

Working Paper Series

Villanova University Charles Widger School of Law

Year 2013

Environmental Law Outside the Canon

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ENVIRONMENTAL LAW OUTSIDE THE CANON

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It is time to rethink the domination of environmental law by a canon of major federal environmental 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.

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* Associate 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.

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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 Act¹; Clean Water Act²; 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 “sweeping 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

¹ 42 U.S.C. §§ 7401–7671q.

² 33 U.S.C. §§ 1251–1387.

³ 42 U.S.C. §§ 9601–9675.

⁴ 42 U.S.C. §§ 6901–6992k.

⁵ 42 U.S.C. §§ 4321–4370h.

⁶ 16 U.S.C. §§ 1531–1599.

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, *The Divides of Environmental Law and the Problem of Harm in the Endangered Species Act*, 83 *IND. L.J.* 661, 720 (2008); 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 (1997) (“[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) (declaring that “it 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).

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 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

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, 282 (2005).

¹² See, e.g., EPA, Clear Skies: Legislative Information, <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”); Ryan Lizza, *As the World Burns*, NEW YORKER, Oct. 11, 2010 (detailing the demise of the Obama Administration's climate change bill in the Senate).

¹³ Carol A. Casazza Herman et al., *The Breaking the Logjam Project*, 17 N.Y.U. ENVTL. L.J. 1, 1 (2008); see also Laurie Ristino & Sam Kalen, *Is Environmental Law Serving Society*, NAT. RESOURCES & ENVT., Spr. 2012, at 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 (commenting that “the 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., Robin Bravender & Gabriel Nelson, *Republicans Blitz Obama Over EPA's 'Anti-Industrial' Regulations*, N.Y. TIMES, Sept. 28, 2010; John M. Broder, *Bashing E.P.A. Is New Theme in G.O.P. Race*, N.Y. TIMES, Aug. 17, 2011; John M. Broder, *House Votes to Bar E.P.A. From Regulating Industrial Emissions*, N.Y. TIMES, Apr. 7, 2011.

¹⁵ See, e.g., EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970-1990, at ES-2 to ES3 (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) (noting that, despite their environmental impacts, “farms are virtually unregulated by the expansive body of environmental law that has developed in the United States in the past 30 years”).

New regulatory challenges arise as advancements in science identify new hazards.¹⁷ The threat from 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 it 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. The paper proceeds in three parts, affiliated with 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

¹⁷ See, e.g., Jean Macchiaroli Eggen, *Nanotechnology and the Environment: What's Next?*, NAT. RESOURCES & ENV'T, Winter 2012, at 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").

¹⁸ See *infra* Part II.E.3.

¹⁹ Cf. Austin B. Caswell, *Canonicity in Academia: A Music Historian's View*, 25 J. AESTHETIC EDUC. 129, 129 (1991) (asserting that "the tyranny of canonicity" can be "destructive of our critical faculties").

from canonical environmental law, creating possible alternatives to environmental law in its canonical form.²⁰

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

²⁰ As Part I makes clear, environmental law includes laws at a variety of levels of government, from international to local. *See infra* notes 63-68 and accompanying text. While acknowledging this range, this paper's examination of environmental law outside the canon focuses primarily on noncanonical *federal* environmental law for three reasons. First, federal environmental statutes outside of the environmental law canon are an alternative readily available to the lawmaking institution (Congress) that creates the environmental law canon, which is composed of federal statutes. 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 paper a more manageable scope. That being said, state environmental laws, addressing issues ranging from pollution to fish and 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 I.R.C. §§ 4681-4682; *see also* 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 (2008).

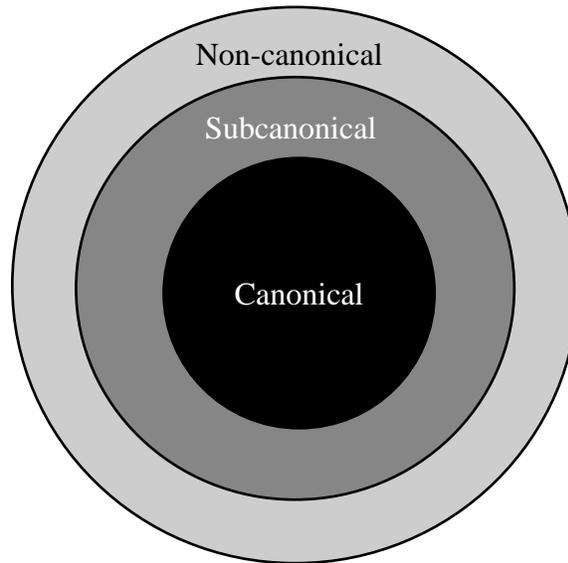
other fields. The creation, study, and practice of environmental law should better reflect and address this messy reality.

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 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.

²³ For the purposes this paper, 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., N.J. Dept. of Env'tl. Prot. v. Ventron Corp., 468 A.2d 150, 157 (N.J. 1983) (holding under common law of nuisance that landowners are 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).

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 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.

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 “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.

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 non-regulatory 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 as among two statutes focused on environmental protection, environmental protection has a different role in a statute that calls for studying an environmental problem than in a statute that imposes stringent regulatory measures to remedy the problem.

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.²⁸ Indeed, because of strong differences between pollution laws and natural resource laws, opinions differ as to whether natural resources laws fall within the field of environmental law or instead

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 § 2(b), 42 U.S.C. § 4901(b) (“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 and Sustained-Yield Act § 1, 16 U.S.C. § 528 (“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., Fischman, *supra* note 7, at 662 (referring to pollution and natural resources as “the two main lines of environmental law”).

constitute a separate but related legal field.²⁹ Within pollution laws, one can differentiate laws that govern pollution abatement from laws that govern pollution remediation.³⁰ Other environmental laws, such as laws that address environmental processes and information³¹ and laws that restrict the sale or use of substances,³² 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.³³ The conceptual paradigm for natural resources 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.³⁴

Endpoints. Environmental law encompasses laws that regulate to protect human health as impacted by the natural environment,³⁵ other human uses of environmental resources,³⁶ and ecological health directly.³⁷

²⁹ See, e.g., *id.* 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").

³⁰ 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." 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 488.

³¹ See, e.g., National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-4370h; Emergency Planning and Community Right-to-Know Act, 42 U.S.C. §§ 11001-11050.

³² See, e.g., Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136 to 136y; Toxic Substances Control Act (TSCA), 15 U.S.C. §§ 2601-2697.

³³ See, e.g., Clean Air Act § 111, 42 U.S.C. § 7411 (directing EPA to issue standards of performance for new stationary sources of air pollution).

³⁴ Federal Land Policy and Management Act § 202(a), 43 U.S.C. § 1712(a) ("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).

³⁵ 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").

³⁶ 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").

³⁷ See, e.g., ESA § 2(b) (stating Congress's policy under the ESA "to conserve endangered species and threatened species").

Many environmental laws regulate to protect both human and ecological health.³⁸ Pollution statutes generally have tended to focus more on human health impacts than on ecological health, whereas natural resources 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.³⁹ 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.⁴⁰ Airsheds, for example, can be much more complicated to manage than watersheds.⁴¹

Mechanisms. Environmental laws employ a variety of regulatory and non-regulatory mechanisms, including environmental quality-based standards, emissions limits based on technology standards, tradeable emissions permitting, pollution charges, liability, information reporting

³⁸ See, e.g., TSCA § 6(a), 15 U.S.C. § 2605(a) (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) (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) (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) (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”).

³⁹ 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. & RES. ECON. 115, 115 (2007); Richard J. Lazarus, *Environmental Law and the Supreme Court: Three Years Later*, 19 PACE ENVTL. L. REV. 653, 662 (2002).

⁴⁰ 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”).

⁴¹ Rich Poirot et al., *Air Trajectory Pollution Climatology for the Lake Champlain Basin*, in LAKE CHAMPLAIN IN TRANSITION: FROM RESEARCH TOWARD RESTORATION 25, 25-26 (T.O. Manley & P.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”). Even where environmental laws attempt to regulate specifically to particular media, environmental media cannot be fully segregated. Contaminants in air pollution, 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).

and disclosure requirements, use limitations, subsidies, and technical assistance.⁴² Many environmental statutes include a combination of multiple mechanisms, and major environmental statutes may include virtually all of them in some form.⁴³

Regulatory Targets. Some environmental laws regulate the private sector directly,⁴⁴ and some regulate government action qua sovereign.⁴⁵ 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.⁴⁶ Statutes that ultimately aim at regulating private sector conduct may include detailed requirements for the government agencies that implement them.⁴⁷ 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,⁴⁸ 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,⁴⁹ statutes,⁵⁰ administrative regulations,⁵¹ court decisions,⁵² and common law doctrines.⁵³ Although environmental laws are generally

⁴² U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, OTA-ENV-634, ENVIRONMENTAL POLICY TOOLS: A USER'S GUIDE 81-142 (1995).

⁴³ See Andrews, *supra* note 8, at 231 (noting the different regulatory mechanisms Congress enacted in the new federal environmental statutes of the 1970s)

⁴⁴ Clean Water Act § 301, 33 U.S.C. § 1311(a) (prohibiting, with certain specified exceptions, “the discharge of any pollutant by any person”).

