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Todd S. Aagaard
Vanderbilt University Law School

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ARTICLE

Environmental Law's Heartland and Frontiers

TODD S. AAGAARD*

Environmental law is currently—and has been for some time—in a phase that is simultaneously reassuring and worrisome. As a society, we have been generally well served by the forty-five years of modern federal environmental law since 1970. The cluster of major federal environmental statutes and associated state statutes that comprise environmental law's heartland have made substantial inroads against a variety of threats to human and ecological health. The statutes also have withstood repeated attempts by political opponents to roll back their regulatory regimes.¹ The agency that administers a majority of these statutes, the Environmental Protection Agency (EPA), employs thousands of experts and has a relatively steady annual budget in the billions of dollars.² Courts at times have limited the reach of EPA's statutes³ but generally have endorsed the validity of EPA's overall project,⁴ sometimes even spurring

* Professor of Law, Villanova University School of Law.

1. See Daniel A. Farber, *Book Review: The Thirty Years War Over Federal Regulation*, 92 TEX. L. REV. 413, 414 (2013) (reviewing THOMAS O. MCGARITY, *FREEDOM TO HARM: THE LASTING LEGACY OF THE LAISSEZ-FAIRE REVIVAL* (2013)).

2. See *EPA's Budget and Spending*, EPA, <http://www2.epa.gov/planandbudget/budget>, archived at <http://perma.cc/D7TT-UYJS>.

3. See, e.g., *Rapanos v. United States*, 547 U.S. 715 (2006) (plurality opinion) (holding that regulation defining “waters of the United States” exceeded the scope of that term in the Clean Water Act).

4. See generally *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561 (2007) (rejecting challenges to EPA's interpretation of a regulation interpreting the Clean Air Act); see generally *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984) (upholding EPA regulation under Clean Air Act).

them to more extensive action.⁵ Environmental law has, in other words, achieved substantial stability.

The unfortunate flip side of stability, at least in this case, has been a marked degree of ossification. A stalemate in environmental politics has impeded major legislative innovation in Congress since 1990. Environmental challenges such as climate change call for a legislative response, but Congress has not acted. As a result, federal regulators are left to address environmental problems with the same basic statutes that started the environmental revolution in the 1970s. Given these constraints, it is perhaps surprising that agencies have been able to accomplish some innovations within the existing statutory frameworks.⁶ But those innovations cannot keep pace with challenges that continue to arise, that have been accomplished after considerable struggle,⁷ and that, in some cases, are not yet secure.⁸

The challenge for reconceptualizing the future of environmental law, then, is to envision a path forward that builds on the successes that environmental law has achieved, avoids at least some of the obstacles that have impeded further progress, and also reflects a realistic assessment of what can and cannot be achieved. To achieve its goals, environmental law needs to be both smart and wise about its future.

In trying to identify pathways toward a smart and wise future for environmental law, many of the more promising directions lie in areas outside of environmental law's heartland. Numerous areas other than environmental law have significant environmental implications that can be integrated into

5. *See, e.g., Massachusetts v. EPA*, 549 U.S. 497 (2007) (finding that EPA's decision not to decide whether greenhouse gases cause or contribute to climate change and therefore subject to regulation under the Clean Air Act was arbitrary and capricious).

6. *See, e.g., Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals*, 76 Fed. Reg. 48,208 (Aug. 8, 2011) (codified at 40 C.F.R. pts. 51, 52, 72, 78, 97); *see, e.g., Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34,830 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60).

7. *See, e.g., EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014).

8. *See, e.g., Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427 (2014).

environmental law's overall project of achieving more thoughtful management of human impacts on the natural environment. For some of these other areas, such as energy law and corporate social responsibility, the connections with environmental law are well known. For other areas—which may include, for example, consumer protection, food and drug law, and insurance law—the environmental connections may be less obvious. Collectively, these fields represent relatively untapped areas of environmental opportunity—what I will call the frontiers of environmental law—that provide fertile ground for the expansion of environmental law.

