

Summer 2014

Environmental Law Outside the Canon

Todd S. Aagaard

Villanova University School of Law, aagaard@law.villanova.edu

Follow this and additional works at: <https://www.repository.law.indiana.edu/ilj>



Part of the [Environmental Law Commons](#), [Law and Politics Commons](#), and the [Legislation Commons](#)

Recommended Citation

Aagaard, Todd S. (2014) "Environmental Law Outside the Canon," *Indiana Law Journal*: Vol. 89 : Iss. 3 , Article 5.

Available at: <https://www.repository.law.indiana.edu/ilj/vol89/iss3/5>

This Article is brought to you for free and open access by the Law School Journals at Digital Repository @ Maurer Law. It has been accepted for inclusion in Indiana Law Journal by an authorized editor of Digital Repository @ Maurer Law. For more information, please contact rvaughan@indiana.edu.



JEROME HALL LAW LIBRARY

INDIANA UNIVERSITY
Maurer School of Law
Bloomington

Environmental Law Outside the Canon

TODD S. AAGAARD*

It is time to rethink the domination of environmental law by a canon of major federal statutes enacted in the 1970s. Environmental law is in a malaise. Despite widespread agreement that existing laws are inadequate to address current environmental problems, Congress has not passed a major environmental statute in more than twenty years. If it is to succeed, the environmental law of this new century may need to evolve into something that looks quite different than the extant environmental law canon. The next generation of environmental laws must be viable for creation and implementation even in an antagonistic political climate; amenable to integration with other, non-environmental law; and able to make inroads against the monumental peril of global climate change. Environmental laws embedded in larger non-environmental programs and dispersed throughout government offer an alternative model to the environmental law canon—an alternative model that seems well suited to help environmental law address these daunting challenges.

INTRODUCTION	1240
I. MAPPING ENVIRONMENTAL LAW	1243
A. DIFFERENTIATING FEATURES.....	1245
B. CATEGORIES OF PROMINENCE.....	1250
II. EMBEDDED ENVIRONMENTAL LAW.....	1264
A. TYPES	1264
B. FEATURES	1266
C. IMPLICATIONS	1268
D. WEIGHING ADVANTAGES AND DISADVANTAGES.....	1278
E. LOOKING FORWARD: THREE CHALLENGES FOR NEXT-GENERATION ENVIRONMENTAL LAW.....	1281
III. UNDERSTANDING ENVIRONMENTAL LAW	1291
A. EXPANDING THE RECOGNIZED DOMAIN.....	1291
B. CENTRAL AND PERIPHERAL CASES	1292
C. BLURRING THE BOUNDARIES	1293
D. PRACTICAL IMPLICATIONS	1296
CONCLUSION.....	1297

† Copyright © 2014 Todd S. Aagaard.

* Professor of Law, Villanova University School of Law. In appreciation for their helpful comments on drafts of this Article, I thank Michelle Dempsey, John Dernbach, Dan Farber, Shi-Ling Hsu, Emily Meazell, Andrew Mergen, J.B. Ruhl, and Hannah Wiseman, as well as participants in the Annual Colloquium on Environmental Scholarship at Vermont Law School, the Junior Environmental Law Scholars Workshop at the University of Washington School of Law, and a faculty workshop at the American University–Washington College of Law. I also thank Marc Pugsley for his able research assistance.

INTRODUCTION

Environmental law has a clear canon of statutes that attract the bulk of attention in environmental law cases, courses, and treatises. The canon consists of four major anti-pollution statutes administered by the Environmental Protection Agency—the Clean Air Act;¹ Clean Water Act;² Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);³ and Resource Conservation and Recovery Act (RCRA)⁴—along with two other statutes, the National Environmental Policy Act (NEPA)⁵ and Endangered Species Act (ESA).⁶ Congress enacted the statutes comprising the canon in the 1970s, during what has been called the Environmental Law Revolution.⁷ At the time, environmental protection was a bipartisan issue, and the major environmental statutes were enacted with “overwhelming majorities” and “lopsided votes.”⁸ The new statutes were highly ambitious in their aims, consistent with the idea that a revolution was indeed at hand.⁹

In the decades since the Environmental Law Revolution, however, the optimism that imbued the canonical environmental statutes has faded. Environmental law suffers from a “mid-life crisis,”¹⁰ or at least a “malaise.”¹¹ Environmental lawmaking in Congress has stagnated. Despite widespread agreement that

1. 42 U.S.C. §§ 7401–7671q (2006 & Supp. V 2011).

2. 33 U.S.C. §§ 1251–1387 (2006 & Supp. V 2011).

3. 42 U.S.C. §§ 9601–9675 (2006 & Supp. V 2011).

4. 42 U.S.C. §§ 6901–6992k (2006 & Supp. V 2011).

5. 42 U.S.C. §§ 4321–4370h (2006 & Supp. V 2011).

6. 16 U.S.C. §§ 1531–1544 (2012).

7. See, e.g., Holly Doremus, *Preserving Citizen Participation in the Era of Reinvention: The Endangered Species Act Example*, 25 *ECOLOGY L.Q.* 707, 717 (1999); Robert L. Fischman, *What Is Natural Resources Law?*, 78 *U. COLO. L. REV.* 717, 720 (2007); J.B. Ruhl, *The Fitness of Law: Using Complexity Theory to Describe the Evolution of Law and Society and Its Practical Meaning for Democracy*, 49 *VAND. L. REV.* 1407, 1459 (1996); see also Robert V. Percival, *Regulatory Evolution and the Future of Environmental Policy*, 1997 *U. CHI. LEGAL F.* 159, 165 n.30 (“[T]here can be no doubt about the revolutionary nature of the legislation.”).

8. See Richard J. Lazarus, *A Different Kind of “Republican Moment” in Environmental Law*, 87 *MINN. L. REV.* 999, 1002, 1003 n.17 (2003); see also Richard N.L. Andrews, *The EPA at 40: An Historical Perspective*, 21 *DUKE ENVTL. L. & POL’Y F.* 223, 224 (2011) (noting that in the early 1970s “solidly bipartisan majorities [in Congress] vested this new agency [(EPA)] with sweeping new powers”); Percival, *supra* note 7, at 165 (1997) (noting that the major environmental statutes of the 1970s were enacted with “overwhelming, bipartisan support”).

9. See, e.g., Clean Water Act § 101(a)(1), 33 U.S.C. § 1251(a)(1) (“[I]t is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.”); Clean Air Act § 109(a)(1), 42 U.S.C. § 7409(a)(1) (directing EPA to publish proposed regulations prescribing air quality standards within thirty days of the statute’s enactment). See generally RICHARD J. LAZARUS, *THE MAKING OF ENVIRONMENTAL LAW* 67–73 (2004).

10. See, e.g., Linda A. Malone, *Looking Beyond Environmental Law’s Mid-Life Crisis*, 23 *PACE ENVTL. L. REV.* 679, 680 (2006).

11. Holly Doremus, *Reinvigorating the Union of Wonder and Power*, 24 *VA. ENVTL. L.J.* 281, 281 (2005).

inadequacies exist in the canonical environmental law statutes, Congress has not passed a major environmental statute since the Clean Air Act Amendments of 1990. Both parties have failed in attempts to pass their key environmental legislative initiatives,¹² and bipartisan legislative efforts on environmental issues have been virtually unheard of. As the Breaking the Logjam Project has noted, “For almost 20 years, political polarization and a lack of leadership have left environmental protection in the United States burdened with obsolescent statutes and regulatory strategies.”¹³ The political climate has become even more acrimonious of late, as EPA has become a lightning rod for opponents of government regulation.¹⁴

Meanwhile, although the canonical environmental statutes have resulted in some dramatic reductions in pollution,¹⁵ environmental threats loom large. Many environmental harms continue relatively unregulated.¹⁶ New regulatory challenges arise as advancements in science identify new hazards.¹⁷ The threat from

12. See, e.g., *Clear Skies—Legislative Information*, EPA, <http://www.epa.gov/clearskies/legis.html> (noting that the Bush Administration’s Clear Skies bill “never moved out of the Senate Environment and Public Works committee in 2005 and was therefore never enacted”) (last updated May 18, 2012); see also Ryan Lizza, *As the World Burns*, NEW YORKER, Oct. 11, 2010, at 70 (detailing the demise of the Obama Administration’s climate change bill in the Senate).

13. Carol A. Casazza Herman, David Schoenbrod, Richard B. Stewart & Katrina M. Wyman, *Breaking the Logjam: Environmental Reform for the New Congress and Administration*, 17 N.Y.U. ENVTL. L.J. 1, 1 (2008); see also Laurie Ristino & Sam Kalen, *Is Environmental Law Serving Society?*, NAT. RESOURCES & ENV’T, Spring 2012, at 52, 52–53 (“Little doubt exists that our middle-aged environmental programs are shouldering challenges not particularly well-suited to their statutory frameworks.”); William Ruckelshaus, *A New Shade of Green*, WALL ST. J., Apr. 17, 2010, at R1 (“[T]he solutions we devised back in the 1970s aren’t likely to make much of a dent in the environmental problems we face today[,] . . . [even though] [c]onsiderable progress has been made thanks to those early laws.”).

14. See, e.g., John M. Broder, *Bashing E.P.A. Is New Theme in G.O.P. Race*, N.Y. TIMES, Aug. 18, 2011, at A1; John M. Broder, *House Votes to Bar E.P.A. from Regulating Emissions*, N.Y. TIMES, Apr. 8, 2011, at A17; Robin Bravender & Gabriel Nelson, *Republicans Blitz Obama over EPA’s ‘Anti-Industrial’ Regulations*, N.Y. TIMES, Sept. 28, 2010, <http://www.nytimes.com/gwire/2010/09/28/28greenwire-republicans-blitz-obama-over-epas-anti-industr-84657.html>.

15. See, e.g., EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970 TO 1990, at ES-2–ES-3 (1997) (reporting that the Clean Air Act reduced sulfur dioxide emissions by 40%, nitrogen oxides emissions by 30%, volatile organic compound emissions by 45%, carbon monoxide emissions by 50%, primary particulate emissions by 75%, and lead emissions by 99% as compared with what they otherwise would have been in 1990 without the Act).

16. See, e.g., J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 ECOLOGY L.Q. 263, 265 (2000) (“[F]arms are virtually unregulated by the expansive body of environmental law that has developed in the United States in the past 30 years.”).

17. See, e.g., Jean Macchiaroli Eggen, *Nanotechnology and the Environment: What’s Next?*, NAT. RESOURCES & ENV’T, Winter 2012, at 51, 51–52 (noting that nanotechnology is an “emerging industrial hazard[] requiring safety research and regulation” and the inadequacy of “existing applicable statutes . . . enacted at a time when the unique challenges of nanotechnology were not yet contemplated”).

anthropogenic global climate change, the worst environmental problem in human history, continues to grow even as efforts to enact comprehensive climate policy seem more and more beyond reach.¹⁸

Environmental law's malaise in the face of challenges that would be daunting even in the best of circumstances suggests that this is an opportune time to investigate alternative models for environmental lawmaking. To do so, however, requires rethinking the environmental law canon's predominance within the field of environmental law. Environmental law scholarship, practice, and teaching tend to focus on the environmental law canon, to the neglect of other environmental laws.¹⁹

This inattention to environmental laws outside the canon is understandable, because such laws do not compare to the environmental law canon in terms of size or prominence. But noncanonical environmental laws are nevertheless an important category of environmental law that deserves more attention for at least three related reasons. First, noncanonical environmental law has distinctive characteristics that cohere it as a category and differentiate it from canonical environmental law. Second, noncanonical environmental law provides an alternative model for environmental lawmaking that may offer significant advantages over relying wholly on the environmental law canon to address the challenges currently facing environmental law. Third, noncanonical environmental law, because it is atypical of environmental law, offers unique vantage points from which to gain insights into the field of environmental law as a whole. This Article proceeds in three parts, each of which is affiliated with one of these three points.

Part I describes the topography of environmental law as a whole. Mapping the field expands the recognized domain of environmental law beyond the canon. It also helps to identify both common and distinguishing characteristics of environmental law. Although environmental laws share some defining characteristics, other key features distinguish among environmental laws. These distinguishing features explain functional differences among environmental laws and define useful categories of environmental law. In particular, environmental laws outside the canon exhibit functional characteristics that differ markedly from canonical environmental law, creating possible alternatives to environmental law in its canonical form.²⁰

18. See *infra* Part II.E.3.

19. Cf. Austin B. Caswell, *Canonicity in Academia: A Music Historian's View*, J. AESTHETIC EDUC., Fall 1991, at 129, 129 (asserting that "the tyranny of canonicity" can be "destructive of our critical faculties").

20. As Part I makes clear, environmental law includes laws at a variety of levels of government, from international to local. See *infra* notes 64–71 and accompanying text. While acknowledging this range, this Article's examination of environmental law outside the canon focuses primarily on noncanonical *federal* environmental law for three reasons. First, federal environmental statutes outside the canon are an alternative readily available to Congress, the lawmaking institution responsible for the creation of the federal environmental law canon. Second, the possibility of state environmental regulation, because of the federalism issues it raises, has not suffered from the same degree of inattention that afflicts other environmental law outside of the canon. Third and finally, focusing on federal environmental statutes outside of the canon gives the Article a more manageable scope. That being said, state environmental laws, addressing issues ranging from pollution to fish and

Part II focuses on a particular subspecies of noncanonical environmental law that I call *embedded environmental laws*. Embedded environmental laws are environmental statutes or statutory provisions embedded within larger programs that are not primarily environmental and that are usually administered by agencies not primarily engaged in environmental lawmaking—for example, the federal excise tax on ozone-depleting chemicals administered by the Internal Revenue Service,²¹ or limitations on the importation of illegally harvested timber administered by the Agricultural Plant and Health Inspection Service.²² Embedded environmental laws offer an alternative model for environmental lawmaking that may help address some of the major challenges currently facing environmental law, including legislative stagnation, integration of environmental law with law from other fields, and policies to address global climate change.

Part III explores conceptual insights that the study of noncanonical environmental laws can generate. Including noncanonical environmental laws in the study of environmental law reveals a field that is more diverse in both content and history than conventional accounts of environmental law that focus on the canon. Noncanonical environmental laws also can, by virtue of their location at the periphery of environmental law, shed light on some of the field's existential issues, such as defining the boundaries of what regulatory objectives qualify as environmental. Such questions have practical as well as theoretical import—whether a law is classified as environmental or some other category determines, for example, what congressional committee and what agency are likely to control it. An examination of noncanonical environmental laws reveals that the boundaries of environmental law are blurry and overlap significantly with other fields. The creation, study, and practice of environmental law should better reflect and address this messy reality.

I. MAPPING ENVIRONMENTAL LAW

Environmental law encompasses far more law than the few federal statutes that comprise the environmental law canon and that predominate in the field.²³ The field

game to land use to water rights to renewable energy standards, exhibit a rich diversity of features and warrant additional scholarly examination as a category of their own.

21. 26 U.S.C. §§ 4681–4682 (2006). *See generally* Janet E. Milne, *Environmental Taxation in the United States: The Long View*, 15 LEWIS & CLARK L. REV. 417 (2011).

22. Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-246, § 8204, 122 Stat. 1651, 2052–56.

23. For the purposes of this Article, the field of environmental law is defined to encompass laws that reflect a consideration of human impacts on the natural environment. *See* Todd S. Aagaard, *Environmental Law as a Legal Field: An Inquiry in Legal Taxonomy*, 95 CORNELL L. REV. 221, 263 (2010) (arguing in favor of this definition among several alternatives). This definition is not limited to laws with the only or overriding purpose of protecting the environment, because environmental laws reflect a balance of objectives, including but not limited to environmental protection. This definition also excludes laws that unintentionally affect the environment. Even accepting this definition, however, laws are not necessarily susceptible to simple classification as environmental or not. For example, the common law of nuisance is not aimed specifically at the environment, but it has important applications to remedying environmental problems. *See, e.g.*, *State v. Ventron Corp.*, 468 A.2d 150, 157 (N.J. 1983) (holding under common law of nuisance that landowners are

of environmental law can be classified into several categories based on gradations of prominence: the canon, a subcanon of diminished prominence but still relatively familiar laws, and finally noncanonical environmental laws, which are either primarily associated with other fields or simply altogether obscure. Figure 1 represents these categories of environmental law as a series of concentric circles, in order of increasing prominence as one approaches the center of the circle.

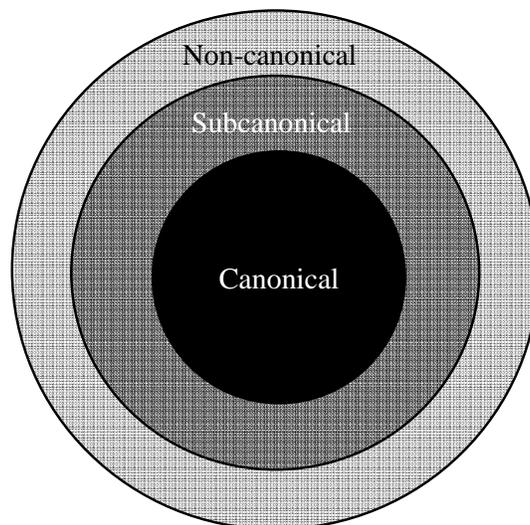


Figure 1. Categories of environmental law.

Although all environmental laws share certain features in common,²⁴ other features vary among different environmental laws. These differentiating features affect how the laws function. Moreover, the environmental law canon shares a strong commonality of features not representative of the diversity of the field as a whole. Because of differences in their characteristics, environmental laws outside

strictly liable for harm caused by toxic wastes stored on their property that flow onto the property of others); *see also infra* Part III (examining how environmental laws outside the canon help to define the scope of the field).

24. In previous articles, I have explored the features that environmental laws share in common and that distinguish environmental law from other legal fields. *See* Todd S. Aagaard, *Environmental Harms, Use Conflicts, and Neutral Baselines in Environmental Law*, 60 DUKE L.J. 1505 (2011) [hereinafter Aagaard, *Use Conflicts*]; Aagaard, *supra* note 23. These previous articles argued that environmental lawmaking is best understood as the management of conflicts among uses of environmental resources. *See* Aagaard, *Use Conflicts, supra*, at 1525–27; Aagaard, *supra* note 23, at 264–69, 275. Environmental resources share certain characteristics: they are physical; they are publicly rather than privately valued, owned, and controlled; and they serve as media for pervasively interrelated ecological systems. *See* Aagaard, *supra* note 23, at 264–69. Environmental problems arise when potential uses of environmental resources conflict. *See* Aagaard, *Use Conflicts, supra*, at 1526; Aagaard, *supra* note 23, at 275. Moreover, the characteristics of resources are such that conflicts, when they arise, tend to be intense, complicated, and multidimensional. *See* Aagaard, *Use Conflicts, supra*, at 1527. Here, by contrast to these earlier works examining commonalities among environmental laws, my focus is on distinguishing among environmental laws.

of the canon do not function the same as canonical environmental laws. These functional differences establish noncanonical environmental laws as a distinct category of environmental law, with the potential to provide an alternative model for environmental lawmaking.

A. Differentiating Features

Apart from the features that environmental laws share in common,²⁵ other characteristics distinguish among environmental laws. These differentiating features include the role of environmental protection, the specific subject matter, the endpoints, the type of environmental media, the regulatory and nonregulatory mechanisms, the targets, the form, the implementing institution, the level of government, and the breadth. Different categories of environmental law exhibit different patterns of these characteristics. One of the central challenges for environmental lawmaking is matching the specific attributes of an environmental problem with the most appropriate mix of features for the environmental law that responds to the problem.

Role of Environmental Protection. Although a general goal of environmental protection is a feature common to all environmental laws, environmental protection plays varying roles in environmental laws. Some environmental laws are enacted primarily to protect human health and the environment.²⁶ Some laws are enacted in part to protect the environment, but not necessarily as its primary goal—mixed-motive environmental law, this category might be called.²⁷ Closely related to the role of environmental protection in an environmental law is the strength of that protection and the degree of its departure from the status quo. Even among two statutes focused on environmental protection, environmental protection has a different role in a statute that calls for studying an environmental problem²⁸ than in a statute that imposes regulatory measures to remedy the problem.²⁹

25. See *supra* note 24 (citing and summarizing my prior work examining features that environmental laws share in common).

26. See, e.g., Noise Control Act of 1972 § 2(b), 42 U.S.C. § 4901(b) (2006) (“The Congress declares that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare.”).

27. See, e.g., Multiple-Use Sustained-Yield Act of 1960 § 1, 16 U.S.C. § 528 (2012) (“It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.”). Many other laws significantly but unintentionally affect the physical environment—positively, adversely, or both. Such laws are not part of environmental law per se, although they merit increased attention from environmental law scholars, teachers, and practitioners. See *infra* Part II.E.2.

28. See, e.g., United States-Japan Fishery Agreement Approval Act of 1987, Pub. L. No. 100-220, § 2202, 101 Stat. 1458, 1465 (1987) (directing EPA, in consultation with the Commerce Department, to “commence a study of the adverse effects of the improper disposal of plastic articles on the environment and on waste disposal, and the various methods to reduce or eliminate such adverse effects”).

29. See, e.g., Solid Waste Disposal Act § 4004, 42 U.S.C. § 6944 (2006) (directing state plans to require the disposal of solid waste in sanitary landfills that comply with federal regulations).

Subject Matter. Although they share a common focus on the environment, environmental laws address different subject matters. The most prominent distinction drawn is between pollution laws and natural resource laws.³⁰ Indeed, because of strong differences between pollution laws and natural resource laws, opinions differ as to whether natural resource laws fall within the field of environmental law or instead constitute a separate but related legal field.³¹ Within pollution laws, one can differentiate laws that govern pollution abatement from laws that govern pollution remediation.³² Other environmental laws, such as laws that address environmental processes and information³³ and laws that restrict the sale or use of substances,³⁴ are not easy to classify as pollution or natural resource. Differences in subject matter affect how environmental laws function. For example, the conceptual paradigm for pollution statutes is regulating externalities arising from the use of private property, such as the Clean Air Act's regulation of air pollutant emissions.³⁵ The conceptual paradigm for natural resource statutes, on the other hand, is regulating use of open access public resources, such as the Federal Land Policy and Management Act's land use planning process.³⁶

30. See, e.g., Robert L. Fischman, *The Divides of Environmental Law and the Problem of Harm in the Endangered Species Act*, 83 IND. L.J. 661, 662 (2008) (referring to pollution and natural resources as “the two main lines of environmental law”).