⁴⁵ See, e.g., NEPA § 102, 42 U.S.C. § 4332(C) (directing federal agencies to prepare environmental impact statements for proposed major federal actions significantly affecting the quality of the environment).

⁴⁶ 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) (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”).

⁴⁷ 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”).

⁴⁸ See, e.g., *Greater Yellowstone Coal. v. Flowers*, 359 F.3d 1257, 1274 (10th Cir. 2004).

⁴⁹ See, e.g., Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. Treaty Doc. No. 100-10, 1522 U.N.T.S. 3.

⁵⁰ See, e.g., Clean Water Act, 33 U.S.C. §§ 1251-1387.

⁵¹ See, e.g., 40 C.F.R.

⁵² See, e.g., *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561 (2007); *Rapanos v. United States*, 547 U.S. 715 (2006).

⁵³ See, e.g., *Michigan v. U.S. Army Corps of Engineers*, 667 F.3d 765 (7th Cir. 2011) (asserting claims under the federal common law of public nuisance against federal and

easily classified by form,⁵⁴ the different forms are also highly interrelated. Statutes may implement treaties.⁵⁵ Administrative regulations implement statutes.⁵⁶ Courts' interpretations of statutes become functionally part of the statutes themselves.⁵⁷ Statutes may incorporate common law doctrines.⁵⁸

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 protection⁵⁹; 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; or an agency such as the Department of Housing and Urban Development, which has not traditionally focused on environmental issues.⁶⁰

Level of Government. Environmental laws originate at all different levels of government—for example, international,⁶¹ national, state,⁶² 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).

⁵⁴ *But see, e.g.,* Natural Res. Def. Council v. EPA, 643 F.3d 311, 320-21 (D.C. Cir. 2011) (holding that EPA guidance document was actually a legislative rule that required notice and comment).

⁵⁵ *See, e.g.,* 42 U.S.C. §§ 7671-7671Q (implementing the Montreal Protocol on Substances that Deplete the Ozone Layer).

⁵⁶ *See, e.g.,* 40 C.F.R. §§ 1500.1-1517.7 (implementing the National Environmental Policy Act).

⁵⁷ *See, e.g.,* Coalition for Responsible Regulation, Inc. v. EPA, --- F.3d ---, 2012 WL 2381955, at *5 (D.C. Cir. 2012) (interpreting the language of Clean Air Act § 202(a)(1), 42 U.S.C. § 7521(a)(1), in light of the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007)).

⁵⁸ *See, e.g.,* In re Bell Petro. Servs., 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).

⁵⁹ EPA, Our Mission and What We Do, <http://www.epa.gov/aboutepa/whatwedo.html> (“The mission of EPA is to protect human health and the environment.”).

⁶⁰ 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.

⁶¹ Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. Treaty Doc. No. 100-10, 1522 U.N.T.S. 3; Agreement to Cooperate in the Solution of Environmental Problems in the Border Area, U.S.-Mexico, Aug. 14, 1983, 22 I.L.M. 1025.

⁶² Pennsylvania Hazardous Sites Cleanup Act (HSCA), 35 P.S. §§ 6020.101-.1305.

local.⁶³ The level of government plays a very important role in defining the context in which lawmaking and implementation occurs. Different levels of government operate under very different overarching structures and authorities. For example, state governments may be able to regulate water pollution more broadly under their state constitutions than the federal government's restricted authority under the Commerce Clause of the national Constitution.⁶⁴ On the other hand, national environmental laws sometimes implement international treaties,⁶⁵ state environmental statutes are often modeled on federal environmental statutes,⁶⁶ and federal environmental statutes often employ cooperative federalism that allows state environmental programs to implement federal statutes,⁶⁷ somewhat undercutting the distinction between the different levels.⁶⁸

Breadth. Environmental laws vary in scope from narrowly targeted⁶⁹ to extremely expansive.⁷⁰ 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 task of pinpointing those environmental laws

⁶³ See, e.g., Noise Control Ordinance, Los Angeles, Cal. Code §§ 12.08.010-.680.

⁶⁴ Compare 33 C.F.R. § 328.3(a) (defining “waters of the United States” covered by the Clean Water Act to include interstate waters and waters with a connection to interstate commerce) with 35 Pa. Stat. Ann. § 691.1 (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”).

⁶⁵ See, e.g., 42 U.S.C. §§ 7671-7671Q (implementing the Montreal Protocol on Substances that Deplete the Ozone Layer).

⁶⁶ See Del. Code Ann. tit. 7, §§ 6301-6309 (adopting hazardous waste management provisions similar to RCRA).

⁶⁷ See, e.g., Clean Water Act § 402(b), 33 U.S.C. § 1342(b) (allowing EPA to authorize state water pollution discharge permit programs implementing the federal Clean Water Act).

⁶⁸ 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 7. Fischman distinguished pollution control versus resource management subject matters; categorical versus utilitarian regulatory approaches, statutory detail versus agency latitude; Commerce Clause versus Property Clause constitutional authority. *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.

⁶⁹ See, e.g., 22 U.S.C. § 262m-4 (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”).

⁷⁰ See, e.g., 33 U.S.C. § 1311(a) (“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”).

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

1. Environmental Law Canon

This section 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.”⁷¹ 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.⁷² 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.⁷³ 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 all point to a group of six

⁷¹ J.M. Balkin & Sanford Levinson, *The Canons of Constitutional Law*, 111 HARV. L. REV. 963, 975 (1998).

⁷² *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 (9th ed. 2009); see, e.g., Amanda L. Tyler, *Continuity, Coherence, and the Canons*, 99 NW. U. L. REV. 1389, 1390 (2005); Cass R. Sunstein, *Nondelegation Canons*, 67 U. CHI. L. REV. 315, 316 (2000). A *canon* can be an important theme or way of thinking about a field. See Jill Elaine Hasday, *The Canon of Family Law*, 57 STAN. L. REV. 825, 825 (2004); Mark Tushnet, *The Canon(s) of Constitutional Law: An Introduction*, 17 CONST. COMMENT. 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 (9th ed. 2009); see also, e.g., George La Piana, *Book Review*, 49 Harv. L. Rev. 855 (1936) (reviewing AMLETO GIOVANNI CICOGNANI, *CANON LAW* (1934)).

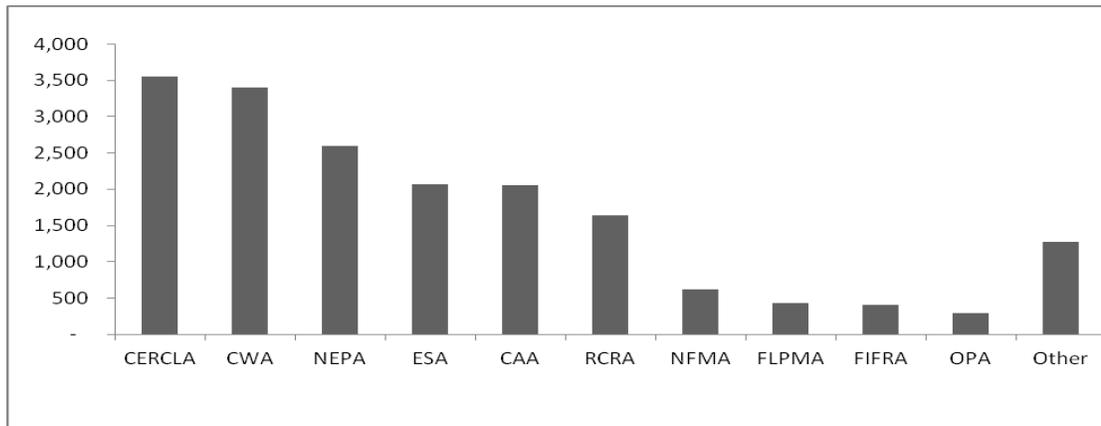
⁷³ That being said, a highly beneficial law is hopefully more likely to thrive and take on importance than a poorly functioning law, so there probably is some correlation between the normative value of a law and whether it is prominent and therefore canonical. *Cf. infra* note 282 (noting that even identifying certain characteristics as salient makes an indirectly normative evaluation).

federal environmental statutes that dominates the teaching and practice of what is generally regarded as environmental law:

- Clean Air Act,⁷⁴ the primary federal air pollution statute;
- Clean Water Act,⁷⁵ the primary federal water pollution statute;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),⁷⁶ which authorizes the cleanup of environmental contamination and imposes liability for such cleanups;
- Resource Conservation and Recovery Act (RCRA),⁷⁷ which regulates the generation, transportation, treatment, storage, and disposal of hazardous waste;
- National Environmental Policy Act (NEPA),⁷⁸ which requires federal agencies to evaluate the environmental impacts of their proposed actions; and
- Endangered Species Act (ESA),⁷⁹ 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 Statute⁸⁰



⁷⁴ 42 U.S.C. §§ 7401–7671q.

⁷⁵ 33 U.S.C. §§ 1251–1387.