This short paper offers three propositions to help maintain the traditional core of environmental law while also expanding environmental concerns into the frontiers of the field:

- Environmental law in the heartland and environmental law at the frontiers of the field differ in important ways.
- The distinctive features of the heartland and frontiers provide important functional benefits for the adaptive development of environmental law in each respective area.
- Maintaining a distinctive heartland and frontiers of environmental law creates a dialectic relationship between the two that includes tension but also, if properly managed, potential synergies.⁹

The locus of innovation moving forward is likely to be outside of the traditional domain of environmental law—in areas that are at the frontiers of environmental law, but in the heart of related

9. These propositions build on related arguments I have made in prior works. See Todd S. Aagaard, *Environmental Law Outside the Canon*, 89 IND. L.J. 1239 (2014) (explaining that six major federal environmental statutes dominate the teaching and practice of what is generally regarded as environmental law and arguing that environmental law outside of this canon offers an attractive alternative legislative model); Todd S. Aagaard, *Using Non-Environmental Law To Accomplish Environmental Objectives*, 30 J. LAND USE & ENVTL. L. (forthcoming 2015) (arguing that existing non-environmental statutes can be employed to address environmental harms).

fields such as energy law, corporate social responsibility, and insurance. At the same time, environmental law's heartland will continue to dominate the regulation of environmental harms for the foreseeable future. The future of environmental law therefore will be determined by a dialectic relationship between the heartland and frontiers of environmental law; each playing its own crucial role in the development of the field, in tension but also significantly dependent on the other.

I. COMPARING ENVIRONMENTAL LAWS' HEARTLAND AND FRONTIERS

The distinctive features of environmental law's heartland and frontiers are perhaps best defined by comparison:

- In the heartland, authority and responsibility for standard setting is centralized in the EPA. EPA has developed an enormous expertise and capacity with respect to environmental issues. The frontiers, by contrast, are distributed across numerous agencies, areas of law, and levels of government. Environmental law at the frontiers may even take the form of private governance structures with little or no governmental involvement.¹⁰
- The standards that comprise the heartland of environmental law have been promulgated through highly resource-intensive and complex rulemaking processes that require extremely detailed information. Most agencies at environmental law's frontiers lack the expertise and resources—at least as to environmental issues—to conduct rulemaking at the scale and complexity of a major EPA rulemaking.
- The stakes of many EPA rules—both benefits and costs—are very significant for the U.S. economy. Environmental regulation at the frontiers of the field will tend to involve smaller stakes economically, and therefore generally politically as well.

10. See Michael P. Vandenberg, *Private Environmental Governance*, 99 *CORNELL L. REV.* 129 (2013).

- Within the heartland, both environmental advocates and industry interests are relatively well organized, the political battle lines are well defined, and major shifts in political dynamics are rare. At the frontiers of environmental law, political dynamics may be much more in flux.

II. FUNCTIONAL BENEFITS

The distinctive features of the heartland and frontiers provide important functional benefits particular to the development of environmental law in each area—well suited to its own context, and probably poorly suited to others. The comparative advantage of each type of law in its context supports the idea that the two realms—the heartland and the frontiers—should be maintained separately.

A. Environmental Law's Heartland: Stability and Functional Ossification

The heartland of environmental law, born primarily during the surge of environmental lawmaking in the 1970s, provides the primary corpus of regulation that protects against environmental hazards. The broad sweep of EPA regulations generates massive benefits and provides basic environmental protections. EPA regulations prevent hundreds of thousands of premature deaths, and millions of sick days, per year.¹¹ The annual net benefits of a single EPA regulation can run in the billions of dollars.¹²

The heartland also serves as a focal point for political organizing around environmental issues, especially for environmental advocates. The heartland has withstood repeated

11. EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT FROM 1990 TO 2020, at 14 (2011).

12. *See, e.g.*, EPA, REGULATORY IMPACT ANALYSIS OF THE PROPOSED REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR GROUND-LEVEL OZONE ES-14 (2014) (reporting estimated health benefits of EPA's proposed new ambient air quality standard for ground-level ozone); *see* National Ambient Air Quality Standards for Ozone, 79 Fed. Reg. 75,234 (proposed Dec. 17, 2014) (to be codified at 40 C.F.R. pts. 50, 51, 52, 53, 58) (ranging from \$6.4 to \$38 billion per year and costs of \$3.9 to \$15 billion per year).

attempts over the years to undo its regulatory regimes and undermine its protections. The stability of the statutory programs, even in the face of such challenges, has allowed a degree of predictability, which in turn facilitates more effective administration, enforcement, and compliance.

If the heartland represents environmental law's stability, it also represents its ossification. Although environmental advocates have been able to fend off attacks on the major environmental statutes, they have been unable to achieve legislative amendments to advance their interests. Indeed, a "Pandora's Box" dynamic has developed in which any significant amendment of the environmental statutes—even a common sense change that should be to everyone's advantage—becomes dangerous to all sides because every side then has an incentive to seek additional changes pursuant to its interest.

