. REV. 1, 13-15 (2004).

179. Nat'l Audubon Soc'y v. Superior Court of Alpine County, 658 P.2d 709, 724-26 (Cal. 1983). The Mono Lake litigation was not based on a statutory citizen suit provision. The case was decided under the common law public trust doctrine, but the parallels between this doctrine and statutory citizen suit provisions have been widely noted. *See, e.g.*, Reuel E. Schiller, *Enlarging the Administrative Polity: Administrative Law and the Changing Definition of Pluralism, 1945-1970*, 53 VAND. L. REV. 1389, 1448-49 (2000) (tracing the development of environmental citizen suit provisions to Joseph Sax's earlier work on the public trust doctrine).

initiatives in Los Angeles with continuous monitoring and adaptive management of Mono Lake and its tributaries, thus allowing freshwater diversions to continue at adjustable levels calibrated both to the ecological needs of the lake and to fluctuations in urban water demand. The resulting new governance arrangement—a multiparty, intergovernmental, interagency, public-private collaboration—has been hailed as a model for ecologically sensitive water management throughout the arid West[180] where water is the critical limiting resource for environmental protection, economic development, and population growth alike.[181]

Similarly, citizen suits under the Endangered Species Act played a major role in disentrenching failing natural resource management institutions in the Columbia River of the Pacific Northwest, opening space for collaborative, adaptive new governance approaches.[182]

In still other cases, such as the San Francisco Bay-Delta, mere anticipation of the consequences of potentially destabilizing Endangered Species Act lawsuits has operated to disentrench established, and failing, institutional patterns in favor of new governance solutions.[183] This development effectively transforms an unexercised destabilization right into a distinctive kind of regulatory penalty default, providing the necessary incentive to induce parties to undertake voluntarily to reconfigure institutional arrangements and to initiate ambitious collaborative self-regulatory measures to avoid (or preempt) the much harsher consequences that might follow from citizen-initiated ESA litigation.

Beyond these documented uses of citizen suits to initiate new governance collaborations, anecdotal evidence suggests that retention of the background threat of destabilizing citizen suits can operate as a powerful disciplinary and accountability mechanism, keeping collaborative new governance institutions focused and on track. In the Florida Everglades restoration initiative, for example, the lead federal and state agencies know that failure to deliver on promised improvements in water quality and sheet flow to the critically imperiled

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180. *See* Arnold, *supra* note 178, at 48-55.

181. *See* Holly Doremus, *Water, Population Growth, and Endangered Species in the West*, 72 U. COLO. L. REV. 361, 361 (2001) ("The link between three highly controversial issues in today's American West, water, urban population growth, and the protection of endangered species, has become impossible to ignore. Water, the essential element whose limited availability defines the West, is the fulcrum of this relationship." (footnotes omitted)).

182. *See* John M. Volkman, *The Endangered Species Act and the Ecosystem of Columbia River Salmon*, 4 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 51, 60-61 (1997).

183. *See, e.g.*, Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341, 356-63 (1996) (describing how the collaborative and adaptive CALFED Bay-Delta Program, aimed at coordinating the operations of California's most important water delivery system with downstream water quality, instream flow, and habitat restoration needs, was launched in the shadow of possible Endangered Species Act and Clean Water Act litigation).

south Everglades will almost inevitably be met with citizen suits under the Clean Water Act, the Endangered Species Act, or both, creating a strong disincentive to backsliding, gamesmanship, or inattentiveness to the task.

These examples suggest that future generations of citizen suit provisions could be structured with bottom-up destabilization, disentrenchment, and penalty default effects in mind, allowing citizen suits to be adapted to play a constructive role in the emergence and continued operation of new governance regimes, rather than continuing to primarily serve as the handmaiden of conventional command-and-control regulation, a role for which they are often criticized.[184]

VI. CONCLUSION

This Article has argued that regulatory penalty default rules can play a useful and possibly central role in motivating, structuring, disciplining, and holding accountable environmental new governance institutions in the United States. Regulatory penalty default rules—harsh backstopping rules that form the default position against which regulated parties may bargain for alternative, mutually advantageous solutions—already play a significant, if masked, role in various areas of conventional environmental regulation. Given their information- and action-forcing character, regulatory penalty default rules appear suitable for adaptation to a new role—creating incentives for parties to enter into collaborative new governance arrangements in good faith pursuit of environmentally beneficial outcomes to avoid the harsher consequences that might follow from failure to do so.

This Article has also argued that destabilization rights—a concept borrowed from Chuck Sabel and Bill Simon's work on the new public law litigation—can also be adapted to new governance modes of environmental regulation. First, destabilization rights might operate as a top-down administrative check on local collaborative processes, allowing a central regulatory body to intervene to disentrench local institutional arrangements that are demonstrably failing to achieve stated performance objectives and appear to be suffering process failures. Second, destabilization rights might operate through citizen suit provisions, allowing bottom-up, citizen-initiated disentrenching interventions that destabilize demonstrably failing institutional configurations and thereby create space for consideration of novel alternatives. Finally, the mere threat of destabilizing citizen suits can operate as a distinctive kind of penalty default, inducing parties to undertake collaborative new governance initiatives and to keep those

184. *See, e.g.*, Cass R. Sunstein, *What's Standing After* Lujan*? Of Citizen Suits, "Injuries," and Article III*, 91 MICH. L. REV. 163, 221 (1992) (describing citizen suits as "part and parcel of a largely unsuccessful system of command-and-control regulation").

initiatives on track to avoid the potentially harsh consequences of citizen suit litigation.

Both regulatory penalty defaults and destabilization rights are legally enforceable "hard law" ultimately backed by the coercive power of the state. Both seek to impose discipline and accountability on otherwise reluctant actors. However, neither relies on direct regulatory prescription of mandatory rules of behavior, thus avoiding the common pitfalls of conventional command-and-control style rules. Instead, these rules operate by indirection. Regulatory penalty defaults change the baseline for negotiation and make genuine cooperation more attractive than shirking or strategic bargaining. Destabilization rights authorize interventions that upset established but failing institutional arrangements, but because they refrain from prescribing detailed alternatives, they clear the way for a fresh start search for novel solutions.

Regulatory penalty defaults and destabilization rights thus go some distance toward answering those critics of new governance solutions who question how it is possible to have discipline, accountability, and central coordination and oversight, yet avoid the well-known pathologies of excessively prescriptive command-and-control style regulation.