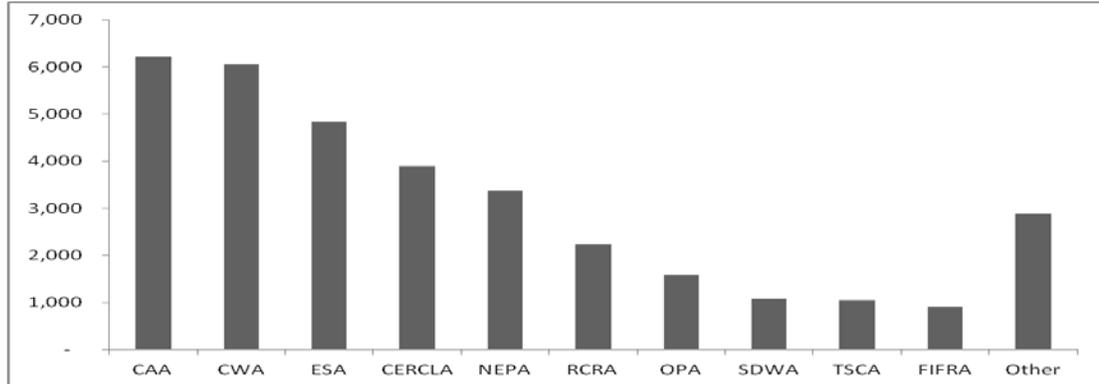
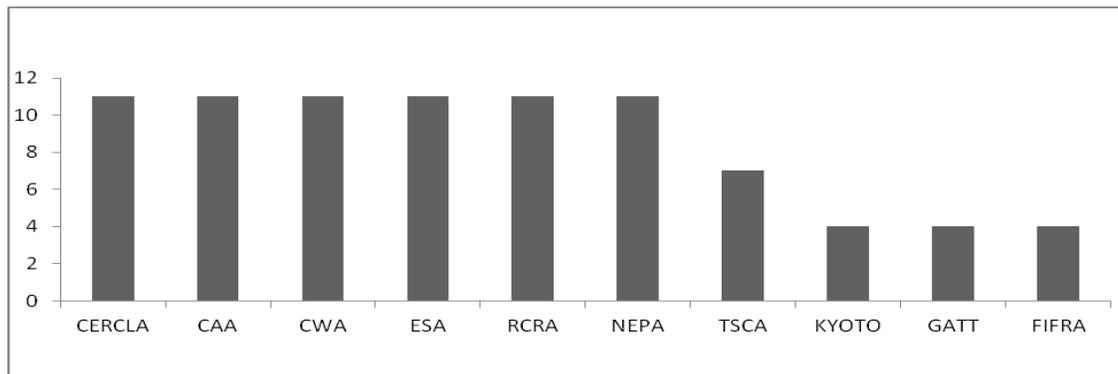
⁷⁶ 42 U.S.C. §§ 9601-9675.

⁷⁷ 42 U.S.C. §§ 6901-6992k.

⁷⁸ 42 U.S.C. §§ 4321-4370h.

⁷⁹ 16 U.S.C. §§ 1531-1599.

⁸⁰ 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 Lexis Nexis 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, 16 U.S.C. §§ 1600-1614. “FLPMA” refers to the Federal Land Policy and Management Act, 43 U.S.C. §§ 1701-1787. “FIFRA” refers to the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136 to 136y. “OPA” refers to the Oil Pollution Act, 33 U.S.C. §§ 2701-2762.

Figure 3: Frequency of Mention in Law Review Articles by Statute⁸¹Figure 4: Frequency of Substantial Coverage in Casebooks by Statute⁸²

These data show that when lawyers, scholars, and teachers practice, think, and teach about the field of environmental law, they do so

⁸¹ 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 Lexis Nexis 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 to 300j-26. “Kyoto” refers to the Kyoto Protocol. “GATT” refers to the General Agreement on Tariffs and Trade.

⁸² Figure 4 indicates the frequency with which federal environmental statutes are substantially covered in eleven leading environmental law casebooks. See ROBIN KUNDIS CRAIG, ENVIRONMENTAL LAW IN CONTEXT (3d ed. 2012); HOLLY DOREMUS ET AL., ENVIRONMENTAL POLICY LAW: PROBLEMS, CASES, AND READINGS (6th ed. 2012); DANIEL A. FARBER ET AL., 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 ET AL., 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 ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY (6th ed. 2009); ZYGMUNT J.B. PLATER, ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY (4th ed. 2010); RICHARD L. REVESZ, ENVIRONMENTAL LAW AND POLICY (2d ed. 2012).

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,⁸³ 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,⁸⁴ 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 universally—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”⁸⁵ of the 1970s, which encompassed the first Earth Day,⁸⁶ enactment of most of the major federal environmental statutes,⁸⁷ and the creation of the EPA.⁸⁸ That being said, only some of

⁸³ Jack Balkin and Sanford Levinson refer to these respectively as the “pedagogical canon,” “cultural literacy canon,” and the “academic theory canon.” J.M. Balkin & Sanford Levinson, *The Canons of Constitutional Law*, 111 HARV. L. REV. 963 (1998).

⁸⁴ See *supra* Part I.A.

⁸⁵ 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 Holly Doremus, *Preserving Citizen Participation in the Era of Reinvention: The Endangered Species Act Example*, 25 ECOLOGY L.Q. 707, 717 (1999) (referring to the “environmental law revolution”); Fischman, *supra* note 7, at 720 (same); 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) (same).

⁸⁶ See Anderson, *supra* note 85, at 395 (describing events during the first Earth Day on April 22, 1970).

⁸⁷ See, e.g., National Environmental Policy Act, Pub. L. No. 91-190, 83 Stat. 852; Clean Water Act, Pub. L. No. 91-224, 84 Stat. 91 (1970); Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (1970); Endangered Species Act, Pub. L. No. 93-205, 87 Stat. 884 (1973); see also LAZARUS, *supra* note 9, at at 70 (listing eighteen major federal environmental protection statutes enacted during the 1970s).

⁸⁸ Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623 (1970).

the federal environmental statutes Congress enacted during the 1970s are canonical; others receive relatively meager attention in cases, casebooks, and law review articles.⁸⁹

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.⁹⁰ Calls for political action on environmental issues often explicitly invoke the 1970s as a model and inspiration,⁹¹ recognizing both the dramatic material accomplishments of the enactments of that period and their 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,”⁹² which share three features:

⁸⁹ See, e.g., Noise Control Act, Pub. L. No. 92-574, 86 Stat. 1234 (1972) (codified at 42 U.S.C. §§ 4901-4918). As compared with thousands of citations in cases and law reviews to the canonical environmental statutes, see *supra* Figures 2-3, just 38 cases and 92 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., BROOKS, *supra*, at 14. 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 (noting that “[t]he rate of environmental lawmaking attained its zenith in the early 1970s”); Davies, *Alternative Energy and the Energy-Environment Disconnect*, *supra* note 30, at 486 (“No matter how environmental law’s historical taxonomy is built, it is plain that the 1970s were ground-shifting.”); 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”).

⁹⁰ 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”).

⁹¹ See, e.g., David K. Hausman, *Sen. Kerry Urges Eco-Awareness in Speech*, HARVARD CRIMSON, Apr. 23, 2007 (reporting speech in which Senator John Kerry “urged a return to the environmental activism of the early 1970s”).

⁹² 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

[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 institutionalized deliberation responsive to the needs of We the People; and (3) [are] stuck in the public culture, after a period of implementation and formal confirmation by Congress after public discussion.”⁹³

Superstatutes, although “subordinate to the Constitution,” become part of “the fundamental structure and values of American public policy,” “institiat[ing] both social norms and legal rules.”⁹⁴ 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.⁹⁵

2. Special Cases: ESA and NEPA

Two canonical environmental statutes, the Endangered Species Act (ESA)⁹⁶ and National Environmental Policy Act (NEPA),⁹⁷ present special

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.’” (internal footnotes omitted) (quoting Eskridge & Ferejohn, *supra*, at 1216).

⁹³ Eskridge & Ferejohn, *supra* note 92, at 26.

⁹⁴ *Id.* at 27, 27, 28.

⁹⁵ 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. ENV'TL 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 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).

⁹⁶ 16 U.S.C. §§ 1531-1599.

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.⁹⁸ Both the ESA and NEPA are among the most litigated environmental statutes, the most cited in law review articles, and appear in the leading environmental law casebooks.⁹⁹ Both focus overwhelmingly on environmental protection.¹⁰⁰ Both were enacted in the 1970s.¹⁰¹

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,¹⁰² and receive extensive coverage

⁹⁷ 42 U.S.C. §§ 4321-4370h.

⁹⁸ 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 CAL. 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).

⁹⁹ *See infra* Part I.B (reporting the frequency that specific environmental statutes appear in cases, law review articles, and environmental law casebooks).

¹⁰⁰ 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.”).

¹⁰¹ Congress enacted NEPA in 1970, see Pub. L. No. 91-190, 83 Stat. 853 (1970), and the ESA in 1973, see Pub. L. No. 93-205, 81 Stat. 884 (1973).