EPA's regulations also have ossified, although to a lesser extent than its statutes have. The time and expense required to promulgate a regulation make it difficult to issue new regulations or to revise existing regulations to reflect changing conditions, new science, or new technology.¹³ New regulations also invite new controversy. Judicial review exacerbates the ossification, as courts determine the validity of EPA regulations in part based on how well they match traditional modes of environmental regulation.¹⁴ It will be difficult for the environmental law heartland to innovate in order to address new or evolving environmental challenges while still retaining the stability that protects against these challenges. The heartlands' stability thus requires its ossification, and ossification becomes a functional response to the need for stability.

13. See Richard L. Revesz & Allison L. Westfahl Kong, *Regulatory Change and Optimal Transition Relief*, 105 NW. U. L. REV. 1581, 1608-09 (2011).

14. See, e.g., *Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2449 (2014) (upholding EPA regulation of greenhouse gas emissions from certain sources under its Prevention of Significant Deterioration Program because such regulation was not "of a significantly different character from those traditionally associated with PSD review").

B. Environmental Law's Frontiers: Opportunity and Vulnerability

The frontiers of environmental law are less constrained but also more vulnerable than the heartland. Environmental law outside of the heartland presents an opportunity for new models of environmental governance. Environmental law that arises within another field can take advantage of policy mechanisms that are native to that field and therefore perhaps more effective or well suited to the specific context.¹⁵

Environmental law at the frontiers may implicate different political dynamics than the environmental law heartland. Large-scale, centralized EPA standards with high salience (at least among environmental and industry advocates) tend toward a political dynamic that represents environmental issues as high-stakes, zero-sum battlegrounds. Everyone is engaged in a "fight."¹⁶ Environmental law at the frontiers may involve less adversarial circumstances and more flexibility. Companies with environmentally sensitive practices may have an interest in verifying the accuracy of their claims about their products. Demand-side energy efficiency measures may reduce costs for electric utilities. Insurers who effectively reduce environmental risks may have to pay fewer claims.¹⁷

15. See, e.g., LeRoy C. Paddock, *Beyond Deterrence: Compliance and Enforcement in the Context of Sustainable Development*, 42 ENVTL. L. REP. 10622, 10636 (2012) (advocating the use of supply chain management to enforce private and public environmental requirements). Supply chain management is used in the area of corporate social responsibility. See, e.g., Kishanthi Parella, *Outsourcing Corporate Accountability*, 89 WASH. L. REV. 747, 752 (2014) (advocating the use of supply chain management to enforce human rights norms).

16. See, e.g., *Beyond Coal North Carolina*, SIERRA CLUB, <http://content.sierraclub.org/Coal/asheville/join-fight> (last visited Apr. 17, 2015), archived at <http://perma.cc/3FND-KPB8> (urging supporters to "Join the Fight!"); Timothy Cama, *GOP Pledges to Fight EPA Water Rule*, THE HILL (Feb. 4, 2015, 1:00 PM), <http://thehill.com/policy/energy-environment/231726-gop-pledges-to-fight-epa-water-rule>, archived at <http://perma.cc/R7V5-N4EV>.

17. Passions can run very high, of course, outside the heartland of environmental law, as local land use disputes often exemplify. See Eric Zorn, *Atheist Crusader's Opponents Usually See the Light*, CHI. TRIB., Sept. 23, 1997, http://articles.chicagotribune.com/1997-09-23/news/9709250359_1_jewish-

Environmental law outside the heartland may interact more directly with personal preferences or norms.¹⁸ Frontier environmental law may leverage existing preferences, as in the case of consumer labeling, and also or alternatively may inculcate or strengthen new preferences, as in the case of plastic bag bans.¹⁹ Whereas the environmental law heartland has tended to focus on industrial sources as regulated entities, frontier environmental law may focus on individuals.²⁰

The expansion of environmental law out of the heartland and into the frontiers of the field does have potential downsides. There is a danger that expanding environmental law will spread it too thin. As the domain of environmental law expands and the amount of environmental law increases, competition for attention and resources may increase. If this occurs, developing law at the frontiers could undermine environmental law's heartland. It also is possible, however, that expanding environmental law will increase support and promote new norms, offsetting the effects of any competition.