31. See, e.g., Fischman, *supra* note 7, at 718 (noting the debate and expressing the author's preference “to use the term ‘environmental law’ broadly to describe the subject encompassing both pollution control and resource management”).

32. See Lincoln L. Davies, *Alternative Energy and the Energy-Environment Disconnect*, 46 IDAHO L. REV. 473, 487–88 (2010); see also Lincoln L. Davies, *Energy Policy Today and Tomorrow—Toward Sustainability?*, 29 J. LAND RESOURCES & ENVTL. L. 71, 76–77 (2009) (using slightly different terminology). Pollution abatement, such as the Clean Air Act and Clean Water Act, “aim to reduce, or mitigate, pollution,” and pollution remediation laws such as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) “seek to clean up existing pollution, or to ensure its proper disposal.” Davies, *Alternative Energy and the Energy-Environment Disconnect*, *supra*, at 487.

33. See, e.g., National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321–4370h (2006 and Supp. V 2011); Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001–11050 (2006).

34. See, e.g., Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136–136y (2012); Toxic Substances Control Act (TSCA), 15 U.S.C. §§ 2601–2697 (2012).

35. See, e.g., Clean Air Act § 111, 42 U.S.C. § 7411 (2006) (directing EPA to issue standards of performance for new stationary sources of air pollution).

36. Federal Land Policy and Management Act of 1976 § 202(a), 43 U.S.C. § 1712(a) (2006) (“The Secretary shall, with public involvement and consistent with the terms and conditions of this Act, develop, maintain, and, when appropriate, revise land use plans which provide by tracts or areas for the use of the public lands.”). Notwithstanding the distinction that can be made between externalities and open access resources, the two concepts are of course related and often arise in combination. Pollution externalities, for example, generally operate via the medium of an open access resource such as the ambient air or a waterway. See Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1245 (1968). And the congestion effects of overusing an open access resource are a form of externality. See Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 351 (1967).

Endpoints. Environmental law encompasses laws that regulate to protect human health as impacted by the natural environment,³⁷ other human uses of environmental resources,³⁸ and ecological health directly.³⁹ Many environmental laws regulate to protect both human and ecological health.⁴⁰ Pollution statutes generally have tended to focus more on human health impacts than on ecological health, whereas natural resource statutes have tended to focus more on ecological health than on human health.

Media. Environmental resources are commonly classified into media—usually water, air, and land.⁴¹ Many environmental laws aim at regulating specific environmental media—for example, the Clean Water Act regulates water pollution, the Clean Air Act regulates air pollution, and the Solid Waste Disposal Act regulates contamination of soil and groundwater. Other laws, such as the Toxic Substances Control Act, which regulates the safety of chemicals in commerce, are not media-specific. Differences in physical characteristics across media have important implications for regulating to protect that type of resources from pollution.⁴² Airsheds, for example, can be much more complicated to manage than watersheds.⁴³

37. See, e.g., Clean Air Act § 109(b)(1), 42 U.S.C. § 7409(b)(1) (directing EPA to publish national primary ambient air quality standards “to protect the public health”).

38. See, e.g., Clean Air Act §§ 169A–169B, 42 U.S.C. §§ 7491–7492 (establishing program to improve visibility in certain designated areas where “visibility is an important value”).

39. See, e.g., ESA § 2(b), 16 U.S.C. § 1531(c)(1) (2012) (stating Congress’s policy under the ESA “to conserve endangered species and threatened species”).

40. See, e.g., TSCA § 6(a), 15 U.S.C. § 2605(a) (2012) (authorizing EPA to regulate substances that “present an unreasonable risk of injury to health or the environment”); Clean Water Act § 101, 33 U.S.C. § 1251(a)(2) (2006) (establishing “the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”); RCRA § 1003(a)(4), 42 U.S.C. § 6902(a)(4) (2006) (stating an objective of “assuring that hazardous waste management practices are conducted in a manner which protects human health and the environment”); CERCLA § 106(a), 42 U.S.C. § 9606(a) (2006) (authorizing the Attorney General to file an action in federal district court in the case of “an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility”).

41. See, e.g., Lakshman Guruswamy, *Integrated Environmental Control: The Expanding Matrix*, 22 ENVTL. L. 77, 83 (1992); Nigel D. Key & Jonathan D. Kaplan, *Multiple Environmental Externalities and Manure Management Policy*, 32 J. AGRIC. & RESOURCE ECON. 115, 115 (2007); Richard J. Lazarus, *Environmental Law and the Supreme Court: Three Years Later*, 19 PACE ENVTL. L. REV. 653, 662 (2002).

42. Cf. LAZARUS, *supra* note 9, at 71–72 (explaining that the Clean Air Act and Clean Water Act were each “reflective of the distinct physical features of the [type of pollution] it addressed”).

43. Rich Poirot, Paul Wishinski, Bret Schichtel & Phil Girton, *Air Trajectory Pollution Climatology for the Lake Champlain Basin*, in LAKE CHAMPLAIN IN TRANSITION: FROM RESEARCH TOWARD RESTORATION 25, 25–26 (Thomas O. Manley & Patricia L. Manley, eds., 1999) (noting that the Lake Champlain watershed is “clearly defined by fixed geographical boundaries,” whereas “the spatial and temporal variations of emission sources and meteorological conditions, make it virtually impossible to develop a fixed *definition* of airshed” (emphasis in original)). Even where environmental laws attempt to regulate specifically to particular media, environmental media cannot be fully segregated. Contaminants in air pollution,

Mechanisms. Environmental laws employ a variety of regulatory and nonregulatory mechanisms, including environmental quality-based standards, emissions limits based on technology standards, tradable emissions permitting, pollution charges, liability, information reporting and disclosure requirements, use limitations, subsidies, and technical assistance.⁴⁴ Many environmental statutes include a combination of multiple mechanisms, and major environmental statutes may include virtually all of them in some form.⁴⁵

Regulatory Targets. Some environmental laws regulate the private sector directly,⁴⁶ and some regulate government action qua sovereign.⁴⁷ Many statutes involve a mix of governmental and private sector regulatory targets. Most of the major environmental statutes regulate federal facilities as well as privately owned and operated pollution sources.⁴⁸ Statutes that ultimately aim at regulating private sector conduct may include detailed requirements for the government agencies that implement them.⁴⁹ Statutes that regulate government action qua sovereign indirectly regulate the private sector—for example, if NEPA requires the Army Corps of Engineers to prepare an Environmental Assessment before granting a permit allowing a private developer to fill a wetland,⁵⁰ then the developer feels the regulatory effects of NEPA as much as, if not more than, the Corps of Engineers does.

Form. Environmental laws take a variety of forms, including treaties,⁵¹ statutes,⁵² administrative regulations,⁵³ court decisions,⁵⁴ and common law

for example, can pollute water or land through atmospheric deposition. See Gary M. Lovett, *Atmospheric Deposition of Nutrients and Pollutants in North America: An Ecological Perspective*, 4 *ECOLOGICAL APPLICATIONS* 629 (1994).

44. OFFICE OF TECH. ASSESSMENT, U.S. CONGRESS, OTA-ENV-634, *ENVIRONMENTAL POLICY TOOLS: A USER'S GUIDE* 81–142 (1995).

45. See Andrews, *supra* note 8, at 231–32 (noting the different regulatory mechanisms Congress enacted in the new federal environmental statutes of the 1970s).

46. See, e.g., Clean Water Act § 301, 33 U.S.C. § 1311(a) (2006) (prohibiting, with certain specified exceptions, “the discharge of any pollutant by any person”).

47. See, e.g., NEPA § 102, 42 U.S.C. § 4332(2)(C) (2006) (directing federal agencies to prepare environmental impact statements for proposed major federal actions significantly affecting the quality of the environment).

48. See, e.g., Clean Water Act § 313(a), 33 U.S.C. § 1323(a) (providing that federal facilities “shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity”); Clean Air Act § 118(a), 42 U.S.C. § 7418(a) (2006) (providing that federal facilities “shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of air pollution in the same manner, and to the same extent as any nongovernmental entity”).

49. See, e.g., Clean Air Act § 110(a)(2)(E), 42 U.S.C. § 7410(a)(2)(E) (requiring a state seeking EPA approval of its state implementation plans to provide assurances that it “will have adequate personnel, funding, and authority . . . to carry out such implementation plan”).

50. See, e.g., *Greater Yellowstone Coal. v. Flowers*, 359 F.3d 1257, 1274 (10th Cir. 2004).

51. See, e.g., *Montreal Protocol on Substances that Deplete the Ozone Layer*, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 3.

52. See, e.g., Clean Water Act, 33 U.S.C. §§ 1251–1387 (2006 & Supp. V 2011).

53. See, e.g., 40 C.F.R.

54. See, e.g., *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561 (2007); *Rapanos v. United States*, 547 U.S. 715 (2006).

doctrines.⁵⁵ Although environmental laws are generally easily classified by form,⁵⁶ the different forms are also highly interrelated. Statutes may implement treaties.⁵⁷ Administrative regulations implement statutes.⁵⁸ Courts' interpretations of statutes become functionally part of the statutes themselves.⁵⁹ Statutes may incorporate common law doctrines.⁶⁰

Implementing Institution. Environmental laws are implemented by different institutions. Some environmental laws, such as common law environmental torts, are primarily implemented by private parties and courts through litigation. Most environmental laws, however, are implemented by an administrative agency of some form. Within this category, there is substantial diversity. It matters to the functioning of a law whether its implementation is controlled by, for example, the Environmental Protection Agency, the purpose of which is to effect environmental protection;⁶¹ a resource agency, such as the Army Corps of Engineers or Forest Service, which has more diverse goals and traditionally has been oriented toward economic exploitation of natural resources;⁶² or an agency such as the Department of Housing and Urban Development, which has not traditionally focused on environmental issues.⁶³

55. *See, e.g.*, *Michigan v. U.S. Army Corps of Eng'rs*, 667 F.3d 765 (7th Cir. 2011) (asserting claims under the federal common law of public nuisance against federal and city agencies for allegedly managing the Chicago Area Waterway System in a manner that will allow invasive carp to move into the Great Lakes, causing an ecological disaster).

56. *But see, e.g.*, *Natural Res. Def. Council v. EPA*, 643 F.3d 311, 320–21 (D.C. Cir. 2011) (holding that an EPA guidance document was actually a legislative rule that required notice and comment).

57. *See, e.g.*, 42 U.S.C. §§ 7671–7671q (2006) (implementing the Montreal Protocol on Substances that Deplete the Ozone Layer).

58. *See, e.g.*, 40 C.F.R. §§ 1500.1–1517.7 (implementing the National Environmental Policy Act).

59. *See, e.g.*, *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 117–18 (D.C. Cir. 2012) (per curiam) (interpreting the language of Clean Air Act § 202(a)(1), 42 U.S.C. § 7521(a)(1) (2006), in light of the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007)).

60. *See, e.g.*, *In re Bell Petrol. Servs., Inc.*, 3 F.3d 889, 895 (5th Cir. 1993) (holding that Congress intended courts to draw on “traditional and evolving common law principles” to determine the scope of liability under CERCLA).

61. *Our Mission and What We Do*, EPA, <http://www.epa.gov/aboutepa/our-mission-and-what-we-do> (last updated June 3, 2013) (“The mission of EPA is to protect human health and the environment.”).

62. *See, e.g.*, Multiple-Use Sustained-Yield Act of 1960 § 1, 16 U.S.C. § 528 (2012) (“It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.”); Water Resources Development Act of 2000, Pub. L. No. 106-541, 114 Stat. 2572 (2000) (authorizing the Corps of Engineers to undertake projects to, among other things, reduce flood damage, improve navigation, upgrade hydroelectric power generating facilities, restore aquatic ecosystems, and enhance beach recreation).

63. The extent to which an agency has an environmental mission and environmental expertise can change significantly. The Federal Energy Regulatory Commission and the Animal and Plant Health Inspection Service exemplify agencies that over time have been delegated more environmental responsibilities and have in turn responded by increasing their environmental expertise.

Level of Government. Environmental laws originate at all different levels of government—for example, international,⁶⁴ national,⁶⁵ state,⁶⁶ and local.⁶⁷ On the other hand, national environmental laws sometimes implement international treaties,⁶⁸ state environmental statutes are often modeled on federal environmental statutes,⁶⁹ and federal environmental statutes often employ cooperative federalism that allows state environmental programs to implement federal statutes,⁷⁰ somewhat undercutting the distinction between the different levels.⁷¹

Breadth. Environmental laws vary in scope from narrowly targeted⁷² to extremely expansive.⁷³ The breadth of an environmental law depends largely on its other characteristics, such as the subject matter and level of government. Breadth affects, in turn, the magnitude of the costs and benefits of a law and the resources needed to implement it.

B. Categories of Prominence

Having identified features that differentiate among environmental laws, we can move to the tasks of pinpointing those environmental laws that comprise the

64. *E.g.*, Montreal Protocol on Substances that Deplete the Ozone Layer, *supra* note 51; Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, U.S.-Mex., Aug. 14, 1983, 22 I.L.M. 1025.

65. *See, e.g.*, statutes cited *supra* notes 1–6.

66. *E.g.*, Hazardous Sites Cleanup Act, 35 PA. CONS. STAT. ANN. §§ 6020.101–.1305 (West 2012).

67. *See, e.g.*, Noise Control Ordinance of the County of Los Angeles, L.A., CAL., L.A. COUNTY CODE §§ 12.08.010–.680.

68. *See, e.g.*, 42 U.S.C. §§ 7671–7671q (2006 & Supp. 2011) (implementing the Montreal Protocol on Substances that Deplete the Ozone Layer).

69. *See* DEL. CODE ANN. tit. 7, §§ 6301–6309 (2011) (adopting hazardous waste management provisions similar to RCRA).

70. *See, e.g.*, Clean Water Act § 402(b), 33 U.S.C. § 1342(b) (2006) (allowing EPA to authorize state water pollution discharge permit programs implementing the Federal Clean Water Act).

71. Robert Fischman undertook a somewhat similar analysis in a 2008 article in which he identified certain attributes that distinguish among environmental laws. *See* Fischman, *supra* note 30. Fischman distinguished pollution control versus resource management subject matters, categorical versus utilitarian regulatory approaches, statutory detail versus agency latitude, and Commerce Clause versus Property Clause constitutional authority. *See id.* at 666–84. As opposed to mapping the field generally, Fischman focused on how these features “distinguish the two main lines of environmental law [pollution law and natural resources law] from each other.” *Id.* at 662 (emphasis in original).

72. *See, e.g.*, 22 U.S.C. § 262m-4 (2006) (supporting “the strengthening of educational programs within each multilateral development bank to improve the capacity of mid-level managers to initiate and manage environmental aspects of development activities, and to train officials of borrowing countries in the conduct of environmental analyses”).

73. *See, e.g.*, 33 U.S.C. § 1311(a) (2006) (“Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.”).

environmental law canon and comparing them to other environmental laws in terms of the differentiating features.

1. Environmental Law Canon

This Subpart defines the environmental law canon, identifies those environmental laws that comprise the canon, and then assesses the canon in terms of the differentiating features discussed in Part I.A, demonstrating a strong commonality of certain characteristics across the canon that is not shared by the field of environmental law as a whole.

Attempting to define which environmental laws comprise the canon necessitates first defining what we mean by the canon. “What is ‘canonical’ in law varies according to how the canon is defined, and how the canon is defined depends on the purpose of the canon.”⁷⁴ In general, *canon* connotes a prominence and significance of certain items among a broader set. Beyond this commonality, *canon* has several related but different meanings in contemporary common usage.⁷⁵ This paper uses *canon* in the sense of a collection of the most important items in a field.

Important laws are not necessarily good laws, and so *canon* as used here is primarily descriptive rather than normative.⁷⁶ Although there may be various ways of assessing the prominence and importance of laws to their legal field, which could in some cases lead to uncertainty and disagreement about which laws constitute a canon, the most obvious measures of prominence in environmental law

74. J.M. Balkin & Sanford Levinson, *The Canons of Constitutional Law*, 111 HARV. L. REV. 963, 975 (1998).

75. *Cf. id.* at 968 n.24 (tracing the etymology and historical usage of the term). Different specific meanings involve different measures of significance or different types of items being sorted. *Canon* can mean a collection of the most important items in a field. *See* David Fontana, *A Case for the Twenty-First Century Constitutional Canon: Schneiderman v. United States*, 35 CONN. L. REV. 35, 90 n.10 (2002) (citing BLACK’S LAW DICTIONARY 198 (7th ed. 1999)); Jill Elaine Hasday, *The Canon of Family Law*, 57 STAN. L. REV. 825, 825 (2004). *Canon* can refer to a fundamental legal principle. BLACK’S LAW DICTIONARY 234 (9th ed. 2009); *see, e.g.*, Cass R. Sunstein, *Nondelegation Canons*, 67 U. CHI. L. REV. 315, 316 (2000); Amanda L. Tyler, *Continuity, Coherence, and the Canons*, 99 NW. U. L. REV. 1389, 1390 (2005). A *canon* can be an important theme or way of thinking about a field. *See* Hasday, *supra*, at 825; Mark Tushnet, *The Canon(s) of Constitutional Law: An Introduction*, 17 CONST. COMMENT. 187, 187 (2000). *Canon* can mean “an authority that can be invoked in the face of almost any counterevidence because it is its own evidence and stronger in its force than any other”—that is, an authority that “stops inquiry.” Stanley Fish, *Not of an Age, but for All Time: Canons and Postmodernism*, 43 J. LEGAL EDUC. 11, 12 (1993). Finally, *canon law* refers to a body of law developed within a particular religious tradition. *See* BLACK’S LAW DICTIONARY 234 (9th ed. 2009); *see also, e.g.*, George La Piana, Book Review, 49 HARV. L. REV. 855, 855 (1936).

76. That being said, a highly beneficial law is hopefully more likely to thrive and take on importance than a poorly functioning law, so there probably is some correlation between the normative value of a law and whether it is prominent and therefore canonical. *Cf. infra* note 295 (noting that even identifying certain characteristics as salient makes an indirectly normative evaluation).

all point to a group of six federal environmental statutes that dominates the teaching and practice of what is generally regarded as environmental law:

- Clean Air Act (CAA),⁷⁷ the primary federal air pollution statute;
- Clean Water Act (CWA),⁷⁸ the primary federal water pollution statute;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),⁷⁹ which authorizes the cleanup of environmental contamination and imposes liability for such cleanups;
- Resource Conservation and Recovery Act (RCRA),⁸⁰ which regulates the generation, transportation, treatment, storage, and disposal of hazardous waste;
- National Environmental Policy Act (NEPA),⁸¹ which requires federal agencies to evaluate the environmental impacts of their proposed actions; and
- Endangered Species Act (ESA),⁸² which regulates activities that harm threatened or endangered species.

As Figures 2, 3, and 4 illustrate, these six statutes are far more likely than other environmental laws to be mentioned in cases, law review articles, and casebooks:

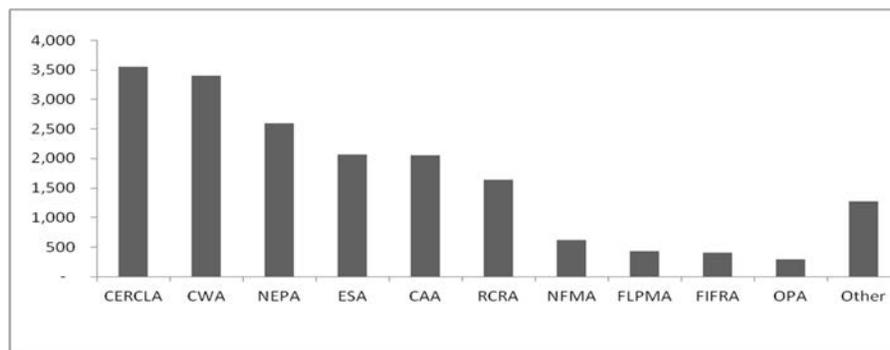


Figure 2. Frequency of mention in cases by statute.⁸³

77. 42 U.S.C. §§ 7401–7671q (2006 & Supp. V 2011).

78. 33 U.S.C. §§ 1251–1387 (2006 & Supp. V 2011).

79. 42 U.S.C. §§ 9601–9675 (2006 & Supp. V 2011).

80. 42 U.S.C. §§ 6901–6992k (2006 & Supp. V 2011).

81. 42 U.S.C. §§ 4321–4370h (2006 & Supp. V 2011).

82. 16 U.S.C. §§ 1531–1544 (2012).

83. Figure 2 indicates the number of state and federal cases decided since January 1, 2000, that mention each statute. Searches were run in the Westlaw and LexisNexis databases of all state and federal cases; the numbers reported are the average of the two databases. “NFMA” refers to the National Forest Management Act of 1976, 16 U.S.C. §§ 1600–1614 (2012). “FLPMA” refers to the Federal Land Policy and Management Act, 43 U.S.C. §§ 1701–1787 (2006 & Supp. V 2011). “FIFRA” refers to the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136–136y (2012). “OPA” refers to the Oil Pollution Act of 1980, 33 U.S.C. §§ 2701–2762 (2006 & Supp. V 2011).

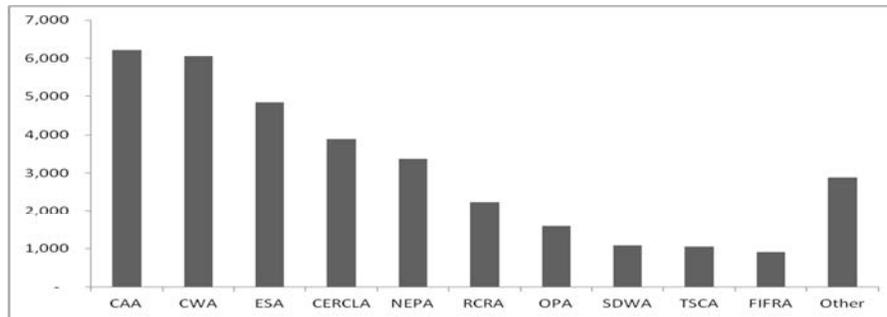


Figure 3. Frequency of mention in law review articles by statute.⁸⁴

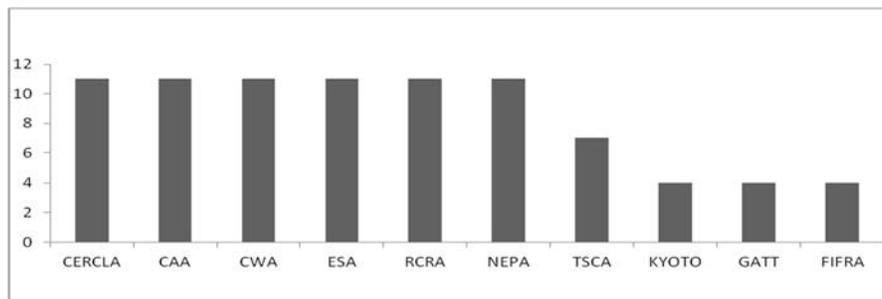


Figure 4. Frequency of substantial coverage in casebooks by statute.⁸⁵

84. Figure 3 indicates the number of law review articles published since January 1, 2000, that mention each statute. Searches were run in the Westlaw and LexisNexis databases of all U.S. and Canadian law journals; the numbers reported are the average of the two databases. “SDWA” refers to the Safe Drinking Water Act, 42 U.S.C. §§ 300f–300j-26 (2006). “Kyoto” refers to the Kyoto Protocol. “GATT” refers to the General Agreement on Tariffs and Trade.