¹⁰² *See, e.g.*, Fischman, *supra* note 7, at 669, 682 (referring to NEPA and the ESA, respectively, as resource statutes); Alyson C. Flournoy et. al., *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, 132 (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—e.g., 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.

in natural resources law casebooks.¹⁰³ 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 Service¹⁰⁴—but also places significant implementation responsibilities on all federal agencies.¹⁰⁵ NEPA's obligations attach to “all agencies of the Federal Government.”¹⁰⁶

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 to release to the public an Environmental Impact Statement (EIS) before taking any major action “significantly affecting the quality of the human environment.”¹⁰⁷ This obligation attaches to agency programs as diverse as the Department of Housing and Urban Development's funding of a housing development revitalization project,¹⁰⁸ the Federal Energy Regulatory Commission's designation of a national interest electric transmission corridor,¹⁰⁹ and the Army Corps of Engineers' construction of a dam.¹¹⁰ The Endangered Species Act prohibits the “take” of any endangered species¹¹¹ and further requires all federal agencies, in consultation with the Fish and Wildlife Service or the Fisheries Service, “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 destruction or adverse modification of [critical] habitat of such species.”¹¹² These requirements, like NEPA, also apply to diverse circumstances, such as the Federal

¹⁰³ See, e.g., CHRISTINE KLEIN, NATURAL RESOURCES LAW: A PLACE-BASED BOOK OF PROBLEMS AND CASES 123-84, 759-823 (2005); JAMES RASBAND ET AL., NATURAL RESOURCES LAW AND POLICY 258-92, 348-440 (2d ed. 2009).

¹⁰⁴ 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).

¹⁰⁵ 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”).

¹⁰⁶ 42 U.S.C. § 4332.

¹⁰⁷ 42 U.S.C. § 4332(2)(C) (2006). 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. Public Citizen*, 541 U.S. 752, 756–58 (2004) (providing an overview of EISs, Environmental Assessments, and Findings of No Significant Impact).

¹⁰⁸ *Coliseum Square Ass'n v. Jackson*, 465 F.3d 215, 237–38 (5th Cir. 2006)

¹⁰⁹ *California Wilderness Coal. v. U.S. Dept. of Energy*, 631 F.3d 1072, 1096-98 (9th Cir. 2011).

¹¹⁰ See *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 364-67 (1989)

¹¹¹ Endangered Species Act § 9(a)(1)(B), 16 U.S.C. § 1536(a)(1)(B).

¹¹² Endangered Species Act § 7(a)(2), 16 U.S.C. § 1536(a)(2).

Emergency Management Agency's (FEMA's) provision of federal flood insurance,¹¹³ the Army's ongoing operation of a military base,¹¹⁴ and the Department of Energy's grant of an easement across its property for construction and use of a private mining road.¹¹⁵

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. 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 non-canonical 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 which 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 affect how it functions as law.¹¹⁶ Moreover, the noncanonical characteristics of NEPA and the ESA enable both statutes to work synergistically in support of noncanonical environmental provisions.¹¹⁷

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.

¹¹³ See *Florida Key Deer v. Paulison*, 522 F.3d 1133, 1141-44 (11th Cir. 2008) (holding that the ESA § 7 applies to the Federal Emergency Management Agency's administration of the National Flood Insurance Program).

¹¹⁴ *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1143 (D. Ariz. 2002).

¹¹⁵ *Sierra Club v. United States*, 255 F. Supp. 2d 1177 (D. Colo. 2002).

¹¹⁶ See *infra* Part II.

¹¹⁷ See *infra* notes 223-224 and accompanying text.

Resource Statutes. Outside of the canon of federal statutes enacted primarily to protect the natural environment, the set of laws most closely associated with 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.¹¹⁸ 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,¹¹⁹ also intentionally facilitate the exploitation of natural resources.¹²⁰ Their subject matter is natural resources rather than pollution, and they are administered by resource agencies rather than by EPA.¹²¹ Resource agencies are staffed and operate very differently than EPA, and even operate under different constitutional authority.¹²²

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

¹¹⁸ 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.

¹¹⁹ See, e.g., Federal Lands Policy and Management Act (FLPMA) § 202(c)(3), 43 U.S.C. § 1712(c)(3) (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, 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 § 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 § 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 . . .”).

¹²⁰ 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 century.”).

¹²¹ See, e.g., National Forest Management Act (NFMA), 16 U.S.C. §§ 1600-1614 (administered by the Forest Service); National Park Service Organic Act, 16 U.S.C. §§ 1 to 18f-3 (administered by the National Park Service); Federal Lands Policy and Management Act (FLPMA), 43 U.S.C. §§ 1701-1787 (administered by the Bureau of Land Management).

¹²² EPA statutes operate largely under the authority of the Commerce Clause; natural resource statutes operate largely under the authority of the Property Clause.

Drinking Water Act,¹²³ have the requisite features of the statutes in the canon but are much smaller programs by virtue of their narrower scope. Others aim at somewhat different objectives. The Toxic Substances Control Act (TSCA)¹²⁴ and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),¹²⁵ 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)¹²⁶ 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.¹²⁷ Many times this modeling arises because federal environmental statutes, through what is known as cooperative federalism or “delegated program federalism,”¹²⁸ allow state environmental programs to implement federal statutes.¹²⁹ 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. 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.¹³⁰ 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 petroleum products that

¹²³ 42 U.S.C. §§ 300f to 300j-26.

¹²⁴ 15 U.S.C. §§ 2601-2697.

¹²⁵ 7 U.S.C. §§ 136-136y.

¹²⁶ 42 U.S.C. §§ 11001-11050.

¹²⁷ See, e.g., Del. Code Ann. tit. 7, §§ 6301-6309 (adopting hazardous waste management provisions similar to RCRA); 415 Ill. Comp. Stat. 5/11-13.7 (adopting water pollution provisions similar to the Clean Water Act and Safe Drinking Water Act).

¹²⁸ See, e.g., 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 federal requirements); 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.”).

¹²⁹ See, e.g., Clean Water Act § 402(b), 33 U.S.C. § 1342(b) (allowing EPA to authorize state water pollution discharge permit programs implementing the federal Clean Water Act).

¹³⁰ See Bulman-Pozen & Gerken, *supra* note 128, at 1276-77 (citing John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 MD. L. REV. 1183 (1995)).

CERCLA specifically excludes.¹³¹ Pennsylvania's Clean Streams Law similarly covers more water bodies than the federal Clean Water Act.¹³²

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.¹³³ Common law doctrines employ different regulatory mechanisms than statutes; common law imposes liability for the harm conduct causes, 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.¹³⁴ 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,¹³⁵ and statutory requirements may help to define common law liability.¹³⁶

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.¹³⁷

¹³¹ Compare CERCLA § 101(14), 42 U.S.C. § 9601(14) (stating that hazardous substance “does not include petroleum”) with Wash. Rev. Code § 70.105D.020(10)(D) (defining hazardous substance to include “Petroleum or petroleum products”).

¹³² Compare 40 C.F.R. § 122.2 (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 5 Pa. Stat. § 691.1 (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”).

¹³³ PLATER ET AL., ENVIRONMENTAL LAW AND POLICY, *supra* note 82, at 74.

¹³⁴ See Percival, *supra* note 7, at 159 (noting that the major environmental statutes enacted in the 1970s were in part “adopted in response to perceived inadequacies of the common law”).

¹³⁵ 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”).

¹³⁶ 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).

¹³⁷ See Clean Air Act §§ 601-618, 42 U.S.C. §§ 7671-7671q.

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,¹³⁸ which tend to receive meager attention, are natural resource statutes rather than pollution statutes and state rather than 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.¹³⁹

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.¹⁴⁰ 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.¹⁴¹ Embedded

¹³⁸ See, e.g., Ala. Code §§ 9-13-1 to -274; Ohio Rev. Code § 1503.01-.99.

¹³⁹ See, e.g., Heather Hughes, *Securitization and Suburbia*, 90 OR. L. REV. 359, 411 (2011) (contending that 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).

¹⁴⁰ See, e.g., ALAN ALTSHULER & JOSE A. GOMEZ-IBANEZ, REGULATION FOR REVENUE: THE POLITICAL ECONOMY OF LAND USE EXACTIONS (1993); DANIEL R. MANDELKER ET AL., PLANNING AND CONTROL OF LAND DEVELOPMENT (8th ed. 2011).

¹⁴¹ 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., *In re 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) (addressing whether Bankruptcy Code's automatic stay precluded state agency from

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, nonenvironmental 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 as an alternative and parallel system that can complement and substitute for canonical environmental law, helping environmental law to address some of its major challenges.

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.

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:

- 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 2005,¹⁴² which overall was not an environmental law, including provisions amending the Clean Air Act with respect to regulation of renewable fuels.¹⁴³
- 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 1990¹⁴⁴ amended the Occupational Safety and Health Act¹⁴⁵ 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.”¹⁴⁶
- 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.¹⁴⁷

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

¹⁴² Pub. L. No. 109-58, 119 Stat. 594 (2005).

¹⁴³ Id. § 1501, 119 Stat. at 1067-76 (amending Clean Air Act § 211, 42 U.S.C. § 7545).

¹⁴⁴ Pub.L. No. 101-549, 104 Stat. 2399 (1990).

¹⁴⁵ 29 U.S.C. §§ 651-678.

¹⁴⁶ Id. § 304(a), 29 U.S.C. § 655.

¹⁴⁷ Pub. L. No. 89-670, § 4(f), 80 Stat. 931, 934 (1966) (codified as amended at 49 U.S.C. § 303); *see also, e.g.*, Airway Improvement Act (“AAIA”), 49 U.S.C. § 47106(c)(1)(B) (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, Pub. L. No. 99-495, § 3(a), 100 Stat. 1243, 1243 (1986) (amending Federal Power Act § 10(a), 16 U.S.C. § 803(a), 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)).