There also is a danger of backlash against the expansion of environmental law. Any regulation that causes the regulated community to incur costs is likely to attract some opposition, especially if it breaks from the status quo and increases uncertainty. Environmental objectives may be perceived to lack legitimacy at the frontiers of the field, where other policy goals—some that conflict with environmental objectives—may have much deeper roots and established constituencies.

federation-atheist-community-center, *archived at* <http://perma.cc/Z52M-7DKM> (contending that “[z]oning is close to religion in the passions it inspires”).

18. *Cf.* Vandenberg, *supra* note 10, at 166 (noting that private environmental labeling systems draw on preexisting “reservoir[s] of preferences or norms”).

19. See Jennie R. Romer & Leslie Mintz Tamminen, *Plastic Bag Reduction Ordinances: New York City's Proposed Charge on All Carryout Bags as a Model for U.S. Cities*, 27 TUL. ENVTL. L.J. 237 (2014).

20. See Michael P. Vandenberg, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515 (2004).

III. THE ENVIRONMENTAL DIALECTIC: MANAGING TENSION TO ACHIEVE SYNERGY

Each of environmental law's two realms—the heartland and the frontiers—thus has distinctive features that are adapted to its respective context. As a result of these distinctive features, both the heartland and frontiers have unique roles to play in the development of environmental law. Environmental law in the frontiers of the field can expand environmental law to address concerns not reached by environmental law's traditional core. Environmental law in the frontiers also can be more nimble and innovative, taking advantage of opportunities to address environmental problems in different settings, using different legal mechanisms, and with different political dynamics. Meanwhile, environmental law's heartland provides crucial stability and ensures a base level of environmental protection. Accordingly, the question for environmental law's future is not which realm to promote or to favor, but rather how to cultivate environmental law in both contexts.

At the same time, these two bodies of law, with shared objectives but marked differences in their approaches to accomplishing those objectives, stand in some tension with each other. Simultaneously encouraging the development of environmental law's heartland and frontiers therefore requires maintaining their differences even as they remain linked as part of the broader project of environmental law.

Given the largely successful history of environmental law's heartland, it will be tempting to use it as a model for developing the frontiers. The best way to develop local environmental law, one might think, is to encourage local governments to regulate more like EPA. But that would directly undermine the environmental law frontiers' comparative advantage—its ability to offer a different model for environmental lawmaking, one uniquely adapted to its distinct context. Accordingly, in fostering the development of environmental law outside of its heartland, we should avoid exporting a rigid or narrow vision of environmental law. We also should avoid exporting political dynamics—endless fights in a zero-sum war—that may be functional adaptations to the context of the environmental law

heartland but that are unnecessary and dysfunctional in other contexts.

The task is more complicated, however, than simply maintaining separation between environmental law's heartland and frontiers. Both the heartland and frontiers of environmental law need to be understood as integral to the overall environmental law project. Although separated in significant ways from the environmental law heartland, environmental law's frontiers still interrelate with the heartland. Michael Vandenberg has noted that private environmental governance,²¹ for example, "interact[s] in complex ways with public regulatory regimes, in some cases providing independent standards and enforcement, in others providing private enforcement of public standards, and in others undermining support for public standards."²²

It is possible, moreover, that progress and innovation at the frontiers of environmental law could have positive consequences for the heartland. Environmental law at the frontiers can supplement environmental law at the heartland. Some policy innovations developed at the frontiers could prove useful to incorporate into the heartland. Finally, it is possible, although perhaps unlikely, that political cooperation that may develop outside of the intractable heartland eventually could lead to more constructive political dynamics within the heartland.

Recent academic work on regulating risks through private insurance provides an example of how the expansion of environmental law could unfold for the mutual benefit of environmental law's heartland and frontiers. In a 2012 article, Omri Ben-Shahar and Kyle Logue argued that private insurance can improve safety comparably to—and sometimes better than—government regulation.²³ According to Ben-Shahar and Logue,

21. Vandenberg, *supra* note 10, at 146 (defining private environmental governance as "actions taken by non-governmental entities that are designed by achieve traditionally governmental ends"); *see also id.* at 146-47 (explaining that private environmental governance includes activities that set private standards collectively, such as certification systems, and activities that set private standards bilaterally, such as supply chain agreements).

22. *Id.* at 133.