85. Figure 4 indicates the frequency with which federal environmental statutes are substantially covered in ten leading environmental law casebooks. *See* ROBIN KUNDIS CRAIG, ENVIRONMENTAL LAW IN CONTEXT (3d ed. 2012); HOLLY DOREMUS, ALBERT C. LIN & RONALD H. ROSENBERG, ENVIRONMENTAL POLICY LAW: PROBLEMS, CASES, AND READINGS (6th ed. 2012); DANIEL A. FARBER, JODY FREEMAN & ANN E. CARLSON., CASES AND MATERIALS ON ENVIRONMENTAL LAW (8th ed. 2010); ROBERT L. GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY (4th ed. 2003); CRAIG N. JOHNSTON, WILLIAM F. FUNK & VICTOR B. FLATT, LEGAL PROTECTION OF THE ENVIRONMENT (3d ed. 2010); LINDA A. MALONE & WILLIAM M. TABB, ENVIRONMENTAL LAW, POLICY, AND PRACTICE (2d ed. 2011); PETER S. MENELL & RICHARD B. STEWART, ENVIRONMENTAL LAW AND POLICY (1994); ROBERT V. PERCIVAL, CHRISTOPHER H. SCHROEDER, ALAN S. MILLER & JAMES P. LEAPE, ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY (6th ed. 2009); ZYGMUNT J.B. PLATER, ROBERT H. ABRAMS, ROBERT L. GRAHAM, LISA HEINZERLING, DAVID A. WIRTH & NOAH D. HALL, ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY (4th ed. 2010); RICHARD L. REVESZ, ENVIRONMENTAL LAW AND POLICY (2d ed. 2012).

These data show that when lawyers, scholars, and teachers practice, think, and teach about the field of environmental law, they do so primarily with reference to a relatively small set of common materials. Unlike other legal fields in which there may be a divergence among what materials are taught in law school courses, the materials requisite for knowledgeable participation in civic debate, and the materials important to legal academics,⁸⁶ in the field of environmental law a common set of materials predominates in all three of these forums. These statutes comprise the environmental law canon.

Comparing the six statutes in the environmental law canon to the various characteristics that differentiate among environmental laws,⁸⁷ the environmental law canon generally shares five characteristics in common—the role of environmental protection, the subject matter, the form of law, the level of government, and the institution charged with implementation:

- Laws in the environmental law canon are enacted primarily for the purpose of protecting the environment.
- Canonical environmental laws generally—but not universally⁸⁸—address pollution.
- Canonical environmental laws are statutes, including the progeny of statutes such as administrative regulations implementing a statute or cases interpreting a statute or regulation.
- Laws in the environmental law canon are national laws.
- EPA administers most laws in the environmental law canon.

In addition to sharing these functional attributes, the environmental law canon also shares a common historical pedigree. The statutes that comprise the environmental law canon are the product of the “Environmental Revolution”⁸⁹ of the 1970s, which encompassed the first Earth Day,⁹⁰ enactment of most of the

86. Jack Balkin and Sanford Levinson refer to these respectively as the “pedagogical canon,” “cultural literacy canon,” and the “academic theory canon.” Balkin & Levinson, *supra* note 74, at 975–76.

87. *See supra* Part I.A.

88. *See infra* Part I.B.2 (describing the special cases of NEPA and the Endangered Species Act).

89. *See, e.g.*, Jerry L. Anderson, *The Environmental Revolution at Twenty-Five*, 26 RUTGERS L.J. 395, 396 (1995); Denis Hayes, *Environmental Law and Millennial Politics*, 25 ENVTL. L. 953, 964 (1995); Wallace E. Oates, *On Environmental Federalism*, 83 VA. L. REV. 1321, 1328 (1997); *see also* Doremus, *supra* note 7, at 717 (referring to the “environmental law revolution”); Fischman, *supra* note 7, at 720 (same); Ruhl, *supra* note 7, at 1459.

90. *See* Anderson, *supra* note 89, at 395 (describing events during the first Earth Day on April 22, 1970).

major federal environmental statutes,⁹¹ and the creation of the EPA.⁹² That being said, only some of the federal environmental statutes Congress enacted during the 1970s are canonical; others receive relatively meager attention in cases, casebooks, and law review articles.⁹³

The environmental law canon, as the concept is employed here, is defined and functions largely descriptively. But the canon has normative elements as well. Within the environmental community it is largely revered, even when criticized.⁹⁴ Calls for political action on environmental issues often explicitly invoke the 1970s as a model and inspiration,⁹⁵ recognizing both the dramatic material

91. *See, e.g.*, Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified as amended at 16 U.S.C. §§ 1531-1544 (2012)); Clean Water Act, Pub. L. No. 91-224, 84 Stat. 91 (1970) (codified as amended at 33 U.S.C. §§ 1251-1387 (2006 & Supp. V 2011)); National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321-4370h (2006 & Supp. V 2011)); Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (1970) (codified at 42 U.S.C. §§ 7401-7671q (2006 & Supp. 2011)); *see also* LAZARUS, *supra* note 9, at 70 (listing eighteen major federal environmental protection statutes enacted during the 1970s).

92. Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623 (Oct. 6, 1970).

93. *See, e.g.*, Noise Control Act of 1972, Pub. L. No. 92-574, 86 Stat. 1234 (1972) (codified as amended at 42 U.S.C. §§ 4901-4918 (2006)). As compared with thousands of citations in cases and law reviews to the canonical environmental statutes, *see supra* Figures 2-3, just thirty-eight cases and ninety-two law review articles since 2000 have mentioned the Noise Control Act.

Some environmental histories have criticized, to greater and lesser extents, the narrative of the Environmental Revolution—that is, the idea that the early 1970s represented the spontaneous “divine conception” of a new field of law. *See, e.g.*, KARL BOYD BROOKS, *BEFORE EARTH DAY: THE ORIGINS OF AMERICAN ENVIRONMENTAL LAW, 1945-1970*, at 14 (2009). These histories have described the 1970s as a phase in the continued development of a body of law that long preceded the developments in the 1970s. *See, e.g., id.* Richard Lazarus has offered a more middle-ground perspective, emphasizing both the dramatic changes in the early 1970s and the historical antecedents to those changes. *See, e.g.*, LAZARUS, *supra* note 9, at 49 (“The environmental statutes and institutions that emerged in the 1970s were of a very different magnitude than any previously existing regimes for environmental protection, but they reflected a logical, albeit exponential, outgrowth of decades of legal evolution on closely related matters.”). Regardless, all of these histories readily acknowledge the significance of the 1970s to the construction of our current system of federal environmental statutes. *See, e.g.*, BROOKS, *supra*, at 15 (“The rate of environmental lawmaking attained its zenith in the early 1970s”); LAZARUS, *supra* note 9, at 69 (characterizing the 1970s as “a statutory and institutional transformation” during which “[s]eemingly every aspect of environmental protection and natural resource conservation was the subject of comprehensive congressional legislation”); Davies, *Alternative Energy and the Energy-Environment Disconnect*, *supra* note 32, at 486 (“No matter how environmental law’s historical taxonomy is built, it is plain that the 1970s were ground-shifting.”).

94. *See, e.g.*, LAZARUS, *supra* note 9, at 253 (opining that, despite “slippage,” “regulatory perversities,” and “serious and persistent socioeconomic and racial inequities,” “environmental law has been remarkably successful”).

95. *See, e.g.*, David K. Hausman, *Kerry Urges Eco-Awareness*, HARV. CRIMSON, Apr. 23, 2007, <http://www.thecrimson.com/article/2007/4/23/kerry-urges-eco-awareness-sen-john-kerry/> (reporting speech in which Senator John Kerry “urged a return to the environmental activism of the early 1970s”).

accomplishments of the enactments of that period and its strong idealism, which resonates with many environmentalists. William Eskridge and John Ferejohn have classified the statutes of the environmental law canon as examples of “superstatutes,”⁹⁶ which share three features:

[S]uperstatutes . . . (1) embod[y] a new principle or policy displacing common law baselines, responsive to important social or economic challenges facing the country; (2) [are] drafted and enacted after a process of publicized institutionalized deliberation responsive to the voices and needs of We the People; and (3) [are] stuck in the public culture, after a period of implementation and formal confirmation by Congress after further public discussion.⁹⁷

Superstatutes, although “subordinate to the Constitution,” become part of “the fundamental structure and values of American public policy,” “instantiat[ing] both social norms and legal rules.”⁹⁸ Thus, according to Eskridge and Ferejohn’s account of superstatutes, the environmental law canon becomes the focal point not only of environmental law, but of environmental norms more generally.

This points to a more subtle, and potentially pernicious, normative effect of the environmental law canon. The predominance of the environmental law canon in the field, and the strongly similar features the canon exhibits, project an image of environmental law that is more homogenous and narrow than the field as a whole. This, in turn, obscures the existence of environmental laws outside of the canon, and more importantly obscures the possibility of enacting environmental laws that do not resemble the canon.⁹⁹

96. WILLIAM N. ESKRIDGE, JR. & JOHN FERREJOHN, *A REPUBLIC OF STATUTES* 256, 301 (2010) (offering the Clean Air Act, Clean Water Act, and Endangered Species Act as examples of “superstatutes” that comprise a “green constitution”); William N. Eskridge, Jr. & John Ferejohn, *Super-Statutes*, 50 DUKE L.J. 1215, 1242–46 (2001) (discussing the Endangered Species Act as a “superstatute” case study); *see also* Jim Chen, *Legal Mythmaking in a Time of Mass Extinctions: Reconciling Stories of Origins with Human Destiny*, 29 HARV. ENVTL. L. REV. 279, 292 (2005) (“The National Environmental Policy Act of 1970 (‘NEPA’) and the Endangered Species Act of 1973 (‘ESA’) head the list of environmental ‘super-statutes’ whose ‘institutional [and] normative’ impact reaches issues ordinarily addressed through Constitutional law.” (footnotes omitted) (quoting Eskridge & Ferejohn, *supra*, at 1216)).

97. ESKRIDGE & FERREJOHN, *supra* note 96, at 26.

98. *Id.* at 27, 28.

99. An exception to this is the federalism debate over the optimal balance between national and state environmental regulation, which has received ample attention. *See, e.g.*, Jonathan H. Adler, *Jurisdictional Mismatch in Environmental Federalism*, 14 N.Y.U. ENVTL. L.J. 130, 151 (2005); Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Environmental Regulatory Authority*, 14 YALE L. & POL’Y REV. 23 (1996); Kirsten H. Engel, *State Environmental Standard-Setting: Is There a “Race” and Is It “to the Bottom”?*, 48 HASTINGS L.J. 271 (1997); Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570 (1996); Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the “Race-to-the-Bottom” Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210 (1992); Scott R. Saleska & Kirsten H. Engel, *“Facts Are Stubborn Things”: An Empirical Reality Check in the*

2. Special Cases: ESA and NEPA

Two canonical environmental statutes, the Endangered Species Act (ESA)¹⁰⁰ and National Environmental Policy Act (NEPA),¹⁰¹ present special cases. By any measure of prominence, the ESA and NEPA qualify as canonical. Commentators often describe the ESA and NEPA as among the most important environmental laws.¹⁰² Both the ESA and NEPA are among the most litigated environmental statutes, are among the most cited in law review articles, and appear in the leading environmental law casebooks.¹⁰³ Both focus overwhelmingly on environmental protection.¹⁰⁴ Both were enacted in the 1970s.¹⁰⁵

But the ESA and NEPA do not entirely follow the dominant pattern for the environmental law canon, and have some characteristics more associated with environmental laws outside the canon. Both statutes are often classified as resource statutes,¹⁰⁶ and receive extensive coverage in natural resources law

Theoretical Debate over the Race-to-the-Bottom in State Environmental Standard-Setting, 8 CORNELL J.L. & PUB. POL'Y 55 (1998); Peter P. Swire, *The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition Among Jurisdictions in Environmental Law*, 14 YALE L. & POL'Y REV. 67 (1996).

100. 16 U.S.C. §§ 1531–1544 (2012).

101. 42 U.S.C. §§ 4321–4370h (2006 & Supp. V 2011).

102. The ESA has been called “one of the most potent environmental laws,” J.B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CALIF. L. REV. 59, 59 (2010), and “one of America’s best-known and most important environmental laws,” Reed D. Benson, *Dams, Duties, and Discretion: Bureau of Reclamation Water Project Operations and the Endangered Species Act*, 33 COLUM. J. ENVTL. L. 1, 9 (2008). NEPA is often called the “Magna Carta” of environmental law. *See, e.g.*, Richard J. Lazarus, *Judging Environmental Law*, 18 TUL. ENVTL. L.J. 201, 209 (2004); Daniel R. Mandelker, *The National Environmental Policy Act: A Review of Its Experience and Problems*, 32 WASH. U. J.L. & POL'Y 293, 293 (2010).

103. *See supra* Part I.B (reporting the frequency that specific environmental statutes appear in cases, law review articles, and environmental law casebooks).

104. ESA § 2(b), 16 U.S.C. § 1531(b) (“The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.”); NEPA § 2, 42 U.S.C. § 4321 (“The purposes of this chapter are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.”).

105. Congress enacted NEPA in 1970, *see* National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970), and the ESA in 1973, *see* Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884.

106. *See, e.g.*, Fischman, *supra* note 7, at 669, 682 (referring to NEPA and the ESA, respectively, as resource statutes); Alyson C. Flournoy, Heather Halter & Christina Storz, *Harnessing the Power of Information to Protect Our Public Natural Resource Legacy*, 86 TEX. L. REV. 1575, 1591–92 (2008) (referring to NEPA as a resource statute); Alyson C. Flournoy, *Preserving Dynamic Systems: Wetlands, Ecology and Law*, 7 DUKE ENVTL. L. & POL'Y F. 105,

casebooks.¹⁰⁷ Neither statute focuses on pollution, and neither is primarily administered by EPA. The ESA is primarily administered by resource agencies—the Fish and Wildlife Service and National Oceanic and Atmospheric Administration’s Fisheries Service¹⁰⁸—but also places significant implementation responsibilities on all federal agencies.¹⁰⁹ NEPA’s obligations attach to “all agencies of the Federal Government.”¹¹⁰

Moreover, the nature of NEPA’s and the ESA’s requirements are such that implementation of those statutes becomes integrated with other, non-environmental law. NEPA requires federal agencies to prepare and release to the public an Environmental Impact Statement (EIS) before taking any major action “significantly affecting the quality of the human environment.”¹¹¹ This obligation attaches to agency programs as diverse as the Department of Housing and Urban Development’s funding of a housing development revitalization project,¹¹² the Federal Energy Regulatory Commission’s designation of a national interest electric transmission corridor,¹¹³ and the Army Corps of Engineers’ construction of a dam.¹¹⁴ The Endangered Species Act prohibits the “take” of any endangered species¹¹⁵ and further requires all federal agencies, in consultation with the Fish and Wildlife Service or the Fisheries Service, to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the

107 n.12 (1996) (referring to the ESA as a resource statute); Oliver A. Houck, *Of Bats, Birds and B-A-T: The Convergent Evolution of Environmental Law*, 63 *Miss. L.J.* 403, 464 (1994) (referring to NEPA as a resource statute). Although NEPA and the ESA are often classified as resource statutes, they have distinctive features—for example, primary focus on environmental protection, broad application across the federal government—that differentiate them from the other resource statutes and explain their prominence and inclusion in the canon.

107. *See, e.g.*, CHRISTINE A. KLEIN, FEDERICO CHEEVER & BRET C. BIRDSOING, *NATURAL RESOURCES LAW: A PLACE-BASED BOOK OF PROBLEMS AND CASES* 123–84, 759–823 (2005); JAMES RASBAND, JAMES SALZMAN & MARK SQUILLACE, *NATURAL RESOURCES LAW AND POLICY* 258–92, 348–440 (2d ed. 2009).

108. *See, e.g.*, ESA § 4, 16 U.S.C. § 1533 (delegating authority to list species as endangered or threatened to the Secretary of the Interior and Secretary of Commerce).

109. *See, e.g.*, ESA § 7(a)(2), 16 U.S.C. § 1536(a)(2) (requiring “[e]ach Federal agency” to insure that its actions are “not likely to jeopardize the continued existence of any endangered species or threatened species”).

110. NEPA § 102, 42 U.S.C. § 4332 (2006).

111. NEPA § 102(2)(C), 42 U.S.C. § 4332(2)(C). Not every federal action necessitates a full EIS. To determine whether the environmental impacts of a proposed action will be significant enough to warrant a full EIS, the agency may prepare an Environmental Assessment. *See* 40 C.F.R. §§ 1501.4(b)–(c), 1508.9 (2011). If, based on the Environmental Assessment, the agency concludes that the proposed action will not significantly impact the environment, it will issue a Finding of No Significant Impact in lieu of an EIS. *See* 40 C.F.R. § 1508.13 (2011). *See generally* *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 756–58 (2004) (providing an overview of EISs, Environmental Assessments, and Findings of No Significant Impact).

112. *Coliseum Square Ass’n v. Jackson*, 465 F.3d 215, 237–38 (5th Cir. 2006).

113. *Cal. Wilderness Coal v. U.S. Dep’t of Energy*, 631 F.3d 1072, 1096–98 (9th Cir. 2011).

114. *See Marsh v. Ore. Natural Res. Council*, 490 U.S. 360, 364–67 (1989).

115. ESA § 9(a)(1)(B), 16 U.S.C. § 1538(a)(1)(B) (2012).

destruction or adverse modification of [critical] habitat of such species.”¹¹⁶ These requirements, like NEPA, also apply to diverse circumstances, such as the Federal Emergency Management Agency’s (FEMA’s) provision of federal flood insurance,¹¹⁷ the Army’s ongoing operation of a military base,¹¹⁸ and the Department of Energy’s grant of an easement across its property for construction and use of a private mining road.¹¹⁹

Because NEPA and the ESA are for the most part implemented by agencies that do not specialize in environmental law, and because NEPA and the ESA’s requirements apply to activities not necessarily undertaken as part of environmental programs, both statutes are essentially incorporated into non-environmental programs. For example, the application of the ESA’s “take” and “jeopardy” provisions to FEMA’s National Flood Insurance Program essentially incorporates the ESA provisions into the federal flood insurance program.¹²⁰ The integration of NEPA and ESA implementation with non-environmental programs distinguishes NEPA and the ESA from other statutes in the environmental canon, which are administered by EPA as part of its set of environmental statutes. In fact, the integration of NEPA and ESA implementation with non-environmental programs resembles a key feature of some noncanonical environmental statutes—a category I call *embedded environmental laws*—which Part II examines in detail.

As statutes that receive widespread attention from practitioners and academics, but that have some distinctive features more associated with environmental laws outside of the canon than within it, the ESA and NEPA somewhat muddy the distinction between canonical and noncanonical environmental law. But the ESA’s and NEPA’s unusual, noncanonical features also make them potentially useful vehicles for understanding how the distinctive features of noncanonical environmental law operate.¹²¹ Moreover, the noncanonical characteristics of NEPA and the ESA enable both statutes to work synergistically in support of noncanonical environmental provisions.¹²²

3. Subcanonical Environmental Law

Outside of the core environmental law canon lie other sets of environmental laws that have some, but not all, of the features of canonical environmental law and a correspondingly diminished prominence in the field—well below the importance of the statutes in the canon, but still more important than other categories of noncanonical environmental law. Some of these subcanonical environmental laws have important links with canonical environmental laws.

Resource Statutes. Outside of the canon of federal statutes enacted primarily to protect the natural environment, the set of laws most closely associated with

116. ESA § 7(a)(2), 16 U.S.C. § 1536(a)(2).

117. See *Fla. Key Deer v. Paulison*, 522 F.3d 1133, 1141–44 (11th Cir. 2008) (holding that the ESA § 7 applies to FEMA’s administration of the National Flood Insurance Program).

118. *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1143 (D. Ariz. 2002).

119. *Sierra Club v. U.S. Dep’t of Energy*, 255 F. Supp. 2d 1177, 1190 (D. Colo. 2002).

120. See *Fla. Key Deer*, 522 F.3d at 1141–44.

121. See *infra* Part II.

122. See *infra* notes 231–32 and accompanying text.

environmental law are the federal natural resource statutes. They receive significant attention in case law, in law school curricula, and in legal scholarship—although to a lesser extent than the pollution statutes and with a disproportionate emphasis in the West.¹²³ Resource statutes share several characteristics that distinguish them from statutes in the environmental law canon. Resource statutes are mixed-motive environmental laws that, although they include a goal of conserving and preserving elements of the natural environment,¹²⁴ also intentionally facilitate the exploitation of natural resources.¹²⁵ Their subject matter is natural resources rather than pollution, and they are administered by resource agencies rather than by EPA.¹²⁶ Resource agencies are staffed and operate very differently than EPA, and even operate under different constitutional authority.¹²⁷

Other Federal Pollution Statutes. Not all federal pollution statutes fall within the environmental law canon. EPA administers other statutes lacking the prominence of the major pollution statutes that comprise the environmental law canon. Some of these EPA statutes, such as the Safe Drinking Water Act,¹²⁸ have the requisite features of the statutes in the canon but are much smaller programs by

123. In fact, the importance of publicly owned natural resources in rural areas of the West may give the resource statutes more prominence than the canonical pollution statutes in such areas.