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,¹⁴⁸ embedded at creation but not 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.¹⁴⁹ 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,¹⁵⁰ the Department of Transportation's administration of Section 4(f) of its organic act,¹⁵¹ or the Federal Energy Regulatory Commission's administration of § 10(a) of the Federal Power Act, requiring hydropower licenses to provide "adequate protection, mitigation, and enhancement of fish and wildlife."¹⁵²

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 less prominent and murkier. The environment, to the extent it is a focus at all, lacks the claims of primacy

¹⁴⁸ See *supra* notes 142-143.

¹⁴⁹ See *infra* Part II.C.3 (examining the political characteristics of embedded environmental laws).

¹⁵⁰ 26 U.S.C. §§ 4681-4682.

¹⁵¹ Pub. L. No. 89-670, § 4(f), 80 Stat. 931, 934 (1966) (codified as amended at 49 U.S.C. § 303).

¹⁵² 16 U.S.C. § 803(a).

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.¹⁵³ The Plant Protection Act,¹⁵⁴ 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.¹⁵⁵ Similarly, the Indian Gaming Regulatory Act,¹⁵⁶ 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.”¹⁵⁷ This 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.¹⁵⁸ Indeed, for many embedded environmental laws, even the environmental-ness of the law at all is unclear.¹⁵⁹

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.¹⁶⁰ 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,¹⁶¹ or marketing of organically produced products regulated under the Organic Foods Production Act.¹⁶²

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, the Swampbuster and Sodbuster provisions of the Food Security Act which targets agriculture, Federal Power Act § 10(a)

¹⁵³ See *infra* note 215 (describing the history of the tax).

¹⁵⁴ 7 U.S.C. §§ 7701-7786.

¹⁵⁵ See *id.* § 7701 (setting forth congressional findings).

¹⁵⁶ 25 U.S.C. §§ 2701-2721.

¹⁵⁷ 25 U.S.C. § 2710(b)(2)(E).

¹⁵⁸ See, e.g., 25 U.S.C. § 2702.

¹⁵⁹ See *infra* Part III.C.

¹⁶⁰ 42 U.S.C. §§ 7671-7671q.

¹⁶¹ 49 U.S.C. §§ 47501-47510.

¹⁶² 7 U.S.C. §§ 6501-6522.

which targets hydropower, or Section 4(f) which targets transportation. Sector-specific environmental laws are more readily embedded into other non-environmental programs because many non-environmental government programs are sector-specific and administered by sector-specific institutions such as the Department of Agriculture, Federal Energy Regulatory Commission, and the Department of Transportation.

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,¹⁶³ incentives,¹⁶⁴ and planning requirements¹⁶⁵ as well as more conventional regulation.¹⁶⁶

¹⁶³ 26 U.S.C. §§ 4681-4682.

¹⁶⁴ 16 U.S.C. §§ 3811-3813.

¹⁶⁵ Pub. L. No. 89-670, § 4(f), 80 Stat. 931, 934 (1966) (codified as amended at 49 U.S.C. § 303).

¹⁶⁶ 49 U.S.C. §§ 5101-5128. 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., Florida Key Deer v. Paulison*, 522 F.3d 1133 (11th Cir. 2008) (applying ESA § 7 to Federal Emergency Management Agency); *Am. Bird Conservancy, Inc. v. FCC*, 516 F.3d 1027 (D.C. Cir. 2008) (applying NEPA to Federal Communications Commission); *Soc'y Hill Towers Owners' Ass'n v. Rendell*, 210 F.3d 168 (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., Florida Key Deer*, 522 F.3d at 1141-44 (applying ESA § 7 to the Federal Emergency Management Agency's implementation of the National Flood Insurance Act); *Am. Bird Conservancy*, 516 F.3d 1027 (applying NEPA to Federal Communications Commission's implementation of the Communications Act of 1934); *Soc'y Hill Towers Owners' Ass'n*, 210 F.3d 168 (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. Dept. of Transp.*, 42 F.3d 517 (9th Cir. 1994); 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. Dept. 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.

C. Implications

Canonical environmental law is integrated with other environmental law. For example, a federal regulation restricting air pollutant emissions from a power plant¹⁶⁷ is integrated with other federal air pollution regulation—administered by the same sub-agency (EPA’s Office of Air and Radiation), as part of the same statutory program (Clean Air Act). Canonical environmental law is segregated, however, from non-environmental law—the same federal regulation restricting air pollutant emissions from a power plant is not integrated, for example, with labor standards¹⁶⁸ 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.¹⁶⁹

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.¹⁷⁰ 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.¹⁷¹ Where functions are complementary, there are likely to

¹⁶⁷ See, e.g., 40 C.F.R. §§ 60.40Da-.52Da (setting forth Standards of Performance for Electric Utility Steam Generating Units).

¹⁶⁸ See, e.g., 29 C.F.R. §§ 531.1-.60 (regulating wage payments under the Fair Labor Standards Act of 1938).

¹⁶⁹ In this respect, NEPA and the Endangered Species Act 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 Endangered Species Act rests with non-environmental agencies implementing what are otherwise non-environmental programs, see *supra* notes 105-106 and accompanying text, the administration of NEPA and the Endangered Species Act resembles the administration of an embedded environmental law. When NEPA requires the Department of Housing and Urban Development 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.

¹⁷⁰ Cf. Eric Biber, *The More the Merrier: Multiple Agencies and the Future of Administrative Law Scholarship*, 125 HARV. L. REV. F. 78, 79 (2012) (“A key question is whether you want to manage the externality-causing activity separately from the externality, or together.”).

¹⁷¹ See David A. Weisbach & Jacob Nussim, *The Integration of Tax and Spending Programs*, 113 YALE L.J. 955, 988-97 (2004).

be benefits from coordinating those functions.¹⁷² 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 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 section 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 in which 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

¹⁷² *Id.* Assessing functional complementarity with any specificity, however, can be very difficult. *Id.* at 997.

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 in the particular situation seems to arise 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.¹⁷³ 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.¹⁷⁴ Existing securities laws intensively regulate other, non-environmentally related corporate disclosures.¹⁷⁵ 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 with existing environmental programs or separate from those existing

¹⁷³ 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.

¹⁷⁴ See, e.g., Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (Feb. 8, 2010); see generally John W. Bagby et. al., *How Green Was My Balance Sheet?: Corporate Liability and Environmental Disclosure*, 14 VA. ENVTL. L.J. 225 (1995).

¹⁷⁵ See Regulation S-K, 17 C.F.R. pt. 229.

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.¹⁷⁶ Even statutory amendments usually accomplish only incremental change.¹⁷⁷ 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 programs, provides a structure more conducive to experimentation and policy innovation than are 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,¹⁷⁸ 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 effect 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

¹⁷⁶ See Daniel J. Fiorino, *Toward a New System of Environmental Regulation: The Case for an Industry Sector Approach*, 26 ENVTL. L. 457, 480 (1996) (noting that “a truly new regulatory system cannot be implemented within the existing legal framework”).

¹⁷⁷ Even the massive and dramatic Clean Air Act Amendments of 1990, Pub.L. No. 101–549, 104 Stat. 2399 (1990), which significantly revamped the Clean Air Act and was 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.

¹⁷⁸ See *supra* Part I.B.

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.¹⁷⁹ 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.¹⁸⁰ EPA has accumulated a staff of thousands of environmental experts with which no other federal agency can compete.¹⁸¹

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 potentially perceived to be at odds with the agency's other, primary goals.¹⁸² 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.¹⁸³ It is highly bureaucratic in ways that may impair its ability to respond with speed and agility to new policy challenges.¹⁸⁴ Violent swings of the political pendulum have left the agency with what William Ruckelshaus, its first Administrator, has called “battered agency syndrome.”¹⁸⁵ 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.

¹⁷⁹ EPA, Our Mission and What We Do, <http://www.epa.gov/aboutepa/whatwedo.html> (“The mission of EPA is to protect human health and the environment.”).

¹⁸⁰ See, e.g., 21 U.S.C. § 349 (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).

¹⁸¹ U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF INSPECTOR GENERAL, REPORT NO. 11-P-0136, EPA NEEDS BETTER AGENCY-WIDE CONTROLS OVER STAFF RESOURCES (Feb. 22, 2011) (reporting that the agency employed somewhat over 18,000 people during Fiscal Years 2006-2010).

¹⁸² 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).

¹⁸³ See Lakshman Guruswamy, *Integration & Biocomplexity*, 27 ECOLOGY L.Q. 1191, 1233 (2001) (referring to EPA 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.”).

¹⁸⁴ See, e.g., 139 CONG. REC. S16845 (daily ed. Nov. 20, 1993) (statement of Sen. Baucus) (criticizing “EPA’s bloated bureaucratic process”)

¹⁸⁵ Ruckelshaus, *supra* note 192, at 25.

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,¹⁸⁶ the SEC may not have EPA's deep expertise on issues 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.¹⁸⁷ 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 consistent with existing agriculture programs built around subsidy programs but functions quite differently from the Clean Water Act's wetlands program.¹⁸⁸

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."¹⁸⁹ 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.

¹⁸⁶ See *supra* notes 174-175 and accompanying text.