23. Omri Ben-Shahar & Kyle D. Logue, *Outsourcing Regulation: How Insurance Reduces Moral Hazard*, 111 MICH. L. REV. 197, 199 (2012).

insurers often have access to better information about risks than government regulators do.²⁴ Insurers also have mechanisms such as differentiated premiums, deductibles, and exclusions that they can employ to create effective incentives for private parties to reduce risks.²⁵ With superior information and effective mechanisms for incentivizing safety, insurers may be better regulators than government agencies.²⁶ Pointing to earlier work by Howard Kunreuther and others,²⁷ Ben-Shahar and Logue identify environmental liability insurance as an example of private insurance that can effectively police some risks.²⁸

Building on these and similar ideas, David Dana and Hannah Wiseman have argued in favor of using mandatory liability insurance to regulate environmental risks from hydraulic fracturing.²⁹ Dana and Wiseman argue that because industry has more knowledge than government regulators about risks from hydraulic fracturing, requiring well operators to carry environmental liability insurance will incentivize risk reduction better than government regulation will.³⁰ Dana and Wiseman further contend that although requiring environmental liability insurance might be unlikely at least initially at the federal level or even at the state level, localities may be “likely first movers.”³¹

Dana and Wiseman’s argument in favor of local mandates for environmental liability insurance for hydraulic fracturing illustrates the potential advantages of regulatory innovation at the frontiers of environmental law. Hydraulic fracturing

24. *Id.* at 200.

25. *Id.* at 203-17.

26. *Id.* at 247.

27. *Id.* at 225 (citing PAUL K. FREEMAN & HOWARD KUNREUTHER, *MANAGING ENVIRONMENTAL RISK THROUGH INSURANCE* (1997); Howard Kunreuther et al., *Mandating Insurance and Using Private Inspections to Improve Environmental Management*, in *LEVERAGING THE PRIVATE SECTOR: MANAGEMENT-BASED STRATEGIES FOR IMPROVING ENVIRONMENTAL PERFORMANCE* 137 (Cary Coglianese & Jennifer Nash eds., 2006)).

28. Ben-Shahar & Logue, *supra* note 23, at 225-26.

29. David A. Dana & Hannah J. Wiseman, *A Market Approach to Regulating the Energy Revolution: Assurance Bonds, Insurance, and the Certain and Uncertain Risks of Hydraulic Fracturing*, 99 *IOWA L. REV.* 1523, 1591 (2014).

30. *Id.* at 1546-71.

31. *Id.* at 1587.

exemplifies the type of new technology that old statutes are often ill equipped to regulate. Local governments—Dana and Wiseman’s “first movers”—are not the traditional locus of environmental law. And insurance mandates are not a typical regulatory mechanism for environmental law. Insurance mandates, for example, involve a hybrid of public and private governance that may, if Dana and Wiseman are correct, outperform more conventional public law regulation. This mix of features differentiates Dana and Wiseman’s proposal from the heartland of environmental law and also gives their proposal significant advantages over more conventional environmental regulation. This new regulatory model for a new regulatory context could represent a major advancement in environmental law’s project of addressing environmental harms.

Moreover, if environmental liability insurance mandates could be demonstrated to work at the local level, the industry might become less opposed to, and even supportive of, mandates at the state or even federal level. If public concern over fracking increases, then industry might support insurance mandates as a less burdensome alternative to traditional command-and-control regulation. Reputable oil and gas developers who effectively manage their risks—with advantageous incentives from their insurers resulting—might actually support state or federal mandates as a means of gaining a competitive advantage against developers who manage their risks less well. Some of the specific risk management measures required by insurers could eventually be incorporated directly into government regulation. Thus, the development of an unorthodox regulatory approach at the fringes of environmental law could, if successful, eventually make its way into the heartland of the field.

For innovations like insurance mandates to take hold, however, they will have to be protected from some of the standard political dynamics in environmental regulation. Insurance mandates transfer much of the control over environmental risk management from government agencies to private insurers and insured companies. Environmental advocates may have difficulty trusting these private entities to serve the public interest and be tempted to demand more traditional regulatory mechanisms. Industry may be wary of facing differing local requirements and

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tempted to advocate for state-level legislation preempting local mandates.

Dana and Wiseman's argument in favor of regulating hydraulic fracturing with local insurance mandates provides an intriguing example of how careful cultivation of environmental law at the frontiers of the field may benefit the development of environmental law overall. Although environmental law's heartland recently has shown some promising examples of policy innovations, such as EPA's Cross-State Air Pollution Rule and Clean Power Plan, the overall pattern of ossification still dominates the heartland and is unlikely to dissipate any time soon. That is not necessarily a bad thing, as that ossification helps maintain the stability of environmental law's core. But if we can simultaneously cultivate innovative policies in environmental law's frontiers and sustain the traditional core of policies that constitute its heartland, we may achieve the wise and smart future that environmental law so desperately needs.