124. *See, e.g.*, Federal Lands Policy and Management Act of 1976 (FLPMA) § 202(c)(3), 43 U.S.C. § 1712(c)(3) (2006) (instructing the Secretary of the Interior, in the management of public lands administered by the Bureau of Land Management, to “give priority to the designation and protection of areas of critical environmental concern”). Clean Water Act § 404, 33 U.S.C. § 1344 (2006), which regulates the placement of dredge and fill material in waters of the United States, presents an interesting question of classification. Although the Clean Water Act overall is a canonical pollution statute, the dredge-and-fill program under section 404 is often viewed instead as a wetlands protection provision more associated with natural resources law. *See, e.g.*, JEFFREY M. GABA, ENVIRONMENTAL LAW 88 (4th ed. 2009) (observing that section 404 “is typically not addressed in detail in environmental law casebooks”); Oliver A. Houck, *Retaking the Exam: How Environmental Law Failed New Orleans and the Gulf Coast South and How It Might Yet Succeed*, 81 TUL. L. REV. 1059, 1070 (2007) (“Originally seen as a pollution control program, section 404 quickly became a wetlands-development control program as well . . .”).

125. *See, e.g.*, FLPMA § 202(c)(1), 43 U.S.C. § 1712(c)(1) (instructing the Secretary of the Interior, in the management of the same public lands, to “observe the principles of multiple use and sustained yield,” which are defined to include the potential extraction of timber and minerals); *see also* LAZARUS, *supra* note 9, at 178 (“Natural resources laws historically equated the public interest with the economic exploitation and development of natural resources, although resource conservation and ‘public trust doctrine’ principles had emerged as a significant counterweight by the late nineteenth and early twentieth centuries . . .”).

126. *See, e.g.*, National Park Service Organic Act, 16 U.S.C. §§ 1–18f-3 (2012) (administered by the National Park Service); National Forest Management Act of 1976, 16 U.S.C. §§ 1600–1614 (administered by the Forest Service); Federal Lands Policy and Management Act of 1976, 43 U.S.C. §§ 1701–1787 (2006 & Supp. V 2011) (administered by the Bureau of Land Management).

127. EPA statutes operate largely under the authority of the Commerce Clause; natural resource statutes operate largely under the authority of the Property Clause.

128. 42 U.S.C. §§ 300f to 300j-26 (2006 & Supp. V 2011).

virtue of their narrower scope. Others aim at somewhat different objectives. The Toxic Substances Control Act (TSCA)¹²⁹ and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),¹³⁰ for example, address human health and environmental hazards throughout the life cycle of a substance rather than just when a substance is released into the environment. The Emergency Planning and Community Right-to-Know Act (EPCRA or EPCRTKA)¹³¹ addresses emergency planning and reporting of inventories and releases of hazardous chemicals.

State Law Analogues. Although the environmental law canon is decidedly federal—for example, no major environmental law casebook examines state environmental laws in detail—some state environmental statutes are functionally close to the canon. State environmental statutes are often modeled on federal environmental statutes.¹³² Many times this modeling arises because federal environmental statutes, through what is known as cooperative federalism or “delegated program federalism,”¹³³ allow state environmental programs to implement federal statutes.¹³⁴ To some extent, this relationship emphasizes and inflates the primacy of federal environmental law, because state environmental laws developed under cooperative federalism usually closely resemble the federal environmental laws they implement.¹³⁵ But the role of states in cooperative federalism regimes also gives states a degree of power in setting federal policy, because EPA sometimes lacks the capacity to supersede state programs and accordingly must defer to state programs even when they diverge from the supposedly minimum federal standard.¹³⁶ Even state statutes modeled on federal statutes may give states increased authority that federal agencies lack under their statutes. Washington’s cleanup statute, for example, includes petroleum and

129. 15 U.S.C. §§ 2601–2697 (2012).

130. 7 U.S.C. §§ 136–136y (2012).

131. 42 U.S.C. §§ 11001–11050 (2006).

132. *See, e.g.*, DEL. CODE ANN. tit. 7, §§ 6301–6309 (2011) (adopting hazardous waste management provisions similar to RCRA); 415 ILL. COMP. STAT. ANN. 5/11–13.7 (West 2011 & Supp. 2013) (adopting water pollution provisions similar to the Clean Water Act and Safe Drinking Water Act).

133. *See, e.g.*, Jessica Bulman-Pozen & Heather K. Gerken, *Uncooperative Federalism*, 118 YALE L.J. 1256, 1276 (2009) (“Since the 1970s, states have implemented and enforced most of the United States’s major environmental statutes.”); William W. Buzbee, *Asymmetrical Regulation: Risk, Preemption, and the Floor/Ceiling Distinction*, 82 N.Y.U. L. REV. 1547, 1565 (2007) (noting that federal environmental statutes often allow state governments to assume implementation and enforcement of a program if state laws are at least as stringent as federal requirements).

134. *See, e.g.*, Clean Water Act § 402(b), 33 U.S.C. § 1342(b) (2006) (allowing EPA to authorize state water pollution discharge permit programs implementing the Federal Clean Water Act).

135. *Compare, e.g.*, NEB. REV. STAT. ANN. § 71-5301.01 (LexisNexis 2008) (prohibiting the use of lead pipes, plumbing fixtures, solder, or flux in public water systems or plumbing that provides water for human consumption), with Safe Drinking Water Act § 1417(a)(1)(A), 42 U.S.C. § 300g-6(a)(1)(A) (2006 & Supp. V 2011) (same).

136. *See* Bulman-Pozen & Gerken, *supra* note 133, at 1276–77 (citing John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 MD. L. REV. 1183 (1995)).

petroleum products that CERCLA specifically excludes.¹³⁷ Pennsylvania's Clean Streams Law similarly covers more water bodies than the Federal Clean Water Act.¹³⁸

Common Law. The common law also occupies a special place in environmental law, in some ways like certain state environmental laws—outside the canon but also closely intertwined with it. Common law doctrines that address environmental problems share few features in common with canonical environmental laws. Common law has a primarily remedial purpose, whereas environmental regulation has a regulatory purpose.¹³⁹ Common law doctrines employ different regulatory mechanisms than statutes; common law imposes liability for the harm conduct causes, whereas statutes generally prohibit certain conduct, without a showing of individualized harm. Common law doctrines are judge-made and administered by courts through largely private litigation; statutes are enacted by legislatures and administered by administrative agencies. Common law doctrines are primarily state, rather than federal, law. The differences between environmental statutes and common law are in part quite deliberate. Modern environmental statutes were enacted in part because of the perceived inadequacy of common law doctrines to protect the environment.¹⁴⁰ But common law doctrines are also not entirely separate from environmental statutes—for example, courts often construe undefined statutory terms according to their meaning in the common law,¹⁴¹ and statutory requirements may help to define common law liability.¹⁴²

International Environmental Treaties. International environmental treaties lie at the intersection of the fields of environmental law and international law and form the foundation of international environmental law, a subfield of both fields. Some treaties have generated implementing legislation that shows up in the environmental law canon, such as the provisions of the Clean Air Act that implement the Montreal Protocol.¹⁴³

137. Compare CERCLA § 101(14), 42 U.S.C. § 9601(14) (2006) (stating that hazardous substance “does not include petroleum”), with WASH. REV. CODE ANN. § 70.105D.020(10)(d) (West 2011) (defining hazardous substance to include “[p]etroleum or petroleum products”).

138. Compare 40 C.F.R. § 122.2 (2013) (tying the definition of “waters of the United States” covered by the Clean Water Act to the waters’ effect on foreign and interstate commerce), with 35 PA. STAT. ANN. § 691.1 (West 2003) (defining “Waters of the Commonwealth” covered by the Clean Streams Law “to include any and all . . . bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth”).

139. PLATER ET AL., *supra* note 85, at 74.

140. See Percival, *supra* note 7, at 160 (noting that the major environmental statutes enacted in the 1970s were in part “adopted in response to perceived inadequacies of the common law”).

141. See, e.g., *United States v. Fountain*, 277 F.3d 714, 717 (5th Cir. 2001) (construing the Lacey Act by inquiring “whether Congress used terms which have a specific common-law meaning”).

142. See, e.g., *Gearhardt v. Am. Reinforced Paper Co.*, 244 F.2d 920, 922 (7th Cir. 1957) (affirming judgment for plaintiff where defendant negligently caused a fire that damaged plaintiff’s property in violation of Illinois state law).

143. See Clean Air Act §§ 601–618, 42 U.S.C. §§ 7671–7671q (2006 & Supp. V 2011).

4. Noncanonical Environmental Law

Outside of the categories of canonical and subcanonical environmental laws, there are other environmental laws that lie clearly apart from the canon of the field, both in terms of their relative obscurity within environmental law and differences in their characteristic features.

Some of these categories of noncanonical environmental law exhibit multiple features that separate them from the environmental law canon. For example, state natural resources statutes,¹⁴⁴ which tend to receive meager attention, are neither pollution statutes nor federal laws. Noncanonical environmental law also includes private law that addresses environmental concerns, such as a lease term that seeks to prevent the lessee from causing environmental contamination on the lessor's property.¹⁴⁵

Other categories of noncanonical environmental law, such as local land use law, are recognized independent legal fields. These related fields overlap incompletely with environmental law, in that some but not all of the laws within the field address environmental concerns. Such related fields have their own independent casebooks, scholarship, and doctrine.¹⁴⁶ Energy law provides an interesting example of a related field that may once have fit within the category of noncanonical environmental law, or perhaps not environmental law at all, but has arguably ascended to at least the category of subcanonical environmental law by virtue of energy law's increasing focus on environmental concerns and the increased appreciation of its important relationship to environmental issues such as air pollution and climate change.

Apart from related legal fields, other noncanonical environmental laws take the form of environmental provisions contained within a statute not primarily aimed at regulating environmental impacts, or environmental statutes contained within a larger non-environmental program. I collectively refer to these categories as *embedded environmental law*, reflecting the incorporation of environmental provisions or statutes into broader non-environmental statutes or programs.¹⁴⁷

144. See, e.g., ALA. CODE §§ 9-13-1 to -274 (LexisNexis 2001 & Supp. 2012) (state-owned forests); S.C. CODE ANN. §§ 49-29-10 to -230 (2008 & Supp. 2012) (state scenic rivers).

145. See, e.g., Heather Hughes, *Securitization and Suburbia*, 90 OR. L. REV. 359, 369 n.23 (2011) (contending that "private ordering [is] central to the concerns of environmental law"); Michael P. Vandenbergh, *The Private Life of Public Law*, 105 COLUM. L. REV. 2029, 2033 (2005) (arguing that "second-order agreements" among private actors create incentives that affect the implementation of public law regulation).

146. See, e.g., ALAN A. ALTSHULER & JOSÉ A. GÓMEZ-IBÁÑEZ, *REGULATION FOR REVENUE: THE POLITICAL ECONOMY OF LAND USE EXACTIONS* (1993); DANIEL R. MANDELKER, CAROL NECOLE BROWN, STUART MECK, DWIGHT H. MERRIAM, PETER W. SALSICH, JR., NANCY E. STROUD & JULIE A. TAPPENDORF, *PLANNING AND CONTROL OF LAND DEVELOPMENT* (8th ed. 2011).

147. Embedded environmental laws differ from legal fields or concepts that merely overlap in application with environmental law. Bankruptcy law, for example, often applies in circumstances in which environmental law also applies. See, e.g., *Cal. Dep't of Health Servs. v. Jensen*, 995 F.2d 925 (9th Cir. 1993) (addressing whether claim against business owners for costs of cleanup of hazardous waste at their former business property was discharged in their bankruptcy); *Penn Terra Ltd. v. Pa. Dep't of Env'tl. Res.*, 733 F.2d 267 (3d Cir. 1984)

Embedded environmental law—including its distinctive features and importance to the broader project of environmental law—is the focus of Part II.

II. EMBEDDED ENVIRONMENTAL LAW

Embedded environmental laws, a subspecies of noncanonical environmental law, are contained within a statute or program that is not primarily aimed at regulating environmental impacts and usually are administered by an agency that does not specialize in environmental issues. Essentially, embedded environmental laws are environmental laws organized with other, non-environmental laws. Embedded environmental laws thus lie within overlapping legal fields—both environmental law and whatever field they are embedded within.

Embedded environmental laws have heretofore been overlooked, both individually and collectively, as a category of functionally distinct environmental law. To a certain extent their obscurity is understandable. Embedded environmental laws do not compare to the environmental law canon in terms of size or prominence; they do not belong in the canon. Embedded environmental laws are hidden away in the law generally, isolated both substantively and institutionally from other environmental laws. Many of them are relatively minor provisions with uncertain environmental impacts or even an uncertain relationship to environmental concerns. But it is a mistake to ignore embedded environmental laws, in part precisely because they differ so much from the environmental law canon, for their differences create the basis for an alternative model of environmental lawmaking. Embedded environmental laws have the potential to play an increasing and constructive role in the future of environmental law.

This Part examines embedded environmental laws as a discrete and largely ignored category of environmental law. Part II.A identifies four different types of embedded environmental laws, adding clarity to the definition of the category. Part II.B then explores how the features identified in Part I.C, which differentiate among environmental laws, are manifested in embedded environmental law. Part II.C examines the implications of those features for how embedded environmental laws function as compared with the environmental law canon. Finally, Part II.D argues that embedded environmental law is an alternative and parallel system that can complement and substitute for canonical environmental law, helping environmental law to address some of its major challenges.

A. Types

Because statutes are not necessarily codified by the same method of organization as they are enacted, environmental laws can be embedded at creation only, at implementation only, or at both creation and implementation:

(addressing whether Bankruptcy Code's automatic stay precluded state agency from enforcing injunction against bankruptcy debtor to correct violations of various state environmental protection statutes). This overlap poses interesting and important questions for the application of both legal fields, *see, e.g.*, Jason S. Brookner, *Environmental Claims in Bankruptcy: An Overview*, 112 BANKING L.J. 124 (1995); Stanley M. Spracker & James D. Barnette, *The Treatment of Environmental Matters in Bankruptcy Cases*, 11 BANKR. DEV. J. 85 (1995), but does not by itself transform bankruptcy laws into environmental laws.

- An environmental law is embedded only at creation if it is enacted as part of a non-environmental statute but administered with an environmental statute or program. For example, the Energy Policy Act of 2005,¹⁴⁸ which overall was not an environmental law, included provisions amending the Clean Air Act with respect to regulation of renewable fuels.¹⁴⁹
- An environmental law is embedded only at implementation if it is enacted as part of an environmental statute but administered with a non-environmental statute or program. For example, the Clean Air Act Amendments of 1990¹⁵⁰ amended the Occupational Safety and Health Act of 1970¹⁵¹ to require the Occupational Safety and Health Administration to issue “a chemical process safety standard designed to protect employees from hazards associated with accidental releases of highly hazardous chemicals in the workplace.”¹⁵²
- An environmental law is embedded at both creation and implementation if it is enacted as part of a non-environmental statute and codified and administered with a non-environmental statute or program. For example, section 4(f) of the Department of Transportation Act of 1966, which restricts the use of certain parklands and historic areas for federal transportation projects, was enacted and is codified as part of the Department of Transportation’s enabling statute.¹⁵³

This Part’s examination of embedded environmental laws will focus on those embedded at both creation and implementation, because those laws most thoroughly exhibit the distinctive characteristics of embedded environmental laws and stand in sharpest contrast with canonical environmental statutes. Its observations and conclusions about laws embedded at both creation and implementation apply in part, however, to the functioning of environmental laws embedded only at creation (and not implementation) or only at implementation. Such partially embedded environmental laws function as a hybrid of characteristics associated with conventional environmental laws and characteristics associated with fully embedded environmental laws. For example, take the Energy Policy Act of 2005’s amendments to the Clean Air Act,¹⁵⁴ embedded at creation but not

148. Pub. L. No. 109-58, 119 Stat. 594.

149. *Id.* § 1501, 119 Stat. at 1067–76 (amending Clean Air Act § 211, 42 U.S.C. § 7545).

150. Pub. L. No. 101-549, 104 Stat. 2399.

151. 29 U.S.C. §§ 651–678 (2006 & Supp. V 2011).

152. Clean Air Act Amendments of 1990 § 304(a), 29 U.S.C. § 655.

153. Pub. L. No. 89-670, § 4(f), 80 Stat. 931, 934 (1966) (codified as amended at 49 U.S.C. § 303 (2006)); *see also, e.g.*, Airport and Airway Improvement Act of 1982 (AAIA), 49 U.S.C. § 47106(c)(1)(B) (2006) (requiring Federal Aviation Administration to take “every reasonable step” to avoid approving airport runway development projects that will have “a significant adverse effect on natural resources”); Electric Consumers Protection Act of 1986, Pub. L. No. 99-495, § 3(b), 100 Stat. 1243, 1243–44 (amending Federal Power Act § 10(a), 16 U.S.C. § 803(a)(1), to add “the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat)” to the required elements of any hydropower licenses approved by the Federal Power Commission (now the Federal Energy Regulatory Commission)).

154. Energy Policy Act of 2005 § 1501, 119 Stat. at 1067–76 (amending Clean Air Act § 211).

implementation: enacting the amendments as part of an energy bill, rather than as part of a statute focused on the Clean Air Act, likely affected the politics of the legislation.¹⁵⁵ On the other hand, once EPA incorporated the amendments into the Agency's ongoing Clean Air Act programs, the amendments essentially became part of the environmental law canon. Depending on the objectives and the circumstances, hybridity may pose an advantage or a disadvantage.

B. Features

Embedded environmental laws have distinctive features in common that help both to define the category and to distinguish it from other environmental laws. Embedded environmental laws are thus more than just examples of environmental laws outside of the canon; they are their own coherent category.

Implementing Institution. Whereas most statutes within the environmental law canon are administered by EPA, and many of the subcanonical resource statutes are administered by resource agencies with significant environmental experience and expertise, embedded environmental laws are often administered by agencies that are not primarily environmental, such as the Internal Revenue Service's administration of an excise tax on ozone-depleting substances,¹⁵⁶ the Department of Transportation's administration of section 4(f) of its organic act,¹⁵⁷ or the Federal Energy Regulatory Commission's administration of section 10(a) of the Federal Power Act, requiring hydropower licenses to provide "adequate protection, mitigation, and enhancement of fish and wildlife."¹⁵⁸

Role of Environmental Protection. As one gets further away from the environmental law canon, the role of the environment in environmental laws tends to get murkier and less prominent. The environment, to the extent it is a focus at all, lacks the claims of primacy that it enjoys in the environmental law canon. For example, the excise tax on ozone-depleting substances was enacted both to protect the stratospheric ozone layer and to raise revenue.¹⁵⁹ The Plant Protection Act,¹⁶⁰ which aims to control the spread of plant pests and noxious weeds, mentions environmental concerns among its statutory objectives but seems primarily oriented toward protecting the agriculture sector.¹⁶¹ Similarly, the Indian Gaming Regulatory Act,¹⁶² among its various provisions, states six requirements for tribal gaming ordinances for class II gaming under the statute; one of those six requirements provides that the gaming must be "conducted in a manner which adequately protects the environment and the public health and safety."¹⁶³ This

155. See *infra* Part II.C.3 (examining the political characteristics of embedded environmental laws).

156. 26 U.S.C. §§ 4681–4682 (2006).

157. Department of Transportation Act § 4(f), 80 Stat. at 934 (codified as amended at 49 U.S.C. § 303).

158. 16 U.S.C. § 803(a)(1) (2012).

159. See *infra* note 223 (describing the history of the tax).

160. 7 U.S.C. §§ 7701–7786 (2012).

161. See *id.* § 7701 (setting forth congressional findings).

162. 25 U.S.C. §§ 2701–2721 (2006).

163. *Id.* § 2710(b)(2)(E).

isolated environmental provision is buried within a statute focused generally on gaming's ability to promote tribal economic development and concerns about potentially corrupting influences such as organized crime.¹⁶⁴ Indeed, for many embedded environmental laws, even the environmental-ness of the law at all is unclear.¹⁶⁵

Subject Matter and Media. Consistent with the predominance of the environmental law canon, when Congress addresses an environmental problem involving a subject matter or media similar to existing canonical environmental law, Congress tends to utilize the environmental law canon, using existing regulatory mechanisms implemented by agencies specializing in environmental regulation. Thus, for example, Congress addressed anthropogenic depletion of the stratospheric ozone through the Clean Air Act Amendments of 1990, which directed EPA to regulate ozone-depleting substances under the Clean Air Act.¹⁶⁶ Congress tends to enact embedded environmental laws, on the other hand, to address more novel environmental problems—for example, the invasive plant species regulated under the Plant Protection Act, airport noise regulated under the Aviation Safety and Noise Abatement Act of 1979,¹⁶⁷ or marketing of organically produced products regulated under the Organic Foods Production Act of 1990.¹⁶⁸

Breadth. Given their relative obscurity, it is not surprising that embedded environmental laws are smaller and narrower programs than the canonical environmental statutes. One of the ways in which embedded environmental laws are narrow, however, has important functional implications: many embedded environmental laws target a specific sector—for example, environmental provisions of the Food Security Act of 1985,¹⁶⁹ which targets agriculture; section 10(a) of the Federal Power Act, which targets hydropower;¹⁷⁰ and section 4(f) of the Department of Transportation Act, which targets transportation.¹⁷¹ Sector-specific environmental laws are more readily embedded into other non-environmental programs because many non-environmental government programs are sector specific and are administered by sector-specific institutions such as the Department of Agriculture, the Federal Energy Regulatory Commission, and the Department of Transportation.

164. *See, e.g., id.* § 2702.

165. *See infra* Part III.C.

166. 42 U.S.C. §§ 7671–7671q (2006 & Supp. V 2011).

167. Pub. L. No. 96-193, 94 Stat. 50 (codified as amended at 49 U.S.C.A. §§ 47501–47510 (West 2007 & Supp. 2013)).

168. 7 U.S.C. §§ 6501–6522 (2012).

169. Pub. L. No. 99-198, 99 Stat. 1354. The Food Security Act (FSA) contains two environmental provisions—known as Sodbuster, FSA §§ 1211–1213, 16 U.S.C. §§ 3811–3813 (2012), and Swampbuster, FSA §§ 1221–1223, 16 U.S.C. §§ 3821–3823—that condition farmers' eligibility for many federal farm program benefits on minimum standards of protection for certain environmentally sensitive lands. Sodbuster denies eligibility to farmers who convert highly erodible land to crop production without an approved soil conservation system. 16 U.S.C. § 3811. Swampbuster denies eligibility to farmers who convert a wetland to crop production. 16 U.S.C. § 3821.