¹⁸⁷ See Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2263 (2001) (noting bureaucracies' tendency toward "inertia and torpor")

¹⁸⁸ See Clean Water Act § 404, 33 U.S.C. § 1344.

¹⁸⁹ 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, e.g., 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).

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 laws¹⁹⁰ and their institutional setting¹⁹¹ 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 environmental law. EPA and its canonical regulatory programs have sometimes been¹⁹²—as they are currently¹⁹³—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. 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.¹⁹⁴ Environmental provisions

¹⁹⁰ See *supra* Part II.C.1.

¹⁹¹ See *supra* Part II.C.2.

¹⁹² See William D. Ruckelshaus, *Stopping the Pendulum*, ENVTL. F., Nov./Dec. 1995, at 25, 25 (describing a pattern of alternating “pro-environmental excess” and “anti-environmental excess” that caused EPA to suffer from “battered agency syndrome”).

¹⁹³ See *supra* note 14 and accompanying text; see also *infra* note 233.

¹⁹⁴ 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,

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.¹⁹⁵ Congress can mitigate the risk of EPA implementation failure, or indeed implementation failure by any particular agency, by legislating across multiple fronts—e.g., 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.¹⁹⁶ Delegating environmental laws across a broader range of institutions could allow other agencies to implement substitute policies when EPA is stymied.

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.¹⁹⁷ Some state governments, moreover, may resist large-scale expansions of federal environmental regulation that displaces more lenient state-level regulation and pressures state

has successfully defended the charges as an impact fee rather than a tax. See Brad Bumsted, *Corbett Disputes Claim that Impact Fee Is Tax*, PITTSBURGH 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 Foundation (May 31, 2011), <http://www.commonwealthfoundation.org/policyblog/detail/whats-the-difference-between-a-tax-and-a-fee> (arguing that "there 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.

¹⁹⁵ Cf. Jacob E. Gersen & Anne Joseph O'Connell, *Deadlines in Administrative Law*, 156 U. PA. L. REV. 923, 990 n.84 (2008) ("The EPA's pattern of missing statutory deadlines has been well documented.").

¹⁹⁶ 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).

¹⁹⁷ 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).

governments into assisting in implementation.¹⁹⁸ 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, the Food Security Act¹⁹⁹ contained two environmental provisions—known as Sodbuster²⁰⁰ and Swampbuster²⁰¹—that condition farmers’ eligibility for many Federal farm program benefits on minimum standards of protection for certain environmentally sensitive lands.²⁰² Although farmers may have opposed the Sodbuster and Swampbuster restrictions in isolation, the overall Food Security Act included numerous provisions, such as price supports and farm loans, that benefited farmers.²⁰³

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.²⁰⁴ Thus, the same provision could be politically far less combustible in terms of 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-

¹⁹⁸ 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.”).

¹⁹⁹ Pub. L. No. 99-198, 99 Stat. 1354 (1985).

²⁰⁰ *Id.* § 1211-1213, 16 U.S.C. §§ 3811-3813.

²⁰¹ *Id.* § 1221-1223, 16 U.S.C. §§ 3821-3823.

²⁰² 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.

²⁰³ See, e.g., Pub. L. No. 99-198, § 401, 99 Stat. at 1395-1406 (providing loan program for feed grains); *id.* § 801, 99 Stat. at 1441-43 (providing price support for soybeans).

²⁰⁴ Cf. Daniel J. Fiorino, *Toward a New System of Environmental Regulation: The Case for an Industry Sector Approach*, 26 ENVTL. L. 457, 480 (1996) (“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 ENVT. PRAC. 235 (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 legislation falls within a field in which there is less political controversy than in environmental policy.²⁰⁵

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,²⁰⁶ sector-specific agencies such as the Department of Agriculture and Department of Transportation are often characterized as captured by their respective industries.²⁰⁷ 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 non-canonical 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 and deliberation in appropriations legislation.²⁰⁸ Environmental appropriations riders, often

²⁰⁵ 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.

²⁰⁶ *See, e.g.*, SENATE COMM. ON ENVIRONMENT AND PUBLIC WORKS MINORITY STAFF, EPA'S ANTI-INDUSTRIAL POLICY: "THREATENING JOBS AND AMERICA'S MANUFACTURING BASE" (Sept. 28, 2010). *But see* Jeff Nesmith, *Senators Attack Mercury Proposal*, ATLANTA J.-CONST., Apr. 13, 2004 (reporting senators' allegation that proposed EPA regulation showed pro-industry bias).

²⁰⁷ *See* Steven G. Calabresi, *Some Normative Arguments for the Unitary Executive*, 48 ARK. L. REV. 23, 104 n.148 (1994) (contending that industry-specific agencies are susceptible to capture by their respective industries)

²⁰⁸ 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

creating exemptions from environmental requirements, have proliferated in recent decades,²⁰⁹ 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 dealmaking” that undermines deliberative democracy.²¹⁰

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 Act²¹¹ and the Swampbuster and Sodbuster provisions of the Food Security Act²¹² embody constructive environmental policies enacted through a standard legislative process. Accordingly, the example of environmental appropriations riders serves as a cautionary reminder to 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:

- 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.

Act of 1979, 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 Endangered Species Act prohibited completion of the Tellico Dam project in Tennessee because it would destroy the endangered snail darter’s habitat.

²⁰⁹ *Id.* at 640-47.

²¹⁰ *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 Environmental Discussion Paper 95-3, Sept. 15, 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 of 2006, Pub. L. No. 109-54, §§ 104-106, 119 Stat. 499, 521-22 (2007) (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”).

²¹¹ 49 U.S.C. § 303.

²¹² 16 U.S.C. §§ 3811-3813, 3821-3823.

- 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.²¹³ 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.²¹⁴ The excise tax, enacted as part of the Omnibus Budget Reconciliation Act of 1989,²¹⁵

²¹³ Lazarus, *supra* note 208, at 622.

²¹⁴ 26 U.S.C. §§ 4681-4682; see also 26 C.F.R. § 52.4682-1.

²¹⁵ Pub. L. No. 101-239, 103 Stat. 2106 (1989). The tax came to be enacted through an “almost serendipitous consensus.” Thomas A. Barthold, *Issues in the Design of Environmental Excise Taxes*, 8 J. ECON. PERSP. 133, 136-37 (1994). 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 53 Fed. Reg. 30,604 (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 auctioning the rights to produce such chemicals. See Barthold, *supra*, at 136-37. Meanwhile, a Congressional Budget Resolution had directed the House

supplements other regulatory 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.²¹⁶ 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.²¹⁷

Second, a provision of the Federal Aid Highways Act²¹⁸ 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.²¹⁹ 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.²²⁰ 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.²²¹ 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 1991.²²²

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

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.

²¹⁶ 53 Fed. Reg. 30,566 (Aug. 12, 1988). The Clean Air Act provisions are codified at 42 U.S.C. §§ 7671-7671m.

²¹⁷ John C. Dernbach, *Sustainable Development as a Framework for National Governance*, 49 CASE W. RES. L. REV. 1, 93 (1998).

²¹⁸ 23 U.S.C. §§ 101-190.

²¹⁹ 23 U.S.C. § 149.

²²⁰ *See* 23 U.S.C. § 149(b)(1)(A)(i).

²²¹ 42 U.S.C. § 7506; *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).

²²² Pub. L. No. 102-240, § 1008, 105 Stat. 1914, 1932 (1991).

other,²²³ NEPA'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.²²⁴

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.

²²³ See, e.g., *Natural Res. Def. Council, Inc. v. U.S. Dept. of Agric.*, 613 F.3d 76 (2d Cir. 2010) (applying NEPA and the Plant Protection Act to the Department of Agriculture's regulation of importation of solid wood packaging material); *Laguna Greenbelt*, 42 F.3d 517 (applying NEPA and Section 4(f) to the Federal Highway Administration's approval of a tollroad project).

²²⁴ 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).

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 enacted in the 1970s. Support for environmental protection was a consensus issue.²²⁵

Political conditions have changed dramatically since the 1970s. Commentators describe a climate of “bitter partisan gridlock”²²⁶ and a “starkly partisan divide”²²⁷ on environmental issues in Congress. Since the 1970s Democrats and Republicans in Congress have sharply diverged in their support for environmental protection.²²⁸ Environmental issues have become a proxy for an ideological battle over the appropriate extent of federal regulatory authority.²²⁹ “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”²³⁰

Whatever the causes of the loss of political consensus and the increasing politicization of environmental issues at the federal level,²³¹ 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 1990.²³² The impasse shows no signs of

²²⁵ 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 1003 n.17 (noting the “sweeping 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 non-political. See generally, e.g., BRUCE A. ACKERMAN & WILLIAM T. HASSLER, CLEAN COAL/DIRTY AIR (1981).

²²⁶ 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 . . .”).

²²⁷ Lazarus, *supra* note 8, at 1004 (“Today, however, a starkly partisan divide exists in environmental law.”).

²²⁸ *Id.* at 1012-13.

²²⁹ See Andrews, *supra* note 8, at 238.

²³⁰ Lazarus, *supra* note 8, at 1019.

²³¹ See ANDREWS, *supra* note 197, 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).

²³² Pub. L. No. 101-549, 104 Stat. 2399 (1990). 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

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.²³³ In the face of congressional inaction, EPA is forced to use old statutes to address new environmental issues.

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 2006²³⁴ amended and reauthorized the Magnuson-Stevens Fishery Conservation and Management Act,²³⁵ the primary federal statute regulating fisheries.²³⁶
- The Food, Conservation, and Energy Act of 2008,²³⁷ also known as the 2008 Farm Bill, contained a provision that significantly amended the Lacey Act,²³⁸ 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.²³⁹

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.

²³³ See, e.g., Robin Bravender & Gabriel Nelson, *Republicans Blitz Obama Over EPA's 'Anti-Industrial' Regulations*, N.Y. TIMES, Sept. 28, 2010; John M. Broder, *Bashing E.P.A. Is New Theme in G.O.P. Race*, N.Y. TIMES, Aug. 17, 2011; John M. Broder, *House Votes to Bar E.P.A. From Regulating Industrial Emissions*, N.Y. TIMES, Apr. 7, 2011.

²³⁴ Pub. L. No. 109-479, 120 Stat. 3575 (2007).

²³⁵ 16 U.S.C. §§ 1801-1891d.

²³⁶ 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).

²³⁷ Pub. L. No. 110-246, 122 Stat. 1651 (2008).

²³⁸ 16 U.S.C. §§ 3371-3378.

²³⁹ Pub. L. No. 110-246, § 8204, 122 Stat. at 2052-56.

- The Omnibus Public Land Management Act of 2009,²⁴⁰ 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.²⁴¹

All three of these statutes exhibit markedly non-canonical characteristics. The Lacey Act amendment exemplifies the features of embedded environmental law. 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.²⁴² The Department of Agriculture, and specifically the Animal and Plant Health Inspection Service, enforces the new Lacey Act provisions.²⁴³ Various federal land management agencies, such as the Bureau of Land Management, Forest Service, and National Park Service, administer the newly designated public lands.²⁴⁴

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.²⁴⁵ The Lacey Act amendments protect U.S. timber companies from underpriced imports.²⁴⁶ The Omnibus Public Land Act includes new historical parks and water supply projects.²⁴⁷

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

²⁴⁰ Pub. L. No. 111-11, 123 Stat. 991 (2009).

²⁴¹ See Environmental News Serv., *Congress Votes “Yes” to Sweeping Public Lands Protection Act*, ENS NEWSWIRE, Mar. 25, 2009.

²⁴² See Nat’l Oceanic & Atmospheric Administration, U.S. Dep’t of Commerce, Magnuson-Stevens Reauthorization Act (Aug. 2008), <http://www.noaa.gov/factsheets/new%20version/magstevens.pdf>.

²⁴³ See, e.g., Implementation of Revised Lacey Act Provisions, 76 Fed. Reg. 10,874 (Feb. 28, 2011).

²⁴⁴ See 123 Stat. at 993-95 (identifying the agency associated with each set of new authorizations).

²⁴⁵ 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).

²⁴⁶ See Dan Berman, *Illegal Timber, Omnibus Parks Bills Lead House Suspension Calendar*, ENV’T & ENERGY DAILY, Dec. 3, 2007.

²⁴⁷ See, e.g., Pub. L. No. 111-11, §§ 7001-7003, 9101-9115, 123 Stat. at 1183-89, 1298-1321.

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 industry²⁴⁸ and passed in both the House and Senate by voice vote.²⁴⁹ The Food, Conservation, and Energy Act and Omnibus Public Land Act passed by wide bipartisan margins in both the House and Senate.²⁵⁰

It is reasonable to conclude that the non-canonical 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. 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. Tribes joined environmentalists in supporting the Omnibus Public Land Act because it included water development projects beneficial to them.

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.²⁵¹ The Lacey Act amendments

²⁴⁸ See Freeman, *supra* note 245 (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”).

²⁴⁹ See Thomas, *Bill Summary & Status*, 109th Congress (2005-2006), H.R. 5946, Major Congressional Actions, available at <http://thomas.loc.gov>.

²⁵⁰ See Thomas, *Bill Summary & Status*, 111th Congress (2009-2010), H.R. 146, Major Congressional Actions, available at <http://thomas.loc.gov> (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, <http://www.govtrack.us/congress/bills/110/hr2419#overview> (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).

²⁵¹ See, e.g., Freeman, *supra* note 245; 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*,

were revised in committee to reduce compliance burdens, and languished in committee before finally being inserted into the broader Farm Bill.²⁵² The Omnibus Public Land Act triggered substantial opposition from Republicans.²⁵³ 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 passage, even by wide margins. 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 non-canonical 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,²⁵⁴ during,²⁵⁵ and after²⁵⁶ 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.²⁵⁷ Meanwhile, science continues to identify new potential

ENV'T & ENERGY DAILY, Dec. 6, 2006; Lauren Morello & Allison A. Freeman, *Magnuson-Stevens Still in Play as Activists Plan for Dem Congress*, ENV'T & ENERGY DAILY, Nov. 10, 2006.

²⁵² See Berman, *supra* note 246.

²⁵³ See Patrick O'Connor, *House GOP Derails Public Lands Bill*, POLITICO, Mar. 11, 2009; 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 NATIONAL CENTER BLOG, Mar. 11, 2009.

²⁵⁴ See, e.g., Pub. L. No. 89-670, § 4(f), 80 Stat. 931, 934 (1966) (codified as amended at 49 U.S.C. § 303); Federal Water Power Act of 1920, 41 Stat. 1063, 1068 (1920) (codified as amended at 16 U.S.C. § 803(a)).

²⁵⁵ See Pub. L. No. 99-198, §§ 1221-1223, 99 Stat. 1354 (1985) (codified as amended at 16 U.S.C. §§ 3821-3823) (Swampbuster).

²⁵⁶ Energy Policy Act of 2005, Pub. L. No. 109-58, § 1501, 119 Stat. 594, 1067-76 (2005) (amending Clean Air Act § 211, 42 U.S.C. § 7545).

²⁵⁷ 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.").

hazards, such as chemical toxicity at low exposure levels previously assumed safe.²⁵⁸

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.²⁵⁹

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.²⁶⁰ 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,²⁶¹ energy²⁶² and food production.²⁶³ Underlying these

²⁵⁸ Jody A. Roberts, *Collision Course? Science, Law, and Regulation in the Emerging Science of Low Dose Toxicity*, 20 VILL. ENVTL. L.J. 1 (2009); see also Daniel A. Farber, *Environmental Protection as a Learning Experience*, 27 LOY. L.A. L. REV. 791 (1994) (noting that “[t]he expansion of scientific knowledge has revealed new environmental problems”).

²⁵⁹ 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 (2012); see generally Thomas A. Barthold, *Issues in the Design of Environmental Excise Taxes*, 8 J. ECON. PERSP. 133, 133 (1994) (noting other examples of tax provisions with unintentionally adverse environmental consequences).

²⁶⁰ See *supra* note 23 (defining environmental law as laws that deliberately address human impacts on the environment).

²⁶¹ 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).

²⁶² See, e.g., Lincoln L. Davies, *Alternative Energy and the Energy-Environment Disconnect*, *supra* note 30; Amy J. Wildermuth, *The Next Step: The Integration of Energy Law and Environmental Law*, 31 UTAH ENVTL. L. REV. 369 (2011).

²⁶³ See, e.g., Jason J. Czarnecki, *Food, Law & the Environment: Informational and Structural Changes for A Sustainable Food System*, 31 UTAH ENVTL. L. REV. 263 (2011);

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.²⁶⁴

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.

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 Laurie Ristino & Sam Kalen, *Is Environmental Law Serving Society*, NAT. RESOURCES & ENVT., Spr. 2012, at 52, 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”).

²⁶⁴ 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); 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); John R. Nolon, *Comparative Land Use Law: Patterns of Sustainability*, 23 PACE ENVTL. L. REV. 855 (2006). 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 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”).

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.²⁶⁵ 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, Clean Air Act § 202 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.”²⁶⁶ 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 § 202, but in doing so § 202 is merely mitigating its impacts on these factors, not affirmatively promoting them—§ 202 considers safety, but it is not a safety regulation.²⁶⁷ Unintentional environmental laws, however, do pursue and promote other, non-environmental objectives. As a result, adding environmental concerns 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, nonenvironmental law, embedded environmental law integrates substantively and institutionally with nonenvironmental law.²⁶⁸ The environmental policies that result from

²⁶⁵ Cf. John C. Dernbach, *Achieving Sustainable Development: The Centrality and Multiple Facets of Integrated Decisionmaking*, 10 IND. J. GLOBAL LEGAL STUD. 247 (2003) (arguing that integrated decisionmaking—decisionmaking that integrates environmental and other objectives—is the foundation of sustainable development).

²⁶⁶ Clean Air Act § 202(a)(3)(A)(i), 42 U.S.C. § 7521(a)(3)(A)(i).

²⁶⁷ 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, for example, requires paying laborers and mechanics constructing treatment works using federal grants under the Clean Water Act be paid prevailing wages. It is a labor law, administered by the Labor Department, but otherwise embedded in an environmental statute.