170. 16 U.S.C. § 803.

171. 49 U.S.C. § 303 (2006).

Despite these patterns, to a significant extent a defining characteristic of embedded environmental laws is their diversity of features. Embedded environmental laws are not constrained by the comparatively homogenous model of the environmental law canon. In addition to addressing different types of subject matter and media, with different roles for environmental protection, and administered by different agencies than the environmental law canon, embedded environmental laws employ a broader variety of regulatory mechanisms, including taxes,¹⁷² incentives,¹⁷³ and planning requirements,¹⁷⁴ as well as more conventional regulation.¹⁷⁵

C. Implications

Canonical environmental law is integrated with other environmental law. For example, a federal regulation restricting air pollutant emissions from a power plant¹⁷⁶ is integrated with other federal air pollution regulation—administered by the same subagency (EPA’s Office of Air and Radiation), as part of the same statutory program (Clean Air Act). Canonical environmental law is segregated,

172. 26 U.S.C. §§ 4681–4682 (2006).

173. 16 U.S.C. §§ 3811–3813.

174. 49 U.S.C. § 303.

175. 49 U.S.C. §§ 5101–5128 (2006 & Supp. V 2011). As previously mentioned, *see supra* Part I.B.2, there are interesting parallels between the implementation of NEPA and the ESA and the implementation of embedded environmental laws. Like the administration of embedded environmental laws, NEPA analyses and ESA consultations are often undertaken by agencies that are not environmental specialists. *See, e.g., Fla. Key Deer v. Paulison*, 522 F.3d 1133 (11th Cir. 2008) (applying section 7 of the ESA to Federal Emergency Management Agency); *Am. Bird Conservancy, Inc. v. FCC*, 516 F.3d 1027, 1029 (D.C. Cir. 2008) (per curiam) (applying NEPA to Federal Communications Commission); *Soc’y Hill Towers Owners’ Ass’n v. Rendell*, 210 F.3d 168, 173 (3d Cir. 2000) (applying NEPA to Department of Housing and Urban Development). Agencies apply NEPA and the ESA in conjunction with their administration of other non-environmental statutes, *see, e.g., Fla. Key Deer*, 522 F.3d at 1141–44 (applying section 7 of the ESA to the Federal Emergency Management Agency’s implementation of the National Flood Insurance Act); *Am. Bird Conservancy*, 516 F.3d at 1032–34 (applying NEPA to Federal Communications Commission implementation of the Communications Act of 1934); *Soc’y Hill Towers Owners’ Ass’n*, 210 F.3d at 173 (applying NEPA to Department of Housing and Urban Development’s implementation of the Housing and Community Development Act of 1974), just as agencies often apply embedded environmental laws in conjunction with their administration of broader non-environmental programs. For example, the Department of Transportation implements section 4(f)’s environmental requirements in conjunction with its broader administration of transportation funding under the Department of Transportation Act, *see, e.g., Laguna Greenbelt, Inc. v. U.S. Dep’t of Transp.*, 42 F.3d 517 (9th Cir. 1994) (per curiam), and the Department of Agriculture implements Swampbuster’s environmental requirements in conjunction with its broader administration of farm subsidy programs, *see, e.g., Gunn v. U.S. Dep’t of Agric.*, 118 F.3d 1233 (8th Cir. 1997). In both types of situations, the presence of the environmental law—NEPA, the ESA, or an embedded environmental statute—integrates environmental concerns with other policy objectives.

176. *See, e.g., 40 C.F.R. §§ 60.40Da–.52Da* (2013) (setting forth Standards of Performance for Electric Utility Steam Generating Units).

however, from non-environmental law—the same federal regulation restricting air pollutant emissions from a power plant is not integrated, for example, with labor standards¹⁷⁷ that apply to the power plant.

Embedded environmental law, on the other hand, is segregated from environmental law but integrated with some body of non-environmental law with which it shares other attributes. For example, section 4(f) is integrated with transportation programs in the Department of Transportation but segregated from programs that apply to parklands.¹⁷⁸

Comparing embedded environmental laws and the environmental law canon thus implicates questions about how to organize the law—in essence, comparing how a particular environmental provision would function as part of a broader environmental statute administered by an agency specializing in environmental policy, with how it would function as part of a program focused on the regulated activity.¹⁷⁹ One way to think about how law should be organized in its enactment and administration is in terms of complementarities of function, which can be used to decide whether functions should be coordinated or administered independently.¹⁸⁰ Where functions are complementary, there are likely to be benefits from coordinating those functions.¹⁸¹ Embedded environmental law offers the possibility that, in a particular situation, there may be greater complementarity of function among certain environmental and non-environmental provisions that govern the same activity than among environmental provisions that govern a particular type of environmental harm.

Lawmakers producing environmental law choose—whether deliberately or inadvertently—what form the law should take. In choosing whether to address an environmental problem by adding a new provision modeled on the environmental

177. *See, e.g.*, 29 C.F.R. §§ 531.1–.60 (2013) (regulating wage payments under the Fair Labor Standards Act of 1938).

178. In this respect, NEPA and the ESA operate differently than other statutes in the environmental law canon. *See supra* Part I.B.2. Because much of the responsibility for implementing NEPA and, albeit to a lesser extent, the ESA rests with non-environmental agencies implementing what are otherwise non-environmental programs, *see supra* notes 109–10 and accompanying text, the administration of NEPA and the ESA resembles the administration of an embedded environmental law. When NEPA requires the Department of Housing and Urban Development (HUD) to prepare an Environmental Assessment before approving a housing redevelopment project, for example, it is as if NEPA has been embedded in HUD's housing program. This is not just a question of overlapping application, as it would be with a Clean Water Act requirement that applied to the housing project. NEPA integrates into HUD's program, actually becoming part of the Agency's process for approving the housing project.

179. *Cf.* Eric Biber, *The More the Merrier: Multiple Agencies and the Future of Administrative Law Scholarship*, 125 HARV. L. REV. F. 78, 79 (2012), http://www.harvardlawreview.org/media/pdf/forvol125_biber.pdf (“A key question is whether you want to manage the externality-causing activity separately from the externality, or together.”).

180. *See* David A. Weisbach & Jacob Nussim, *The Integration of Tax and Spending Programs*, 113 YALE L.J. 955, 988–97 (2004).

181. *Id.* Assessing functional complementarity with any specificity, however, can be very difficult. *Id.* at 997.

law canon or by enacting a new embedded environmental provision, lawmakers should carefully consider the implications of the differences between the two.

The remainder of this Subpart compares how the differences in the features of canonical and embedded environmental laws affect the ways in which they function legally, institutionally, and politically. The purpose of this functional comparison is not to claim that embedded environmental law is categorically superior to canonical environmental law, or vice versa. Rather, the specific context in which a law applies determines whether a particular functional characteristic poses an advantage or disadvantage.

1. Legal Functions

Ideally, laws would exhibit an attribute of comprehensive and complete coherence—that is, perfect coherence across all possible axes of comparison. A federal statute regulating air pollutant emissions from coal-fired power plants, for example, ideally would be entirely coherent with other federal air pollution regulation, with other federal environmental regulation, with other federal non-environmental regulation of power plants and of the electricity they generate, and with state and local environmental and non-environmental regulation of power plants. Without such coherence, laws can work inefficiently, operate at cross-purposes, or even conflict.

Purposeful coherence, however, is costly to attain. It requires coordination—potentially, coordination at every stage of the legal process: during the enactment of the legislation, during the agency proceedings to implement the legislation, and during the enforcement process. Comprehensive and complete coherence across the entire web of interrelated laws is infeasible. Realistically, then, coherence will be limited at best, and lawmakers face a tradeoff in deciding what coherence to prioritize.

The way the law is organized increases the salience of certain of its characteristics, thereby facilitating the coherence of laws that share those characteristics. A massive environmental statute such as the Clean Air Act may be sprawling, complex, and far from comprehensively coherent, but it exhibits certain discernible internal patterns. Accordingly, a regulatory provision within the Clean Air Act is more likely to be coherent with other provisions of the Act than with a provision of another statute. Similarly, a provision of a Farm Bill is more likely to be coherent with another provision of the Farm Bill than with the Clean Water Act.

The relative merit of creating a new environmental provision as part of an environmental statute or by embedding it in a non-environmental statute thus depends in significant part on whether greater value arises from coherence with other environmental laws or coherence with other non-environmental laws that address the same conduct. Canonical environmental law—environmental law organized with other environmental law—is more likely to produce internal coherence and consistency within the field of environmental law. Embedded environmental law—environmental law organized with other non-environmental law—is more likely to generate coherence and consistency in the law of the field in which it is embedded.

The benefits of coherence, moreover, likely increase as the concentration of regulation in the sector increases.¹⁸² Thus, in ascertaining whether a new environmental policy would function better if enacted within existing environmental programs (canonical environmental law) or with other non-environmental programs targeting the same industry (embedded environmental law), policymakers should compare the relative intensity of regulation in each sphere, all else equal favoring placement of the new law in the more intense sphere, at what one might call the *regulatory center of gravity*.

Thus, it makes sense to regulate corporate disclosure of environmental liabilities as part of a program regulating corporate disclosures rather than as part of a program focusing on environmental liabilities.¹⁸³ Existing securities laws intensively regulate other, non-environmentally related corporate disclosures.¹⁸⁴ On the other hand, although environmental regulatory programs such as CERCLA create environmental liabilities, they do not generally regulate the disclosure of such liabilities. The center of regulatory gravity for corporate disclosure of environmental liability, and accordingly the likely greatest benefit from coherence, is located within the programs regulating corporate disclosures (embedded environmental law) rather than within environmental regulatory programs (canonical environmental law).

In weighing the relative merits of organizing new environmental law within existing environmental programs or separate from those existing programs, the relative conduciveness of each form to innovation may be an important consideration. In particular, coherence with existing law can be a drag on innovation. By its very nature, coherence pushes in the direction of conformity rather than diversity. The framework of existing statutes therefore constrains options for regulatory innovation within those programs.¹⁸⁵ Even statutory amendments usually accomplish only incremental change.¹⁸⁶ Thus, addressing an environmental problem by making changes within the environmental law canon will likely result in a new environmental law that looks more like existing environmental law than if the problem is addressed by enacting a new provision of embedded environmental law, separate from the extant canon. Embedded environmental law, less burdened by the need to conform to existing environmental

182. On the other hand, the costs of coordination also substantially increase as the intensity of regulation increases—the more there is to coordinate, the more difficult it is to coordinate.

183. See, e.g., Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241). See generally John W. Bagby, Paula C. Murray & Eric T. Andrews, *How Green Was My Balance Sheet?: Corporate Liability and Environmental Disclosure*, 14 VA. ENVTL. L.J. 225 (1995).

184. See Regulation S-K, 17 C.F.R. pt. 229 (2013).

185. See Daniel J. Fiorino, *Toward a New System of Environmental Regulation: The Case for an Industry Sector Approach*, 26 ENVTL. L. 457, 480 (1996) (“[A] truly new regulatory system cannot be implemented within the existing legal framework . . .”).

186. Even the massive and dramatic Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399, which significantly revamped the Clean Air Act and were many times longer than the original Clean Air Act of 1970, for the most part added new elements to existing programs and did not replace the existing statutory programs.

programs, provides a structure more conducive to experimentation and policy innovation than canonical environmental statutes.

Another important consideration is the organization of the field into which the environmental provision is embedded. Just as environmental law has its own internal organization,¹⁸⁷ other fields do as well, probably including some hierarchical order of prominence. The effectiveness of an environmental provision embedded into another field likely depends on how the environmental provision integrates with the field. To the extent the other field has canonical statutes with heightened salience within that field, and concomitant higher levels of attention and resources, an environmental provision embedded within one of those canonical statutes would likely be more efficacious than if it were embedded in a less prominent statute. The effects of the Swampbuster provision of the Food Security Act and of section 4(f) of the Department of Transportation Act are enhanced, for example, because the Food Security Act—a Farm Bill—and the Department of Transportation Act are canonical within their respective fields of agricultural law and transportation law. On the other hand, precisely because of the salience of a canonical statute within its field, it may be politically more difficult to embed an environmental provision in a canonical statute of another field than in a statute that is more obscure to the field.

2. Institutional Functions

Embedded environmental law also differs fundamentally from the environmental law canon because the agencies that administer embedded environmental laws differ from EPA. EPA is the acknowledged environmental expert and specialist in the Executive Branch. The Agency's mission focuses on environmental protection.¹⁸⁸ Even for programs that Congress delegates to another agency, as to issues that implicate environmental concerns, Congress often directs the implementing agency to coordinate with EPA.¹⁸⁹ EPA has accumulated a staff of thousands of environmental experts with which no other federal agency can compete.¹⁹⁰

Embedded environmental law thus poses institutional challenges, because it puts environmental lawmaking in the hands of administrative agencies that lack experience and expertise—and perhaps motivation as well—in addressing environmental protection. For many agencies, environmental protection is a secondary goal, and is potentially perceived to be at odds with the agency's other,

187. *See supra* Part I.B.

188. *Our Mission and What We Do*, *supra* note 61 (“The mission of EPA is to protect human health and the environment.”).

189. *See, e.g.*, 21 U.S.C. § 349 (2006) (directing the Secretary of Health and Human Services to consult with EPA after it has issued a new drinking water regulation under the Safe Drinking Water Act regarding whether to promulgate regulations applying the EPA regulation to bottled drinking water).

190. *See* OFFICE OF INSPECTOR GEN., EPA, REP. NO. 11-P-0136, EPA NEEDS BETTER AGENCY-WIDE CONTROLS OVER STAFF RESOURCES 1 (2011) (reporting that the Agency employed somewhat over 18,000 people during fiscal years 2006–2010).

primary goals.¹⁹¹ Based on these factors, it might seem that delegating an environmental program to an agency other than EPA would invariably pose a disadvantage to the effectiveness of the program.

But EPA is far from perfect. It is already overburdened with existing statutory mandates.¹⁹² It is highly bureaucratic in ways that may impair its ability to respond with speed and agility to new policy challenges.¹⁹³ Violent swings of the political pendulum have left the agency with what William Ruckelshaus, its first Administrator, has called “battered agency syndrome.”¹⁹⁴ EPA also has traditionally concentrated on pollution and public health; the agency may have less institutional advantage in addressing environmental problems that lie outside of these realms.

Moreover, despite their relative lack of expertise on environmental issues, non-environmental agencies may better understand the non-environmental dimensions of a problem. Drawing again on the example of corporate disclosures of environmental liabilities,¹⁹⁵ the SEC may not have EPA’s deep expertise on issues of environmental liability, but it has much stronger experience than EPA on issues of corporate disclosure, and that expertise may be more relevant than environmental expertise to the overall success of corporate disclosures of environmental liabilities.

Other agencies also may be more willing and able to depart from the environmental law canon’s paradigm that dominates EPA. Agencies are notorious for their predilection toward the status quo and against dramatic change.¹⁹⁶ Delegating a new environmental program to EPA, an agency with an existing heavy environmental docket, is thus likely to result in a new program that strongly resembles existing EPA programs. Delegating a new environmental program to an agency such as the Department of Agriculture, which focuses far less on environmental regulation, puts the agency in a position of writing policy on a relatively cleaner slate. At the very least, the institutional tendencies of a non-environmental agency such as the Department of Agriculture are likely to be based on its existing programs that differ significantly from the environmental law canon. The Swampbuster provision of the Food Security Act, for example, has features

191. See Todd S. Aagaard, *A Functional Approach to Risks and Uncertainties Under NEPA*, 1 MICH. J. ENVTL. & ADMIN. L. 87, 115 (2012); cf. Eric Biber, *Too Many Things to Do: How to Deal with the Dysfunctions of Multiple-Goal Agencies*, 33 HARV. ENVTL. L. REV. 1, 6–30 (2009) (describing the tendency of multiple-goal agencies to focus on certain primary goals at the expense of secondary goals).

192. See Lakshman Guruswamy, *Integration & Biocomplexity*, 27 ECOLOGY L.Q. 1191, 1233 (2001) (referring to EPA Administrator as “harassed and overburdened”); William D. Ruckelshaus, *Stopping the Pendulum*, ENVTL. F., Nov./Dec. 1995, at 25, 26 (“Any senior EPA official will tell you that the agency has the resources to do not much more than ten percent of the things Congress has charged it to do.”).

193. See, e.g., 139 CONG. REC. 31174 (Nov. 20, 1993) (statement of Sen. Baucus) (criticizing “EPA’s bloated bureaucratic process”).

194. Ruckelshaus, *supra* note 192, at 25.

195. See *supra* notes 183–84 and accompanying text.

196. See Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2263 (2001) (noting bureaucracies’ tendency toward “inertia and torpor”).

consistent with existing agriculture programs built around subsidy programs but functions quite differently from the Clean Water Act's wetlands program.¹⁹⁷

The prospect of dispersing environmental programs across agencies throughout the federal government may induce concerns of fragmentation, which “can yield conflicting policies that frustrate each other, or duplicative policies that waste effort . . . [or] gaps [that are] unaddressed.”¹⁹⁸ But all regulation is fragmented across some dimensions, and so delegating all federal regulatory authority over environmental issues to EPA would fragment environmental regulations from other non-environmental regulations that apply to the same industry. Even environmental programs are generally fragmented by environmental media.

The question, then, is not whether to fragment regulatory programs—they must be fragmented—but rather which shared features to organize together and which to fragment. Fragmenting across some dimensions—for example, allocating regulatory authority over environmental problems across multiple agencies—may allow integrating others, such as coordinated environmental and non-environmental regulation of a particular sector.

In sum, the question of whether an environmental or non-environmental agency would most effectively administer an environmental provision does not as clearly favor the environmental agency as one might initially assume. Environmental agencies have the advantage of environmental expertise and focus, but non-environmental agencies offer their own advantages. In particular, the organization of embedded environmental laws¹⁹⁹ and their institutional setting²⁰⁰ may work in combination to free embedded environmental laws from the constraints of existing environmental regulatory systems and provide circumstances conducive for experimental environmental lawmaking and closer coordination with non-environmental programs.

3. Political Functions

As political conditions such as the degree of partisanship and the particular parties in power of the Presidency and Congress change, the viability of different forms of legislation changes as well. Differences in the features of embedded environmental laws and the environmental law canon lead them to function differently politically, in ways that likely affect their relative political viability.

First, the mere existence of an alternative to the canonical form of environmental law increases the political viability of enacting some new

197. See Clean Water Act § 404, 33 U.S.C. § 1344 (2006).

198. Jonathan B. Wiener, *Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law*, 17 N.Y.U. ENVTL. L.J. 210, 218 (2008). For other examples of the ample academic literature noting the problems of fragmentation, see, for example, James M. Buchanan & Yong J. Yoon, *Symmetric Tragedies: Commons and Anticommons*, 43 J.L. & ECON. 1, 11–12 (2000); Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131, 1147–48 (2012); Samuel J. Rascoff & Richard L. Revesz, *The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation*, 69 U. CHI. L. REV. 1763, 1814–15 (2002).

199. See *supra* Part II.C.1.

200. See *supra* Part II.C.2.

environmental law. EPA and its canonical regulatory programs have sometimes been²⁰¹—as they are currently²⁰²—a political lightning rod. The backlash against EPA represents not only resistance to concrete aspects of the agency’s specific programs, but also considerable use of EPA as a symbol of excessive and heavy-handed regulation more generally.²⁰³ Such conditions pose a substantial obstacle to any legislation that would attempt to invest EPA with additional authority, and also reduces the Agency’s ability to effectively implement its existing authorities. In such circumstances, environmental legislation in the canonical form is politically infeasible.²⁰⁴ Environmental provisions within larger non-environmental legislation that delegates to agencies other than EPA, on the other hand, may remain viable.

Even in circumstances in which Congress might be willing to invest EPA with additional new authority, embedded environmental legislation may remain politically attractive. In conferring authority on EPA, Congress may be concerned whether the agency will be willing and able to act on its delegated authority.²⁰⁵ Congress can mitigate the risk of EPA implementation failure, or indeed implementation failure by any particular agency, by legislating across multiple fronts—for example, multiple embedded environmental laws administered by different agencies, or both canonical and embedded environmental laws—thereby improving the likelihood that some policy to address the problem will be implemented.²⁰⁶ Delegating environmental laws across a broader range of institutions could allow other agencies to implement substitute policies when EPA is stymied.

201. See Ruckelshaus, *supra* note 192, at 25 (describing a pattern of alternating “pro-environmental excess” and “anti-environmental excess” that caused EPA to suffer from “battered agency syndrome”).

202. See *supra* note 14 and accompanying text; see also *infra* note 241.

203. See, e.g., John Boozman, *Regulation Overload*, SENATE.GOV (Jan. 22, 2013), <http://www.boozman.senate.gov/public/index.cfm/2013/1/regulation-overload> (assailing “excessive regulations” by various federal agencies, and citing EPA as the “biggest offender”).

204. Environmental legislation may, however, be more politically viable than alternatives. Pennsylvania’s recently enacted Act 13, governing natural gas drilling in the state, imposes charges on unconventional natural gas wells. The Republican governor, Tom Corbett, has successfully defended the charges as an impact fee rather than a tax. See Brad Bumsted, *Corbett Disputes Claim that Impact Fee Is Tax*, PITT. TRIB.-REV., Nov. 22, 2011 (noting Governor Corbett’s argument that the levy on unconventional natural gas drilling is not a tax but “a fee to cover government costs associated with drilling”). But see Elizabeth Stelle & Nathan Benefield, *What’s the Difference Between a Tax and a Fee?*, COMMONWEALTH FOUND. (May 31, 2011), <http://www.commonwealthfoundation.org/policyblog/detail/whats-the-difference-between-a-tax-and-a-fee> (“[T]here are many reasons why [the impact fee] more closely represents a tax than a fee.”). Evidently new taxes can be even more politically combustible than new environmental regulation.

205. Cf. Jacob E. Gersen & Anne Joseph O’Connell, *Deadlines in Administrative Law*, 156 U. PA. L. REV. 923, 949 n.84 (2008) (“The EPA’s pattern of missing statutory deadlines has been well documented.”).

206. See Todd S. Aagaard, *Regulatory Overlap, Overlapping Legal Fields, and Statutory Discontinuities*, 29 VA. ENVTL. L.J. 237, 292–94 (2011) (noting that redundant delegations of regulatory authority can increase the likelihood of successful regulatory action).

Second, the politics of embedded environmental laws differ from the politics of the environmental law canon because embedded environmental laws are part of legislation and programs that do not focus overall on environmental protection. Major legislation focused on environmental protection generally has no advantages over the status quo to offer the would-be regulated industries, as a result of which the regulated industries generally have strong incentive to attempt to kill environmental legislation.²⁰⁷ Some state governments, moreover, may resist large-scale expansions of federal environmental regulation that displaces more lenient state-level regulation and pressures state governments into assisting in implementation.²⁰⁸ Embedded environmental provisions, by contrast, are contained within statutes that focus on goals other than environmental protection, many of which may be advantageous to an industry. Thus, for example,²⁰⁹ although farmers may have opposed the Sodbuster and Swampbuster restrictions in isolation, because they condition farmers' eligibility for many federal farm program benefits on minimum standards of protection for certain environmentally sensitive lands,²¹⁰ the overall Food Security Act included numerous provisions, such as price supports and farm loans, that benefited farmers.²¹¹

Third, the political stakes will tend to be smaller for embedded environmental laws than for major environmental legislation. Embedded environmental laws tend to impose lighter economic burdens on a narrower range of regulatory targets, and therefore invite less political opposition than a major environmental statute. By contrast, even a relatively insignificant amendment to a canonical environmental statute can implicate large political stakes, because one attempt to amend a statute can be perceived to create opportunities for other amendments to the statute, quickly escalating the stakes for what started as a proposal for a small change.²¹² Thus, the same provision could be politically far less combustible in terms of

207. *But see* RICHARD N.L. ANDREWS, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY* 209 (2d ed. 2006) (noting that industries in the 1960s “acquired a powerful new interest in obtaining moderate and uniform federal standards that would preempt more stringent and inconsistent state and local standards,” laying the foundation for a national Clean Air Act).

208. *See* Robert V. Percival, *Environmental Federalism: Historical Roots and Contemporary Models*, 54 MD. L. REV. 1141, 1144 (1995) (“State and local governments argue that federal regulations infringe on their autonomy and sovereignty, and that they impose costly unfunded mandates states can ill afford.”).

209. Sodbuster denies eligibility to farmers who convert highly erodible land to crop production without an approved soil conservation system. 16 U.S.C. § 3811 (2012). Swampbuster denies eligibility to farmers who convert a wetland to crop production. *Id.* § 3821.

210. *See supra* note 169 (explaining the Sodbuster and Swampbuster provisions).

211. *See, e.g.*, Food Security Act of 1985, Pub. L. No. 99-198, § 401, 99 Stat. 1354, 1395–1406 (providing loan program for feed grains); *id.* § 801, 99 Stat. at 1441–43 (providing price support for soybeans).

212. *Cf.* Fiorino, *supra* note 185, at 480 (“None of these constituencies is willing to abandon the existing legal and regulatory framework without assurances that their agendas will be protected.”); Roger P. Hansen & Theodore A. Wolff, *Reviewing NEPA’s Past: Improving NEPA’s Future*, 13 ENVTL. PRAC. 235, 246 (2011) (“The problem with amending NEPA is that it opens a Pandora’s box of amendments offered by vocal NEPA opponents to weaken, water down, or even eliminate NEPA or its effectiveness.”).

environmental politics as a provision of a larger piece of non-environmental legislation than as an amendment to a major environmental statute. On the other hand, the politics of the other field into which an embedded environmental law is inserted are important as well. Embedding environmental provisions in non-environmental legislation is likely to be more politically viable than amending a major environmental statute primarily in situations in which the non-environmental legislation falls within a field in which there is less political controversy than in environmental policy.²¹³

Fourth, the fact that embedded environmental law is dispersed and involves comparatively low stakes may make it a more difficult target for political organizing by interest groups. This may give Congress and agencies more discretion and autonomy in making environmental law out of the political spotlight. The difficulties of political organizing with regard to embedded environmental laws may, however, disproportionately burden environmental groups. Industry groups likely are already well organized with respect to the various congressional committees and agencies that regulate them and who would be responsible for new embedded environmental laws—for example, the congressional agriculture committees. Environmental groups, on the other hand, would tend to be better organized and familiar with the committees and agencies responsible for canonical environmental law—for example, the House Natural Resources Committee and the Senate Environment and Public Works Committee. Moreover, whereas EPA is sometimes accused of exhibiting bias against industry,²¹⁴ sector-specific agencies such as the Department of Agriculture and Department of Transportation are often characterized as captured by their respective industries.²¹⁵ Thus, embedded environmental laws may tend to be less stringent than environmental laws in a canonical form. But canonical environmental legislation is often not politically viable; embedded environmental laws may sometimes be the only available option.

Despite the potential advantages of embedded environmental laws, one type of embedded environmental law—appropriations riders—exemplifies the potential downsides to noncanonical environmental legislation. Appropriations riders are isolated legislative provisions attached to larger appropriations bills to take advantage of the larger bill's political momentum and the relative lack of process

213. How the embedded environmental law fits into the field in which it is embedded also affects its political viability. The political difficulty of embedding an environmental provision in a statute of another field likely increases as the salience of the statute in the other field increases, although the efficacy of an environmental provision embedded in a statute of another field likely also increases as the salience of the statute in the other field increases. *See supra* Part II.C.1.

214. *See, e.g.*, MINORITY STAFF OF S. COMM. ON ENV'T & PUB. WORKS, 111TH CONG., EPA'S ANTI-INDUSTRIAL POLICY: "THREATENING JOBS AND AMERICA'S MANUFACTURING BASE" (2010). *But see* Jeff Nesmith, *Senators Attack Mercury Proposal; EPA Accused of Pro-industry Bias*, ATLANTA J.-CONST., Apr. 13, 2004, at 3A (reporting senators' allegation that proposed EPA regulation showed pro-industry bias).

215. *See* Steven G. Calabresi, *Some Normative Arguments for the Unitary Executive*, 48 ARK. L. REV. 23, 84 n.148 (1995) (contending that industry-specific agencies are susceptible to capture by their respective industries).

and deliberation in appropriations legislation.²¹⁶ Environmental appropriations riders, often creating exemptions from environmental requirements, have proliferated in recent decades,²¹⁷ roughly coinciding with the ongoing legislative stagnation on broader environmental legislation. As Richard Lazarus has observed, this development represents a trend away from “coherent, comprehensive environmental legislation” and toward appropriations riders as an important form of environmental legislation, a development that Lazarus criticizes as “nondeliberative, back-door, private deal-making” that undermines deliberative democracy.²¹⁸

Although environmental appropriations riders pose a cautionary example regarding the potential for democratically unsound embedded environmental laws, many embedded environmental laws do not share the defects of appropriations riders. Embedded environmental laws such as section 4(f) of the Department of Transportation Act²¹⁹ and the Swampbuster and Sodbuster provisions of the Food Security Act²²⁰ embody constructive environmental policies enacted through a standard legislative process. Accordingly, the example of environmental appropriations riders serves as a cautionary reminder of how embedded environmental laws can be misused, but does not support a categorical critique of embedded environmental laws.

D. Weighing Advantages and Disadvantages

As the discussion in Part II.C indicates, the distinctive features of noncanonical environmental laws present both benefits and costs in terms of effectiveness, and each of the potentially useful features of embedded environmental laws has a possible downside as well:

216. Richard J. Lazarus, *Congressional Descent: The Demise of Deliberative Democracy in Environmental Law*, 94 GEO. L.J. 619, 635–36 (2006). Perhaps the most (in)famous environmental appropriations rider is the Energy and Water Development Appropriation Act, 1980, Pub. L. No. 96-69, 93 Stat. 437, 449–50 (1979), which overrode the Supreme Court’s decision in *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978), holding that the ESA prohibited completion of the Tellico Dam project in Tennessee because it would destroy the endangered snail darter’s habitat.

217. Lazarus, *supra* note 216, at 640–47.

218. *Id.* at 622; *see also* Sandra Beth Zellmer, *Sacrificing Legislative Integrity at the Altar of Appropriations Riders: A Constitutional Crisis*, 21 HARV. ENVTL. L. REV. 457, 476 (1997). *But see* Scott H. Segal & Jonathan H. Adler, *Appropriations Riders and Environmental Reform: How Appropriate?* 13 (Competitive Enterprise Institute Entl. Discussion Paper 95-3, 1995) (arguing that appropriations riders are a beneficial “means of holding unresponsive agencies in check”). Not all environmental appropriations riders are “anti-environmental.” *See, e.g.*, Department of the Interior, Environment, and Related Agencies Appropriations Act, 2006, Pub. L. No. 109-54, §§ 104–106, 119 Stat. 499, 521–22 (2005) (restricting offshore oil and gas leasing in certain areas); H.R. REP. NO. 111-316, at 109 (2009) (directing EPA “to carry out a study on the relationship between hydraulic fracturing and drinking water”).

219. 49 U.S.C. § 303 (2006).

220. 16 U.S.C. §§ 3811–3813 (2012); *id.* §§ 3821–3823.

- Embedding environmental law provisions in non-environmental statutes and programs may result in more coherence among those laws, but perhaps at the cost of inconsistency with other environmental laws.
- Delegating environmental protection to agencies other than EPA may broaden the scope of environmental law and policy, but other agencies may lack expertise to understand complex environmental issues or commitment to environmental protection.
- Non-environmental agencies may enjoy a less acrimonious relationship with the private sector, but they also may be less assertive regulators as well.
- Dispersed programs may be more agile and conducive to experimentation, but they also may be more susceptible to regulatory capture and may exhibit the disadvantages of fragmentation.

Because of their potential downsides, embedded environmental laws as a category do not always function better than canonical environmental laws. In many circumstances, the ideal environmental statute may take the form of “comprehensive environmental legislation” that Richard Lazarus rightly lauds as the backbone of American environmental policy.²²¹ But broad canonical environmental statutes are not necessarily more effective than embedded environmental provisions in every instance. And even when perhaps theoretically preferable, canonical environmental legislation often is politically not viable. Thus, embedded environmental law provides a superior alternative to canonical environmental law either where it is functionally superior to canonical environmental law or where canonical environmental law is not available.

In addition to the possibility of substituting for canonical environmental law, embedded environmental laws also can serve as a valuable supplement to canonical environmental laws. Here are two examples of environmental laws administered by non-environmental agencies and embedded within non-environmental programs, working synergistically with canonical environmental statutes administered by EPA.

First, the Internal Revenue Code imposes an excise tax on ozone-depleting chemicals, with the amount of the tax increasing over time and with the ozone-depleting potential of the substance.²²² The excise tax, enacted as part of the Omnibus Budget Reconciliation Act of 1989,²²³ supplements other regulatory

221. Lazarus, *supra* note 216, at 622.

222. 26 U.S.C. §§ 4681–4682 (2006); *see also* 26 C.F.R. § 52.4682–1 (2013).

223. Pub. L. No. 101-239, 103 Stat. 2106. The tax came to be enacted through an “almost serendipitous consensus.” Thomas A. Barthold, *Issues in the Design of Environmental Excise Taxes*, J. ECON. PERSP., Winter 1994, at 133, 136. The World Resources Institute had advocated for a tax on ozone-depleting chlorofluorocarbons in a 1986 report. J. Andrew Hoerner, *Taxing Pollution*, in *OZONE PROTECTION IN THE UNITED STATES* 39, 39 (Elizabeth Cook ed., 1996). In 1989, President George H.W. Bush, following an earlier similar proposal from EPA under the Reagan Administration, *see* Protection of Stratospheric Ozone, 53 Fed. Reg. 30,604 (proposed Aug. 12, 1988) (advance notice of proposed rulemaking asking for public comment on a possible fee or auction for ozone-depleting substances), proposed to restrict the consumption and production of chemicals that deplete stratospheric ozone by

initiatives, undertaken pursuant to the Montreal Protocol and enacted as part of the Clean Air Act Amendments of 1990, that directly limit production and consumption of ozone-depleting substances.²²⁴ Some have concluded the excise tax has been “probably more effective in eliminating the production of offending chemicals than the regulatory provisions” it was intended to supplement.²²⁵

Second, a provision of the Federal Aid Highways Act²²⁶ establishes the Congestion Mitigation and Air Quality (CMAQ) Program, which authorizes the Department of Transportation to use federal transportation funding to support transportation projects that contribute to air quality improvements.²²⁷ Some specific elements of the program specifically target projects that contribute to a state’s efforts to attain a National Ambient Air Quality Standard (NAAQS) under the Clean Air Act.²²⁸ The CMAQ Program is consistent with a provision in the Clean Air Act prohibiting any “department, agency, or instrumentality of the Federal Government” from approving or assisting “any activity” that does not conform to a state’s efforts, through a state implementation plan (SIP), to attain a National Ambient Air Quality Standard.²²⁹ The CMAQ Program, however, goes beyond merely prohibiting efforts that undermine air quality and provides affirmative support for projects that improve air quality. Congress added the CMAQ Program to the Federal Aid Highways Act as part of the Intermodal Surface Transportation Efficiency Act of 1991.²³⁰

Embedded environmental laws also work synergistically with NEPA, a canonical environmental statute not administered by EPA. When NEPA and embedded environmental laws apply in conjunction with each other,²³¹ NEPA’s

auctioning the rights to produce such chemicals. *See* Barthold, *supra*, at 136–37. Meanwhile, a Congressional Budget Resolution had directed the House Ways and Means Committee and the Senate Finance Committee to raise more revenue. *See id.* at 137; Hoerner, *supra*, at 41. Individual members of both committees already had proposed bills that included taxes on ozone-depleting substances, motivated in part to raise revenue and in part to address ozone depletion. *See* Barthold, *supra*, at 137; Hoerner, *supra*, at 40–41. The convergence of efforts to limit ozone-depleting and an objective to raise tax revenue created conditions conducive to the bipartisan support that enacted the excise tax. *See* Barthold, *supra*, at 137. The dual objectives of the tax—to protect the ozone layer and to raise revenue—highlight how the tax, like other embedded environmental laws, falls within the fields of both tax law and environmental law.

224. Protection of Stratospheric Ozone, 53 Fed. Reg. 30,566 (Aug. 12, 1988) (codified at 40 C.F.R. §§ 82.1–13 (2013)). The Clean Air Act provisions are codified at 42 U.S.C. §§ 7671–7671m (2006 & Supp. V 2011).

225. John C. Dernbach, *Sustainable Development as a Framework for National Governance*, 49 CASE W. RES. L. REV. 1, 93 (1998).

226. 23 U.S.C. §§ 101–190 (2006 & Supp. V 2011).

227. *Id.* § 149.

228. *See id.* § 149(b)(1)(A)(i).

229. 42 U.S.C. § 7506 (2006). *See generally* Arnold W. Reitze, Jr., *Improving Transportation-Related Air Quality Under the Clean Air Act’s Conformity Requirement and the Intermodal Surface Transportation Efficiency Act of 1991*, 3 ENVTL. LAW. 631 (1997) (describing the background of this conformity requirement).

230. Pub. L. No. 102-240, § 1008, 105 Stat. 1914, 1932.

231. *See, e.g.*, *Natural Res. Def. Council, Inc. v. U.S. Dep’t. of Agric.*, 613 F.3d 76 (2d Cir. 2010) (applying NEPA and the Plant Protection Act to the Department of Agriculture’s

primary contribution differs from its usual role of integrating environmental concerns with other policy objectives. The embedded environmental laws already put environmental concerns on the agency's agenda. NEPA, however, integrates embedded environmental laws into a broader body of environmental law—NEPA law—that establishes a process and framework for considering environmental concerns. This process and framework are especially important for agencies that lack significant environmental experience and expertise. At the same time, because NEPA's dictates are broad and only procedural, it allows agencies the flexibility to tailor their NEPA processes to their own specific statutory directives. NEPA essentially provides institutional support for the implementation of embedded environmental laws.²³²

Together, these three examples illustrate how embedded environmental statutory provisions can supplement and complement canonical environmental statutes. Even if they will never and should never fully displace conventional environmental laws, noncanonical environmental laws deserve consideration as a potentially useful tool in the environmental law toolbox.

E. Looking Forward: Three Challenges for Next-Generation Environmental Law

Although to date embedded environmental law has been overshadowed by the environmental law canon, it has the potential to play a much more significant role in environmental law moving forward. In particular, embedded environmental law, by virtue of its differences from the environmental law canon, offers an alternative model for environmental lawmaking that may complement, or even to some extent substitute for, more conventional policy responses in addressing the major challenges currently facing environmental law. Part II.E will discuss the potential application of embedded environmental law to meeting three such challenges: legislative stagnation, integration with non-environmental law, and climate change. The attributes of embedded environmental law identified in Part II.B make embedded environmental laws a valuable and perhaps essential component of an effective solution to these challenges.

1. Stagnation

Environmental law, at least in Congress, has stagnated. Canonical environmental legislation, by virtue of the size of the programs it enacts and the costs it imposes on the industries it regulates, automatically generates resistance and therefore requires tremendous political support to be enacted. The landmark federal environmental statutes that comprise the environmental law canon required—and received—broad bipartisan support in Congress when they were

regulation of importation of solid wood packaging material); *Laguna Greenbelt, Inc. v. U.S. Dep't of Transp.*, 42 F.3d 517 (9th Cir. 1994) (applying NEPA and section 4(f) to the Federal Highway Administration's approval of a tollroad project).

232. This is not to say, however, that an agency can or should attempt to meld the statutes entirely. *See, e.g., Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 203 (D.C. Cir. 1991) (noting that “[a]lthough an agency’s analysis under NEPA and the Transportation Act might proceed in similar tracks, the two statutes are not precisely the same,” and proceeding to identify differences therein).

enacted in the 1970s. Support for environmental protection was a consensus issue.²³³

Political conditions have changed dramatically since the 1970s. Commentators describe a climate of “bitter partisan gridlock”²³⁴ and a “starkly partisan divide”²³⁵ on environmental issues in Congress. Since the 1970s Democrats and Republicans in Congress have sharply diverged in their support for environmental protection.²³⁶ Environmental issues have become a proxy for an ideological battle over the appropriate extent of federal regulatory authority.²³⁷ “What began in 1970 as a relatively bipartisan political issue has become, thirty years later, a largely partisan issue about which there is little common ground between the two political parties”²³⁸

Whatever the causes of the loss of political consensus and the increasing politicization of environmental issues at the federal level,²³⁹ the current political context is highly inhospitable to the enactment of major environmental legislation and has been so for quite some time. Indeed, environmental lawmaking in Congress has been largely at an impasse for two decades now. The last major federal environmental statute was the Clean Air Act Amendments of 1990.²⁴⁰ The impasse shows no signs of abating; if anything, the prospects for significant new federal environmental legislation seem bleaker than ever. EPA has become a political lightning rod, a target for ridicule by Republican political candidates and congressional leaders.²⁴¹ In the face of congressional inaction, EPA is forced to use old statutes to address new environmental issues.²⁴²

233. See, e.g., Andrews, *supra* note 8, at 224 (noting that in the early 1970s “solidly bipartisan majorities [in Congress] vested this new agency [(EPA)] with sweeping new powers”); Lazarus, *supra* note 8, at 1002, 1003 n.17 (noting the “overwhelming majorities” and “lopsided votes” that enacted environmental statutes in the 1970s). This is not to imply that the enactment of major federal environmental statutes during these periods was nonpolitical. See generally, e.g., BRUCE A. ACKERMAN & WILLIAM T. HASSLER, CLEAN COAL/DIRTY AIR (1981).

234. Andrews, *supra* note 8, at 255 (“For the present, it is clear that any hope of significant environmental policy reform in Congress continues to be held hostage to bitter partisan gridlock . . .”).

235. Lazarus, *supra* note 8, at 1004 (“Today, however, a starkly partisan divide exists in environmental law.”).

236. *Id.* at 1012–13.

237. See Andrews, *supra* note 8, at 238.

238. Lazarus, *supra* note 8, at 1019.

239. See ANDREWS, *supra* note 207, at 350–51 (discussing some causes, including a reassertion of organized opposition from business interests, passive public support, and the use of the environment as a symbolic issue).

240. Pub. L. No. 101-549, 104 Stat. 2399. Congress enacted two somewhat significant environmental statutes in 1996—the Food Quality Protection Act of 1996, Pub. L. No. 104-170, 110 Stat. 1489, and the Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, 110 Stat. 1613—but neither would qualify as part of the environmental law canon, a major environmental law on the order of the Clean Air Act Amendments of 1990, or the landmark legislation of the 1970s.

241. See, e.g., sources cited *supra* note 14.

242. For example, although the Clean Air Act is not well-suited to address climate

In the current era of extreme partisanship and political stalemate, especially in environmental policy, embedded environmental law's distinctive features are likely to give it more political viability than canonical environmental law. Embedded environmental laws avoid EPA, instead delegating authority to agencies such as the Department of Agriculture that may enjoy more bipartisan support in Congress. Embedded environmental laws can be part of a legislative package, such as an energy policy bill or farm bill, that contains many elements advantageous to industry. Embedded environmental laws involve smaller political stakes and are more conducive to innovative and experimental policy solutions that may enjoy broader political appeal.

Recent legislative events support the proposition that environmental laws outside the canon may be more politically viable than environmental laws in a canonical form. Despite the legislative gridlock of the last decade, Congress recently has enacted some significant—not major, but nevertheless significant—pieces of environmental legislation:

- The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006²⁴³ amended and reauthorized the Magnuson-Stevens Fishery Conservation and Management Act,²⁴⁴ the primary federal statute regulating fisheries.²⁴⁵
- The Food, Conservation, and Energy Act of 2008,²⁴⁶ also known as the 2008 Farm Bill, contained a provision that significantly amended the Lacey Act,²⁴⁷ a 1900 statute that prohibits trafficking in illegal fish, wildlife, or plants. The 2008 amendments expanded the Lacey Act's scope to include more plants and plant products, including illegally logged timber.²⁴⁸
- The Omnibus Public Land Management Act of 2009,²⁴⁹ an amalgamation of 164 separate bills relating to public lands, among other things designated millions of acres of new wilderness and a thousand miles of new wild and scenic rivers.²⁵⁰

All three of these statutes exhibit markedly noncanonical characteristics. The Lacey Act amendment exemplifies the features of embedded environmental law.

change, in the absence of climate change legislation, EPA has been forced to take regulatory action to address climate change under the Clean Air Act. *See* *Massachusetts v. EPA*, 549 U.S. 497 (2007) (holding that EPA could avoid taking regulatory action under the Clean Air Act with respect to greenhouse gas emissions from new motor vehicles only if it were to determine that such greenhouse gas emissions do not contribute to climate change).