²⁶⁸ 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 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*

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.²⁶⁹

3. Climate Change

The massive and “super wicked”²⁷⁰ problem of anthropogenic climate change looms over all other environmental issues. Despite the legislative paralysis on the issue,²⁷¹ EPA is moving forward with addressing climate change under its existing statutory authorities, primarily the Clean Air Act.²⁷² 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-

National Environmental Policy Act 40th Anniversary Symposium, 40 ENVTL. L. REP. (Envtl. L. Inst.) 11,183, 11,195 (2010) (transcribing an unidentified audience member’s comment that “NEPA is procedural, it is in many instances window-dressing”).

²⁶⁹ See 42 U.S.C. § 12709 (requiring Secretary to establish standards); *id.* § 12745(a)(1)(F) (requiring compliance with standards); see also General Accountability Office, GAO-09-46, *Green Affordable Housing* (2008) (concluding that HUD had taken “positive steps” to promote energy efficiency but could do more within its existing authority).

²⁷⁰ 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 et al., *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.yale.edu/uploads/publications/2007levinbernsteincashoreauldWicked-Problems.pdf> (originating the term “super wicked” and applying it to the problem of climate change).

²⁷¹ See generally Carl Hulse & David M. Herszenhorn, *Democrats Call Off Climate Bill Effort*, N.Y. TIMES, July 22, 2010; Ryan Lizza, *As the World Burns*, New Yorker, Oct. 11, 2010; Elizabeth Kolbert, *Uncomfortable Climate*, NEW YORKER, Nov. 22, 2010.

²⁷² See EPA, *Climate Change: Regulatory Initiatives*, <http://www.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html>.

trade emissions program administered by EPA.²⁷³ 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.²⁷⁴ 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.²⁷⁵

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.

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 non-regulatory, many of which proactively assist the sector. Like other embedded environmental

²⁷³ See Resources for the Future, Summary of Notable Market-Based Climate Change Bills Introduced in the 111th Congress (May 12, 2010), http://www.rff.org/Documents/Features/111th%20Legislation_Table_Graph.pdf.

²⁷⁴ See, e.g., HOWARD LATIN, CLIMATE CHANGE POLICY FAILURES: WHY CONVENTIONAL MITIGATION APPROACHES CANNOT SUCCEED (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 (2009), available at <http://www.thebreakthrough.org/blog/PDF/EmergingClimateConsensus.pdf>;

²⁷⁵ See, e.g., PEW CTR. FOR GLOBAL CLIMATE CHANGE, POLICIES TO REDUCE EMISSIONS FROM THE TRANSPORTATION SECTOR 3 (2008) (arguing that “sector-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 et al., *Sector-Based Approach to the Post-2012 Climate Change Policy Architecture*, 8 CLIMATE POLICY 494 (2008) (arguing the advantages of a sector-based approach).

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 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.²⁷⁶

²⁷⁶ See *supra* notes 254-256 and accompanying text (noting that embedded environmental laws have been enacted during times in which canonical environmental lawmaking has not been active).

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.²⁷⁷ 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.²⁷⁸ 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.²⁷⁹ Although there is disagreement about the extent to which productive analytical inquiry should focus on central cases versus peripheral cases, there seems to be some agreement that considering both types of case in combination facilitates the appreciation of the overall

²⁷⁷ See JOHN FABIAN WITT, *THE ACCIDENTAL REPUBLIC* 9 (2004) (stating his thesis that "both 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").

²⁷⁸ See, e.g., JOHN FINNIS, *NATURAL LAW & NATURAL RIGHTS* 9-11 (2d ed. 2011); John Gardner, *Nearly Natural Law*, 52 *AM. J. JURIS.* 1 (2007). Finnis traces the central case concept to Aristotle's *focal meaning* and Max Weber's *ideal-type*. Finnis, *supra*, at 9.

²⁷⁹ 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 278, at 21 n.25 ("There are various limit cases in which one or the other of these features is lacking, while others remain.").

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.”²⁸⁰ 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.”²⁸¹

For the field of environmental law, the canon represents a type of central case, and noncanonical environmental law a peripheral case.²⁸² 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.²⁸³ 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.²⁸⁴

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.²⁸⁵ But precisely what objectives fall within this category is

²⁸⁰ Finnis, *supra* note 278, at 11.

²⁸¹ Gardner, *supra* note 278, at 32.

²⁸² 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 278, at 5 (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 NORMATIVE THEORY* 51-67 (2001).

²⁸³ *See supra* Part I.B.2.

²⁸⁴ *See supra* Part II.B.

²⁸⁵ *See supra* note 23; *see also, e.g.*, CRAIG N. JOHNSTON ET AL., *LEGAL PROTECTION OF THE ENVIRONMENT* 1 (2d ed. 2007) (“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.

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.”²⁸⁶

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.²⁸⁷ Subsequent amendments to the statute—like energy policy generally—have to some extent incorporated environmental protection.²⁸⁸
- *Safety Statutes.* Statutes such as the Hazardous Materials Transportation Act²⁸⁹ and the Pipeline Safety Act²⁹⁰ 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.”²⁹¹
- *Food Safety.* The Federal Food, Drug, and Cosmetic Act (FFDCA)²⁹² includes provisions that regulate food safety.²⁹³ One such provision, enacted as part of the Food Quality Protection

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.”).

²⁸⁶ Keith Kloor, *Environmentalists Are Battling Over the Nature of Nature*, SLATE, Dec. 12, 2012; see also William Cronon, *The Trouble with Wilderness; or, Getting Back to the Wrong Nature*, in UNCOMMON GROUND: RETHINKING THE HUMAN PLACE IN NATURE 69 (William Cronon, ed., 1996).

²⁸⁷ See Energy Policy and Conservation Act of 1975 (EPCA), § 2, Pub. L. No. 94-163, 89 Stat. 871, 874 (1975).

²⁸⁸ See Energy Independence and Security Act of 2007 (EISA), 121 Stat. 1492 (2007). 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.

²⁸⁹ 49 U.S.C. §§ 5101-5128.

²⁹⁰ 49 U.S.C. §§ 60101-60140.

²⁹¹ 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.”).

²⁹² 21 U.S.C. §§ 301-399d.

²⁹³ 21 U.S.C. §§ 341-350/1.

Act's²⁹⁴ amendments to the FFDCA, directs EPA to establish tolerances for pesticide residues in food.²⁹⁵ 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.²⁹⁶ Pesticide use does, however, have significant environmental implications, which are regulated under other statutes.²⁹⁷

- *Invasive species.* Invasive species can have devastating ecological consequences.²⁹⁸ The Plant Protection Act, which aims to prevent the spread of invasive plant pests and weeds, mentions environmental protection as a goal,²⁹⁹ but focuses primarily on impacts on agriculture.
- *Conservation.* Some conservation, such as the national parks system,³⁰⁰ 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.³⁰¹ Still other laws fall somewhere in between.³⁰² Whether laws that pursue conservation

²⁹⁴ Pub. L. No. 104-170, 110 Stat. 1489 (1996).

²⁹⁵ 21 U.S.C. § 346a(b).

²⁹⁶ 21 U.S.C. § 343.

²⁹⁷ See, e.g., Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136-136y.

²⁹⁸ See, e.g., Thoms H. Fritts & Dawn Leasman-Tanner, *The Brown Treesnake on Guam: How the Arrival of One Invasive Species Damaged the Ecology, Commerce, Electrical Systems, and Human Health on Guam: A Comprehensive Information Source* (U.S. Geological Survey, 2001), available at

http://www.fort.usgs.gov/resources/education/bts/bts_home.asp (noting the proliferation of non-native brown tree snakes on Guam has wiped out much of the island's population of birds and small mammals); *H.R. 6311, The Nonnative Wildlife Invasion Prevention Act: Hearing Before the Subcommittee on Fisheries, Wildlife, and Oceans of the H. Comm. on Natural Resources*, 110 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").

²⁹⁹ 7 U.S.C. § 701(1) (finding that "the 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").

³⁰⁰ 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.

³⁰¹ 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.

³⁰² 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

are environmental laws may depend on what resource is being conserved and for what purpose.

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,³⁰³ a farm bill that went through the House Agriculture Committee³⁰⁴ and Senate Agriculture, Nutrition, and Forestry Committee³⁰⁵; 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 pursued³⁰⁶—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.

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 . . .”).

³⁰³ Pub. L. No. 98-198, 99 Stat. 1354 (1985).

³⁰⁴ See H.R. Rep. No. 99-271(I), at 78, 1985 U.S.C.C.A.N. 1103, 1180.

³⁰⁵ See S. Rep. No. 99-145, 1985 U.S.C.C.A.N. 1676, 1969-70.

³⁰⁶ See Clean Water Act § 404, 33 U.S.C. § 1344 (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).

Occupational exposure to toxic substances provides another example. The Occupational Safety and Health Act³⁰⁷ 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,³⁰⁸ 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.

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.”³⁰⁹ 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.³¹⁰ More work is needed to develop legal structures and institutions with, for example, capability to address issues that implicate multiple fields, objectives, and perspectives.

IV. 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

³⁰⁷ 29 U.S.C. §§ 651-678.

³⁰⁸ 15 U.S.C. §§ 2601-2695d.

³⁰⁹ Freeman & Rossi, *supra* note 189.

³¹⁰ *Cf.* Aagaard, *supra* note 196, at 281-85 (arguing that issues perceived to arise within multiple legal fields will and should tend to lead to overlapping regulatory jurisdictions).

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 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 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 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.