243. Pub. L. No. 109-479, 120 Stat. 3575 (2007).

244. 16 U.S.C. §§ 1801–1891d (2012).

245. *See* Robin Kundis Craig, *Taking the Long View of Ocean Ecosystems: Historical Science, Marine Restoration, and the Oceans Act of 2000*, 29 *ECOLOGY L.Q.* 649, 668 (2002).

246. Pub. L. No. 110-246, 122 Stat. 1651.

247. 16 U.S.C. §§ 3371–3378 (2012).

248. Pub. L. No. 110-246, § 8204, 122 Stat. at 2052–56.

249. Pub. L. No. 111-11, 123 Stat. 991.

250. *See* *Congress Votes 'Yes' to Sweeping Public Lands Protection Act*, ENV'T NEWS SERVICE NEWSWIRE, Mar. 25, 2009, <http://www.ens-newswire.com/ens/mar2009/2009-03-25-01.asp>.

Although the Magnuson-Stevens amendments and the Omnibus Public Land statute fall within the category of subcanonical environmental laws rather than embedded environmental laws, they share several key features in common with embedded environmental laws, and these features contribute to their political viability.

First, none of these new statutes is administered by EPA. The National Oceanic and Atmospheric Administration (NOAA), an agency within the Department of Commerce, administers the Magnuson-Stevens Act.²⁵¹ The Department of Agriculture, and specifically the Animal and Plant Health Inspection Service, enforces the new Lacey Act provisions.²⁵² Various federal land management agencies, such as the Bureau of Land Management, Forest Service, and National Park Service, administer the newly designated public lands.²⁵³

Second, all three statutes pursue additional objectives beyond environmental concerns—that is, they are “mixed-motive” environmental statutes. The Magnuson-Stevens Reauthorization Act includes provisions sought by the fishing industry to manage fisheries.²⁵⁴ The Lacey Act amendments protect U.S. timber companies from underpriced imports.²⁵⁵ The Omnibus Public Land Act includes new historical parks and water supply projects.²⁵⁶

Third, the three statutes sweep narrowly compared with canonical environmental statutes. Although they are significant, fisheries management, illegally logged timber, and new public lands designations do not match the breadth of the canonical environmental statutes, which regulate large swaths of the American economy.

Not only was Congress able to enact these statutes during a period of overall political stagnation on environmental issues, it was able to do so on a bipartisan basis with wide margins. The reauthorization of Magnuson-Stevens was bipartisan compromise legislation, endorsed by both conservation groups and the fishing industry²⁵⁷ and passed in both the House and Senate by voice vote.²⁵⁸ The Food, Conservation, and Energy Act and Omnibus Public Land Management Act passed by wide bipartisan margins in both the House and Senate.²⁵⁹

251. See NAT'L OCEANIC & ATMOSPHERIC ADMIN., MAGNUSON-STEVENS REAUTHORIZATION ACT FACT SHEET (2008), available at <http://www.noaa.gov/factsheets/new%20version/magstevens.pdf>.

252. See, e.g., Implementation of Revised Lacey Act Provisions, 76 Fed. Reg. 10,874 (Feb. 28, 2011).

253. See Omnibus Public Land Management Act, 123 Stat. 993–95 (identifying the agency associated with each set of new authorizations).

254. See Allison A. Freeman, *Attention Turns to House as Magnuson Breezes Through Senate*, ENV'T & ENERGY DAILY, June 20, 2006 (quoting a statement approving elements of the legislation by a representative of the National Fisheries Institute, a fishing industry group).

255. See Dan Berman, *Illegal Timber, Omnibus Parks Bills Lead House Suspension Calendar*, ENV'T & ENERGY DAILY, Dec. 3, 2007.

256. See, e.g., Omnibus Public Land Act §§ 7001–7003, 9101–9115, 123 Stat. at 1183–89, 1298–1321.

257. See Freeman, *supra* note 254 (noting that the legislation passed the Senate by unanimous consent and that “[g]roups representing the fishing industry and environment and ocean advocates applauded the legislation”).

258. See Bill Summary & Status: H.R. 5946, LIBRARY CONG., <http://thomas.loc.gov/cgi-bin/bdquery/z?d109:HR05946:@@R>.

259. See Bill Summary & Status: H.R. 146, LIBRARY CONG., <http://thomas.loc.gov/cgi>

It is reasonable to conclude that the noncanonical character of these three statutes contributed to their political viability. The absence of EPA from the debate, the relatively confined scope of the legislation, and the multiple objectives of the legislation all enabled negotiation and compromise that eventually resulted in passage of the statutes. The absence of EPA, a political lightning rod, dampened opposition to the bills by reducing the political temperature of the debate. Perhaps most important, the multiple objectives of the three statutes increased support for the bills by broadening beyond environmentalists the range of interests who perceived a benefit over the status quo. Fishing interests joined conservationists in supporting the Magnuson-Stevens Reauthorization Act because it contained changes perceived as beneficial over the existing statute.²⁶⁰ The American Forest and Paper Association joined environmentalists in supporting the Lacey Act amendments because it protected domestic timber suppliers from competition from illegally harvested imports.²⁶¹ Tribes joined environmentalists in supporting the Omnibus Public Land Act because it included water development projects and tribal cultural protections beneficial to them.²⁶²

This is not to say that passage of the statutes was uncontroversial or nonpolitical. The Magnuson Stevens Act required extensive negotiations among different camps of legislators and competing versions of legislation, prodded along at key points by Senator Ted Stevens, who was seeking a coda to his Senate career.²⁶³ The Lacey Act amendments were revised in committee to reduce compliance burdens, and languished in committee before finally being inserted into the broader Farm Bill.²⁶⁴ The Omnibus Public Land Act triggered substantial opposition from Republicans.²⁶⁵ But, unlike recent attempts to enact canonical environmental legislation, these three statutes were able to overcome the political obstacles in their paths and to gain

-bin/bdquery/z?d111:HR00146:@@R (noting the Omnibus Public Land Act passed the Senate by a 77–20 vote and the House by a 285–140 vote); *H.R. 2419 (110th): Food, Conservation, and Energy Act of 2008*, GOVTRACK.US, <https://www.govtrack.us/congress/bills/110/hr2419> (noting the legislation passed the House by a 318–106 vote and the Senate by a 79–14 vote, followed by similar votes to override President Bush’s veto).

260. See Freeman, *supra* note 254.

261. See *Illegal Logging: Lacey Act*, AM. FOREST & PAPER ASS’N (July 2013), <http://www.afandpa.org/docs/default-source/default-document-library/lacey-act-one-pager-july-2013.pdf?sfvrsn=2>.

262. See, e.g., Omnibus Public Land Management Act §§ 1506, 9106, 123 Stat. at 1040, 1304–09.

263. See, e.g., Freeman, *supra* note 254; Lauren Morello & Allison A. Freeman, *Magnuson-Stevens Still in Play as Activists Plan for Dem Congress*, ENV’T & ENERGY DAILY, Nov. 10, 2006; Allison Freeman Winter, *Stevens Attempts to Revive Magnuson with New Proposal*, ENV’T & ENERGY DAILY, Dec. 7, 2006; Allison Freeman Winter, *Last-Gasp Attempts at Magnuson Dead in Water—Rep. Gilchrest*, ENV’T & ENERGY DAILY, Dec. 6, 2006.

264. See Berman, *supra* note 255.

265. See Patrick O’Connor, *House GOP Derails Public Lands Bill*, POLITICO (Mar. 11, 2009, 2:25 PM EDT), <http://www.politico.com/news/stories/0309/19894.html>; R.J. Smith, *Omnibus Public Land Management Act of 2009 on House Floor Today—170 Bills in One; Half Have Had No Hearings*, AMY RIDENOUR’S NAT’L CENTER BLOG (Mar. 11, 2009, 3:01 AM), <http://www.conservativeblog.org/amyridenour/2009/3/11/omnibus-public-land-management-act-of-2009-on-house-floor-to.html>.

passage, even by wide margins.²⁶⁶ In short, they succeeded where proposals for canonical environmental legislation have failed.

Three anecdotal examples cannot prove a general conclusion, but they do provide some evidence supporting the idea that noncanonical environmental laws can remain politically viable during periods of strong partisan conflict over environmental issues when attempts to enact new canonical environmental laws may be thwarted. The history of embedded environmental legislation provides further support for this proposition. Unlike canonical environmental law, which has tended to be enacted during a specific period from 1970 to 1990, Congress enacted embedded environmental laws before,²⁶⁷ during,²⁶⁸ and after²⁶⁹ the heyday of canonical environmental legislation.

2. Integration

Environmental law's shortcomings can be measured by the mismatch that exists between environmental problems and environmental law. In part because of the political stagnation on environmental issues, existing environmental laws do not adequately address environmental problems. The Clean Water Act, for example, largely exempts nonpoint source discharges, even though such pollution is a major cause of impaired water quality.²⁷⁰ Meanwhile, science continues to identify new potential hazards, such as chemical toxicity at low exposure levels previously assumed safe.²⁷¹

Not all the mismatch between environmental problems and environmental law arises from a lack of law; the law itself contributes to some environmental problems. Numerous laws incentivize conduct that causes environmental harm. For example, tax breaks for the oil and gas industry subsidize fossil fuel production and therefore consumption and its associated air pollutant emissions.²⁷²

266. *See supra* notes 258–59.

267. *See, e.g.*, Federal Water Power Act of 1920, 41 Stat. 1063, 1068 (codified as amended at 16 U.S.C. § 803(a) (2012)); Department of Transportation Act, Pub. L. No. 89-670, § 4(f), 80 Stat. 931, 934 (1966) (codified as amended at 49 U.S.C. § 303 (2006)).

268. Food Security Act of 1985, Pub. L. No. 99-198, §§ 1221–1223, 99 Stat. 1354 (codified as amended at 16 U.S.C. §§ 3821–3823 (2012)) (Swampbuster).

269. Energy Policy Act of 2005, Pub. L. No. 109-58, § 1501, 119 Stat. 594, 1067–76 (amending Clean Air Act § 211, 42 U.S.C. § 7545).

270. *See* Jonathan Cannon, *A Bargain for Clean Water*, 17 N.Y.U. ENVTL. L.J. 608, 616 (2008) (“Unregulated nonpoint source pollution is solely responsible for failure of 30 to 50 percent of U.S. waterbodies to meet water quality standards and is a contributing factor in an even larger percentage.”).

271. Jody A. Roberts, *Collision Course? Science, Law, and Regulation in the Emerging Science of Low Dose Toxicity*, 20 VILL. ENVTL. L.J. 1, 6–7 (2009); *see also* Daniel A. Farber, *Environmental Protection as a Learning Experience*, 27 LOY. L.A. L. REV. 791, 791 (1994) (“The expansion of scientific knowledge has revealed new environmental problems . . .”).

272. *See* John A. Bogdanski, *Reflections on the Environmental Impacts of Federal Tax Subsidies for Oil, Gas, and Timber Production*, 15 LEWIS & CLARK L. REV. 323, 325–28 (2011); Roberta Mann, *Waiting to Exhale?: Global Warming and Tax Policy*, 51 AM. U. L. REV. 1135, 1164–68 (2002); Temi Kolarova, Comment, *Oil and Taxes: Refocusing the Tax Policy Question in the Aftermath of the BP Oil Spill*, 42 SETON HALL L. REV. 351, 357–66

Laws such as these that unintentionally yet significantly affect the environment are generally excluded from what we consider environmental law, because they do not deliberately address environmental concerns.²⁷³ Yet if the project of environmental law at its most fundamental level is to think critically and comprehensively about the relationship between law and the environment, then unintentional environmental laws should be integral to environmental law. Excluding laws that have inadvertent environmental impacts creates a problematic divide between environmental problems and environmental law. Indeed, addressing unintentional environmental laws may well be among the most efficacious endeavors the field can undertake.

As environmental law has matured, awareness has grown that the goal of environmental protection is highly implicated elsewhere other than within the domain addressed by existing canonical environmental law. Proposals for environmental reforms seem increasingly aimed to address environmental concerns as they arise outside of environmental law, such as in land use,²⁷⁴ energy,²⁷⁵ and food production.²⁷⁶ Underlying these proposals is the premise that environmental concerns should suffuse the law generally to the same extent that environmental impacts do; wherever there are environmental problems, there should be environmental law.²⁷⁷

(2012). *See generally* Barthold, *supra* note 223, at 133 (noting other examples of tax provisions with unintentionally adverse environmental consequences).

273. *See supra* note 23 (defining environmental law as laws that deliberately address human impacts on the environment).

274. *See, e.g.,* Sara C. Bronin, *The Quiet Revolution Revived: Sustainable Design, Land Use Regulation, and the States*, 93 MINN. L. REV. 231 (2008); John R. Nolon, *Comparative Land Use Law: Patterns of Sustainability*, 23 PACE ENVTL. L. REV. 855 (2006).

275. *See, e.g.,* Davies, *Alternative Energy and the Energy-Environment Disconnect*, *supra* note 32; Amy J. Wildermuth, *The Next Step: The Integration of Energy Law and Environmental Law*, 31 UTAH ENVTL. L. REV. 369 (2011).

276. *See, e.g.,* Jason J. Czarnezki, *Food, Law & the Environment: Informational and Structural Changes for a Sustainable Food System*, 31 UTAH ENVTL. L. REV. 263 (2011); Neil D. Hamilton, *The Role of Law in Promoting Sustainable Agriculture: Reflections on Ten Years of Experience in the United States*, 3 DRAKE J. AGRIC. L. 423 (1998); Michael R. Taylor, *The Emerging Merger of Agricultural and Environmental Policy: Building a New Vision for the Future of American Agriculture*, 20 VA. ENVTL. L.J. 169, 170 (2001); *see also* Ristino & Kalen, *supra* note 13, at 52 (“The environmental law of the future must incorporate energy, food, transportation, land use, and water, just to name a few. And it must do so unconstrained by our existing, arguably simplistic, federalist, regional, and local models.”).

277. Many of these proposals to expand the reach of environmental concerns in the law invoke the principle of sustainability as a conceptual foundation. *See, e.g.,* Robert L. Glicksman, *Sustainable Federal Land Management: Protecting Ecological Integrity and Preserving Environmental Principal*, 44 TULSA L. REV. 147, 151 (2008); Hamilton, *supra* note 276; Nolon, *supra* note 274. The ambiguity of the related terms *sustainability* and *sustainable development* have led some scholars, however, to doubt their usefulness as conceptual anchors. *See* Holly Doremus, *The Rhetoric and Reality of Nature Protection: Toward a New Discourse*, 57 WASH. & LEE L. REV. 11, 64 (2000) (“The problem with the sustainable development concept is that it is subject to a variety of interpretations.”); Glicksman, *supra*, at 148 (“The various formulations of sustainability have been criticized as, among other things, vague, slippery, oxymoronic, a ‘mask[er] [of] failed consensus,’ and a reflection of political correctness.” (footnotes omitted)); J.B. Ruhl, *Law for Sustainable Development: Work*

Canonical environmental law does not, however, offer an attractive or viable model for integrating environmental concerns into the law. Treating canonical environmental law as the sole model for an expansion of environmental law would erect a substantial barrier to entry into the field that is unlikely to be overcome except in rare circumstances. Canonical environmental laws are big. The environmental law canon regulates rather intensively, in terms of the burdens it places both on regulated parties who must comply with its requirements and on regulatory agencies that must administer and enforce the requirements. This intensity and the burdens it entails may be entirely appropriate for the environmental problems that the environmental law canon addresses—the environmental law canon has tended to focus on the most pressing environmental problems, which potentially call for comparatively intensive regulatory responses—but intense regulation is not necessarily appropriate for all environmental problems. Limiting the options of environmental law to large, intense regulatory programs limits environmental law's viable domain.

Moreover, integrating environmental concerns into new areas of law that currently unintentionally yet significantly affect the environment will require a better integration of environmental concerns with other policy objectives.²⁷⁸ The environmental law canon, by design, focuses overwhelmingly on environmental concerns. Although statutes within the canon usually mandate some balance between environmental protection and other non-environmental goals, the intent and effect of such balancing is merely to moderate the stringency of environmental protection so as to mitigate other adverse non-environmental regulatory impacts, not to affirmatively pursue other goals. For example, section 202 of the Clean Air Act directs EPA to establish emissions standards for new motor vehicles “which reflect the greatest degree of emission reduction achievable” while “giving appropriate consideration to cost, energy, and safety factors.”²⁷⁹ The inclusion of cost, energy, and safety as factors for EPA to consider may lead EPA to moderate the stringency of the emission reduction it requires pursuant to section 202. But in doing so section 202 is merely mitigating its impacts on these factors, not affirmatively promoting them—section 202 considers safety, but it is not a safety regulation.²⁸⁰ Unintentional environmental laws, however, do pursue and promote other, non-environmental objectives. As a result, adding environmental concerns

Continues on the Rubik's Cube, 44 TULSA L. REV. 1, 1–2 (2008) (noting that the concept of sustainable development is in part “window dressing,” “a way of masking over problems,” “a way of demanding more than is possible,” and “a way of promising more than is possible,” “which goes a long way toward explaining why it has become so powerful a policy concept”).

278. Cf. John C. Dernbach, *Achieving Sustainable Development: The Centrality and Multiple Facets of Integrated Decisionmaking*, 10 IND. J. GLOBAL LEGAL STUD. 247, 250 (2003) (arguing that integrated decision making—decision making that integrates environmental and other objectives—is the foundation of sustainable development).

279. Clean Air Act § 202(a)(3)(A)(i), 42 U.S.C. § 7521(a)(3)(A)(i) (2006).

280. Canonical environmental statutes do, however, sometimes contain individual provisions that pursue objectives entirely independent of the statute's overall environmental protection goal. Clean Water Act § 513, 33 U.S.C. § 1372 (2006), for example, requires laborers and mechanics constructing treatment works using federal grants under the Clean Water Act to be paid prevailing wages. It is a labor law, administered by the Labor Department, but otherwise embedded in an environmental statute.

into unintentional environmental laws will require integrating environmental and non-environmental goals in a way that the environmental law canon has not attempted.

Embedded environmental law may offer a better model than canonical environmental law for pursuing environmental protection in the frontier areas outside of the traditional domain of environmental law. Whereas canonical environmental law gives environmental protection primacy and is segregated from other, non-environmental law, embedded environmental law integrates substantively and institutionally with non-environmental law.²⁸¹ The environmental policies that result from such an integration will no doubt depart from the dominant model of the environmental law canon, but that can be a positive development. Delegating environmental authority to non-environmental agencies, for example, could serve as an important step toward inculcating environmental values in agencies that have not tended to view environmental protection as an important objective within their programs. For example, the Department of Housing and Urban Development has relied on statutory authority in the form of embedded environmental provisions to require new public housing to comply with energy efficiency standards.²⁸²

3. Climate Change

The massive and “super wicked”²⁸³ problem of anthropogenic climate change looms over all other environmental issues. Despite the legislative paralysis on the

281. NEPA, by requiring federal agencies to evaluate the environmental impacts of their proposed actions even when those actions are taken pursuant to non-environmental statutes, does some of the work of integrating environmental concerns into non-environmental law. But NEPA’s requirements are purely procedural and not substantive—it requires agencies only to consider the environmental effects of their proposed actions, not to give any weight to environmental concerns. *See* *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). This significantly limits NEPA’s efficacy and makes the statute an imperfect substitute for substantive environmental requirements. *Cf. The National Environmental Policy Act 40th Anniversary Symposium*, 40 ENVTL. L. REP. 11,183, 11,195 (2010) (transcribing an unidentified audience member’s comment that “NEPA is procedural, it is in many instances window-dressing”).

282. *See* 42 U.S.C. § 12709 (2006 & Supp. V 2011) (requiring Secretary to establish standards); *id.* § 12745(a)(1)(F) (requiring compliance with standards); *see also* U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-09-46, GREEN AFFORDABLE HOUSING 11 (2008) (concluding that HUD had taken “positive steps” to promote energy efficiency but could do more within its existing authority).

283. *See* Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1159–60 (2009) (explaining that climate change is a “super wicked problem” because of its “enormous interdependencies, uncertainties, circularities, and conflicting stakeholders,” because “the longer it takes to address the problem, the harder it will be to do so,” because “those who are in the best position to address the problem . . . [have] the least immediate incentive to act,” and because of “the absence of an existing institutional framework of government with the ability to develop, implement, and maintain the laws necessary to address a problem of climate change’s tremendous spatial and temporal scope”); *see also* Kelly Levin, Benjamin

issue,²⁸⁴ EPA is moving forward with addressing climate change under its existing statutory authorities, primarily the Clean Air Act.²⁸⁵ But no one believes that current laws, even if they are better than nothing, offer the best policy mechanisms for addressing climate change.

The dominant proposals to date have involved some type of statutory program that would regulate greenhouse gas emissions in a form resembling the statutes of the environmental law canon, such as a cap-and-trade emissions program administered by EPA.²⁸⁶ Such a program has not been viable politically at the national level.

Moreover, some academics, policy analysts, and environmental advocates have questioned whether a global system of conventional pollution regulation is the best model for addressing climate change. Some of these critics argue that conventional environmental regulation is ill-suited to the unprecedented challenges that climate change poses, and instead favor a strategy of quickly moving the economy toward the use of low-carbon energy sources through direct public investment in technological innovation.²⁸⁷ Others are less critical of conventional regulation, but advocate for sector-specific policies as an alternative to a system that universally regulates greenhouse gas emissions.²⁸⁸

Alternative approaches of these types—direct investment or sector-specific regulation—could take the form of embedded environmental laws. Such programs could be designed to take advantage of the best features of embedded environmental laws: dispersed, relatively small programs that reduce the political stakes and facilitate experimentation and context-specific policy solutions.

Cashore, Steven Bernstein & Graeme Auld, *Playing It Forward: Path Dependency, Progressive Incrementalism, and the “Super Wicked” Problem of Global Climate Change*, 5–7 (June 3, 2010), available at http://environment.research.yale.edu/documents/downloads/0-9/2010_super_wicked_levin_cashore_bernstein_auld.pdf (originating the term “super wicked” and applying it to the problem of climate change).

284. See generally Carl Hulse & David M. Herszenhorn, *Democrats Call Off Climate Bill Effort in Senate*, N.Y. TIMES, July 23, 2010, at A15; Ryan Lizza, *supra* note 12; Elizabeth Kolbert, *Uncomfortable Climate*, NEW YORKER, Nov. 22, 2010, at 53.

285. See *Climate Change: Regulatory Initiatives*, EPA, <http://www.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html> (last updated Sept. 24, 2013).

286. See Res. for the Future, *Summary of Notable Market-Based Climate Change Bills Introduced in the 111th Congress*, RFF.ORG (May 12, 2010), http://www.rff.org/Documents/Features/111th%20Legislation_Table_Graph.pdf.

287. See, e.g., HOWARD A. LATIN, *CLIMATE CHANGE POLICY FAILURES: WHY CONVENTIONAL MITIGATION APPROACHES CANNOT SUCCEED* 162–70 (2012); MCKINSEY & CO., *PATHWAYS TO A LOW-CARBON ECONOMY* 32–34, 59–129 (2009); TED NORDHAUS & MICHAEL SHELLENBERGER, *THE EMERGING CLIMATE CONSENSUS: GLOBAL WARMING POLICY IN A POST-ENVIRONMENTAL WORLD* 14 (2009), available at <http://www.thebreakthrough.org/blog/PDF/EmergingClimateConsensus.pdf>.

288. See, e.g., PEW CTR. FOR GLOBAL CLIMATE CHANGE, *POLICIES TO REDUCE EMISSIONS FROM THE TRANSPORTATION SECTOR* 3 (2008) (“[S]ector-specific measures to promote energy efficiency and low carbon technologies may be needed to ensure significant GHG reductions from transportation.”); Brian F. Havel & Gabriel S. Sanchez, *Toward an International Aviation Emissions Agreement*, 36 HARV. ENVTL. L. REV. 351, 385 (2012) (arguing in favor of an international greenhouse gas emissions reduction agreement specific to the aviation sector); Jake Schmidt, Ned Helme, Jin Lee & Mark Houdashelt, *Sector-Based Approach to the Post-2012 Climate Change Policy Architecture*, 8 CLIMATE POL’Y 494 (2008) (arguing the advantages of a sector-based approach).

First, relatively small climate change programs dispersed throughout government would have potentially greater political viability than a universal emissions system of regulation administered by EPA. Much of the private sector already regards EPA as heavy handed and draconian in its orientation and is likely to regard EPA regulation with particular suspicion and with a proclivity and history of organizing political opposition to the Agency's initiatives. The private sector is more likely to be open to initiatives from other agencies. Many other agencies, especially sector-specific agencies such as the Department of Agriculture, Department of Transportation, and Department of Energy, administer a wide variety of programs, both regulatory and nonregulatory, many of which proactively assist the sector. Like other embedded environmental laws, climate policies could be integrated into broader programs that pursue a variety of objectives.

Second, dispersed climate change programs could facilitate experimentation and context-specific policy solutions better than a centralized system of universal emissions regulation. Such a strategy could involve broad policy principles coordinated across government, but implemented through sector-specific policies administered by sector-specific agencies such as the Department of Agriculture, Department of Transportation, and Department of Energy. In the absence of comprehensive policy, specific climate policies could be used to experiment with various strategies that could be utilized to implement future comprehensive regulation. For example, agricultural policies that nudge farms toward less carbon-intensive energy consumption could mitigate the impacts of an eventual comprehensive cap-and-trade or carbon tax that would significantly raise the cost of carbon-intensive fuels.

Regardless of whether dispersed sector-specific climate policies would supplement or substitute for a system of universal climate emissions regulations, dispersed climate policies in the form of embedded environmental laws could by virtue of their distinct functional features provide significant benefits beyond what a universal uniform regulatory system could attain.

III. UNDERSTANDING ENVIRONMENTAL LAW

In addition to offering a model for environmental lawmaking that provides a potentially important alternative to the environmental law canon, noncanonical environmental laws can generate important conceptual insights. In particular, noncanonical environmental laws, by virtue of their location at the periphery of the field of environmental law, can offer illumination into some of environmental law's existential issues.

A. Expanding the Recognized Domain

Including noncanonical environmental laws in the study of environmental law expands the recognized domain of environmental law beyond the canon that currently predominates in the field. Bringing environmental laws from outside of the canon into the study of environmental law broadens the scope of laws associated with the field overall. This more expansive view of environmental law reveals the field's topography to be more varied than it appears from conventional viewpoints that focus solely on the canon. Embedded environmental laws, for example, evidence that

environmental law has been produced in forms and at times quite different than the canon of major regulatory programs that arose during the Environmental Revolution of the 1970s.²⁸⁹ Expanding the scope of recognized environmental law beyond the canon thus reveals the form of the canon—including the problems it addresses, the institutions it has created, and the regulatory mechanisms it employs—to be a contingent product of a particular historical moment. The environmental law canon is not merely the result of Americans embracing environmental values, but rather also involved a series of choices regarding how to embody environmental values in the law. Embedded environmental laws thus can remind us of the underappreciated diversity of ways in which law can pursue environmental protection. To borrow John Witt's observations in a different context, conventional accounts of the development of environmental law often "tacitly assume a determinate relation between a particular course of social change . . . and a particular regime or doctrinal structure" in environmental law.²⁹⁰ Embedded environmental laws counteract a tendency to assume the inevitability or essentiality of the environmental law canon.

B. Central and Peripheral Cases

At a deeper conceptual level, noncanonical environmental laws can provide material for the exploration of some of the central questions about the field to an extent that environmental laws within the canon cannot do by themselves. To see how, we can analogize the distinction between the environmental law canon and noncanonical environmental laws to the distinction in legal philosophy drawn between a *central case* and a *peripheral* or *limit case*.

Scholars of legal philosophy exploring the concept of law have differentiated between law in its central case, which lies at the heart of the category of law, and law in its peripheral or limit case.²⁹¹ Here, a central case is an instance of something within a category that exhibits all the features properly associated with the category; a peripheral case does not have all of these features, but enough of them to fall within the category.²⁹² Although there is disagreement about the extent to which productive analytical inquiry should focus on central cases versus peripheral cases, there seems

289. *See supra* notes 267–69 and accompanying text (noting that embedded environmental laws have been enacted during times in which canonical environmental lawmaking has not been active).

290. JOHN FABIAN WITT, *THE ACCIDENTAL REPUBLIC* 9 (2004) (“[B]oth of the conventional historical accounts [of the development of modern American accident law] tacitly assume a determinate relation between a particular course of social change (industrialization) or a new intellectual development (changing ideas about causation) and a particular regime or doctrinal structure in accident law.”).

291. *See, e.g.*, JOHN FINNIS, *NATURAL LAW AND NATURAL RIGHTS* 9–11 (2d ed. 2011); John Gardner, *Nearly Natural Law*, 52 *AM. J. JURIS.* 1, 10–18 (2007). Finnis traces the central case concept to Aristotle’s *focal meaning* and Max Weber’s *ideal-type*. FINNIS, *supra*, at 9.

292. JOSEPH RAZ, *PRACTICAL REASON AND NORMS* 150 (1999) (contrasting “typical cases” in which the signature traits of a category “are manifested to a very high degree” and “borderline cases” “in which all or some [traits] are present only to a lesser degree”); *see* Gardner, *supra* note 291, at 15 n.25 (“There are various limit cases in which one or other of these features is lacking, while others remain.”).

to be some agreement that considering both types of cases in combination facilitates the appreciation of the overall category to its fullest. Thus, John Finnis contends that one can move from an examination of the central case to an examination of peripheral cases that “trace[s] the network of similarities and differences, the analogies and disanalogies, . . . between them and the central cases.”²⁹³ And John Gardner notes that neglecting either the central case or peripheral cases leads to analyses that “provide[] only a partial account of their subject.”²⁹⁴

For the field of environmental law, the canon represents a type of central case, and noncanonical environmental law a peripheral case.²⁹⁵ Like the central case, the canonical environmental statutes exhibit all the features associated with environmental law—national pollution statutes enacted primarily for the purpose of protecting the environment and administered by EPA—with the notable exception of NEPA and the Endangered Species Act.²⁹⁶ Noncanonical environmental laws, on the other hand, have enough features associated with the field that they are recognized as environmental law—most notably, a goal of environmental protection—but do not exhibit many of the features otherwise associated with the field.²⁹⁷

Despite its location at the periphery of the field, however—indeed, because of its location at the periphery of the field—noncanonical environmental law is crucial to understanding environmental law overall, including canonical environmental law. For example, noncanonical environmental laws raise, in a much more acute way than the statutes in the environmental law canon, the question of what is environmental and what is not.

C. *Blurring the Boundaries*

The field of environmental law is generally defined to encompass laws with a goal of environmental protection or limiting ecological impacts.²⁹⁸ But precisely

293. FINNIS, *supra* note 291, at 11.

294. Gardner, *supra* note 291, at 23.

295. Scholars who have used the central-versus-peripheral case framework have tended to attach a direct normative superiority to the central case. *See, e.g.*, Gardner, *supra* note 291, at 3 (describing the central case as “the case that shows how the other cases . . . ought to be”). But one can move from the normative, wherein the central case represents what the category ought to be, to the descriptive, wherein, for example, the central case represents what the category is generally thought to be. Of course, even identifying certain characteristics of a law as salient makes an indirectly evaluative judgment, insofar as it indicates that those characteristics are important to a normative evaluation of the law. *See* JULIE DICKSON, *EVALUATION AND LEGAL THEORY* 51–67 (2001).

296. *See supra* Part I.B.2.

297. *See supra* Part II.B.

298. *See supra* note 23; *see also, e.g.*, JOHNSTON ET AL., *supra* note 85, at 1. (“Environmental Law is law designed to protect the environment, and the plants and animals that rely on it, including us.”); LAZARUS, *supra* note 9, at 1 (“[E]nvironmental law regulates human activity in order to limit ecological impacts that threaten public health and biodiversity.”); Michael C. Blumm, *Studying Environmental Law: A Brief Overview and Readings for a Seminar*, 12 J. ENERGY NAT. RESOURCES & ENVTL. L. 309, 310 (1992) (“Environmental law is a loose amalgam of common law and (increasingly) statutory provisions designed to protect public health, ecosystems, and dependent animal and plant species.”).

what objectives fall within this category is unclear. Traditional notions of what constitutes nature or the environment have been criticized as based on naïve visions “of a pristine nature that exists apart from people.”²⁹⁹

Statutes within the environmental law canon tend not to clarify the issue, because their goals of protecting environmental public health and ecological concerns reside at the core of environmental law. The environmental-ness of these statutes is so obvious that we need not—and generally do not—explain how they are environmental. With respect to many environmental laws outside the canon, however, the environmental-ness is not so straightforward or clear:

- *Energy Efficiency.* Congress originally enacted fuel economy standards for vehicles as part of the Energy Policy and Conservation Act of 1975 to reduce demand for oil during the Oil Shock of the 1970s.³⁰⁰ Subsequent amendments to the statute—like energy policy generally—have to some extent incorporated environmental protection.³⁰¹
- *Safety Statutes.* Statutes such as the Hazardous Materials Transportation Act³⁰² and the Pipeline Safety Act³⁰³ regulate to protect against accidents that threaten public safety. Accidents involving hazardous materials or pipelines clearly have adverse environmental effects, but the statutory purposes refer only to protection of “life and property.”³⁰⁴
- *Food Safety.* The Federal Food, Drug, and Cosmetic Act (FFDCA)³⁰⁵ includes provisions that regulate food safety.³⁰⁶ One such provision, enacted as part of the Food Quality Protection Act’s³⁰⁷ amendments to the FFDCA, directs EPA to establish tolerances for pesticide residues in

299. Keith Kloor, *The Great Schism in the Environmental Movement*, SLATE (Dec. 12, 2012, 8:30 AM), http://www.slate.com/articles/health_and_science/science/2012/12/modern_green_movement_eco_pragmatists_are_challenging_traditional_environmentalists.html; see also William Cronon, *The Trouble with Wilderness; or, Getting Back to the Wrong Nature*, in UNCOMMON GROUND: TOWARD REINVENTING NATURE 69 (William Cronon ed., 1995).

300. See Energy Policy and Conservation Act (EPCA), Pub. L. No. 94-163, § 2, 89 Stat. 871, 874 (1975).

301. Energy Independence and Security Act of 2007 (EISA), Pub. L. No. 110-140, 121 Stat. 1492. The EISA, although still focused on energy independence and security, includes among its aims references to concerns that are clearly environmental—for example, “clean renewable fuels” and “greenhouse gas capture and storage.” 121 Stat. at 1492.

302. 49 U.S.C. §§ 5101–5128 (2006 & Supp. V 2011).

303. 49 U.S.C. §§ 60101–60140.

304. See 49 U.S.C. § 5101 (“The purpose of this chapter is to protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce.”); 49 U.S.C. § 60102(a) (“The purpose of this chapter is to provide adequate protection against risks to life and property posed by pipeline transportation and pipeline facilities by improving the regulatory and enforcement authority of the Secretary of Transportation.”).

305. 21 U.S.C. §§ 301–399d (2006 & Supp. V 2011).

306. *Id.* §§ 341–350I-1.

307. Pub. L. No. 104-170, 110 Stat. 1489 (1996).

food.³⁰⁸ Pesticide tolerances are directed at the same public health goal as other food regulations in the FFDCA, such as prohibitions against false or misleading labeling on foods.³⁰⁹ Pesticide use does, however, have significant environmental implications, which are regulated under other statutes.³¹⁰

- *Invasive species.* Invasive species can have devastating ecological consequences.³¹¹ The Plant Protection Act, which aims to prevent the spread of invasive plant pests and weeds, mentions environmental protection as a goal,³¹² but focuses primarily on impacts on agriculture.
- *Conservation.* Some conservation, such as the national parks system,³¹³ seems obviously to fall within the ambit of environmental protection. Other statutes, however, contemplate conservation for the purpose of maintaining supplies of a natural resource for future commercial exploitation.³¹⁴ Still other laws fall somewhere in between.³¹⁵ Whether laws that pursue conservation are environmental laws may depend on what resource is being conserved and for what purpose.

308. 21 U.S.C. § 346a(b).

309. *Id.* § 343.

310. *See, e.g.,* Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136–136(y) (2012).

311. *See, e.g., H.R. 6311, The Non-native Wildlife Invasion Prevention Act: Hearing Before the Subcomm. on Fisheries, Wildlife & Oceans of the H. Comm. on Natural Res., 110th Cong. 31 (2008)* (statement of Marc Gaden, Ph.D., Legislative Liaison, Great Lakes Fishery Commission) (noting the sea lamprey “laid waste to the [Great Lakes] fishery after it invaded the Upper Great Lakes in the 1920s”); Thomas H. Fritts & Dawn Leasman-Tanner, *The Brown Treesnake on Guam*, USGS.GOV (2001) <http://www.fort.usgs.gov/resources/education/bts/> (noting the proliferation of nonnative brown tree snakes on Guam has wiped out much of the island’s population of birds and small mammals).

312. 7 U.S.C. § 7701(1) (2012) (“[T]he detection, control, eradication, suppression, prevention, or retardation of the spread of plant pests or noxious weeds is necessary for the protection of the agriculture, environment, and economy of the United States.”).

313. For example, the National Park Service Organic Act directs the Park Service to manage national parks, monuments, and reservations “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” National Park Service Organic Act § 1, 16 U.S.C. § 1 (2012).

314. A 1955 statute, for example, authorizes the Secretary of the Interior to assist the Commonwealth of Pennsylvania in controlling and draining water from anthracite mine formations to “conserve natural resources,” because “the presence of large volumes of water in anthracite coal formations involves serious wastage of the fuel resources of the Nation.” 30 U.S.C. § 571 (2006).

315. For example, the Department of Agriculture’s soil conservation programs tie the abatement of soil erosion to a variety of concerns, some environmental and some not, although the program focuses overall on maintaining agricultural productivity. 16 U.S.C. 590a (“[I]t is declared to be the policy of Congress to provide permanently for the control and prevention of soil erosion to preserve soil, water, and related resources, promote soil and water quality, control floods, prevent impairment of reservoirs, and maintain the navigability of rivers and harbors, protect public health, public lands and relieve unemployment . . .”).

As these examples illustrate, considering noncanonical environmental laws both clarifies and muddies efforts to define what it means for a law to be an environmental law. On the one hand, focusing on the limit cases of the field (noncanonical environmental laws) can lead us to posit what seems to be a plausible conceptual delineation of the field's boundary: environmental laws intentionally regulate human causes of ecological disruption. On the other hand, the fact that many noncanonical environmental laws also seem to lie as well within other recognized fields—such as transportation or agriculture—strongly indicates that environmental law, especially at its periphery, overlaps considerably with related fields. Environmental law, from this viewpoint, does not so much as end as it does fade into other, overlapping fields.

D. Practical Implications

The question of what is environmental has considerable practical as well as theoretical import. What is categorized as environmental—as opposed to agricultural, for example—matters because the classification of an issue as environmental affects the institutions that are called upon to address it (e.g., which congressional committee, which agency), the interest groups that mobilize to support or oppose it, the regulatory model assumed for creating law to address the issue, and even the theoretical approaches to analyzing the issue.

The Swampbuster provision offers an example. Although the provision was enacted to conserve wetlands—a type of environmental protection—Congress enacted the Swampbuster as part of the Food Security Act,³¹⁶ a farm bill that went through the House Agriculture Committee³¹⁷ and Senate Agriculture, Nutrition, and Forestry Committee;³¹⁸ was delegated to the Department of Agriculture for implementation; and took the form of a condition on farm subsidies rather than a direct restriction. The same objective of wetlands conservation could be pursued—and has been pursued³¹⁹—in the form of environmental legislation that would go through the House Resources Committee and Senate Environment and Public Works Committee, delegated to an environmental agency for implementation, and in the form of a direct restriction on the use of wetlands.

Occupational exposure to toxic substances provides another example. The Occupational Safety and Health Act³²⁰ treats occupational exposure to toxic substances as an employment law issue, enacted by legislation that goes through the congressional labor committees, governed by a statute implemented by the Department of Labor. The Toxic Substances Control Act,³²¹ however, treats the same problem as an environmental law issue, enacted by legislation that goes through the congressional environmental committees and is implemented by EPA.

316. Pub. L. No. 99-198, 99 Stat. 1354 (1985).

317. See H.R. REP. NO. 99-271, pt.1, at 78 (1985), *reprinted in* 1985 U.S.C.C.A.N. 1103, 1180.

318. See S. REP. NO. 99-145, at 14 (1985), *reprinted in* 1985 U.S.C.C.A.N. 1676, 1969–70.

319. See Clean Water Act § 404, 33 U.S.C. § 1344 (2006) (establishing a permit program for discharges of dredged or fill material into waters of the United States—a program that regulates the filling of wetlands).

320. 29 U.S.C. §§ 651–678 (2006 & Supp. V 2011).

321. 15 U.S.C. §§ 2601–2695d (2012).

Recognizing that the boundaries of environmental law are blurry, not sharp, and that many situations arising within environmental law—especially those outside of the canon—also arise within other fields, broadens the array of potential regulatory options for responding to environmental problems. Policy advocates and lawmakers decide—usually implicitly—about whether to frame an issue as environmental or as something else. Making that decision deliberately could create opportunities for laws that are more reflective of messy realities and better tailored to our complex needs.

Indeed, full appreciation of the overlap between environmental issues and other areas of law might induce exploration of how new legal structures can develop to reflect these blurry boundaries and overlapping legal fields. Jody Freeman and Jim Rossi, for example, have examined how agencies can beneficially exercise coordinated concurrent regulatory jurisdiction—what they call “shared regulatory space.”³²² Freeman and Rossi’s discussion of shared regulatory space, including the tools agencies can use to coordinate their overlapping regulatory jurisdictions and methods of assessing and improving coordination, is illuminating and instructive. They do not, however, discuss the ways in which overlapping boundaries of substantive legal fields—for example, environmental law and safety law—create an impetus for shared regulatory space, or how the design of shared regulatory space should reflect overlapping legal fields.³²³ More work is needed to develop legal structures and institutions with, for example, capability to address issues that implicate multiple fields, objectives, and perspectives.

CONCLUSION

The history of environmental law over the last four decades in the United States provides cause for both optimism and pessimism about the field’s future. The existing major environmental statutes that comprise the canon of environmental law have accomplished significant improvements in environmental quality while proving resilient in the face of sometimes harrowing political headwinds. On the flip side, however, the canon has calcified over time, proving resistant to reform and difficult to employ against emerging environmental threats.

If it is to succeed in protecting human health and the environment, the environmental law of this new century may need to evolve into something that looks quite different from the extant environmental law canon. The next generation of environmental laws must be viable for creation and implementation even in an antagonistic political climate; amenable to integration with other, non-environmental law; and able to make inroads against the monumental peril of global climate change. Environmental laws embedded in larger non-environmental programs offer an alternative model to the environmental law canon—an alternative model that seems well suited to a new generation of environmental law.

The major federal pollution statutes that comprise the environmental law canon will continue to form the centerpiece of American environmental law for the

322. Freeman & Rossi, *supra* note 198.

323. *Cf.* Aagaard, *supra* note 206, at 281–85 (arguing that issues perceived to arise within multiple legal fields will and should tend to lead to overlapping regulatory jurisdictions).

foreseeable future. But other environmental laws outside of the canon, and especially embedded environmental laws, have the potential to play a much greater role in environmental policy going forward. Such embedded environmental laws exhibit features quite different from the canonical environmental statutes: whereas major environmental statutes are large regulatory programs administered by EPA and focused on environmental protection, embedded environmental laws are dispersed, relatively small programs that often integrate environmental protection with other objectives. These features create important functional differences between the environmental law canon and embedded environmental laws, differences that in some circumstances give embedded environmental laws advantages over canonical environmental laws. The small size and narrow scope of embedded environmental laws, for example, facilitate experimentation and context-specific policy solutions. Embedded environmental laws can sow the seeds of future broader changes in the law and can enlist the participation of new institutional actors with fresh perspectives and additional resources.

Studying embedded and other noncanonical environmental laws also broadens and deepens our understanding of environmental law as a legal field. Noncanonical environmental laws are environmental laws but usually not *only* environmental laws—they also are labor laws, agriculture laws, or transportation laws as well. Environmental law should reflect this complicated and messy reality. Attempting to maintain a set of environmental laws segregated substantively and institutionally from other fields unduly constrains the project of environmental law, which in its essence should seek to suffuse environmental concerns into the law generally. Environmental effects are everywhere in the law, so environmental concerns should be spread throughout the law as well.