

RELATIVE ADMINISTRABILITY, CONSERVATIVES, AND ENVIRONMENTAL REGULATORY REFORM

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Abstract

Both critics and supporters of federal environmental law have called for its reform. Conservative scholars and policy makers in particular have called for reform due to the size, scope, and cost of the federal environmental bureaucracy. To date, however, conservatives have implemented few successful alternative environmental protection policies addressing the subject matter of federal regulation. This Article argues that greater use of geographic-delineation policies at the state and local level offers an important opportunity to reduce the size, scope, and cost of the federal environmental bureaucracy, while at the same time achieving the environmental gains sought by the staunchest supporters of federal environmental law. To date, most conservative scholars and policy makers have not been supportive of these long-available policies, rendering them largely unutilized—contributing to the growth of federal environmental intervention. This Article argues that geographic-delineation policies implemented at the state and local level are actually consistent with a number of the most valued principles of conservatism, primarily because of their high “relative administrability” when compared to federal statutes. That is, the administration of these policies achieves the most environmental gain at the lowest cost, and geographic delineations implemented through state and local land-use planning offer the best hope for conservatives who would see the nation’s system of environmental laws reformed.

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INTRODUCTION

America must do better by its land. Using land well is a key to improving the quality of life in communities everywhere. Otherwise . . . the countryside will be chewed up, ugliness will prevail, urban cores will continue to decline, public

service costs will be unnecessarily high, and water, air pollution, and waste problems will get worse.<sup>1</sup>

Perhaps three things in life are now certain: death, taxes, and federal environmental regulation. A recent image circulating among environmental law scholars shows that a print version of the EPA's federal regulatory code is roughly twice the size of the IRS's tax code.<sup>2</sup> Indeed, while the nation has made great progress on a number of environmental fronts, the size and cost of the federal environmental regulatory bureaucracy has come under sharp criticism.<sup>3</sup> Even those who generally support federal regulatory intervention have criticized its function.<sup>4</sup> As a result, scholars with widely divergent perspectives have increasingly called for environmental regulatory reform.

The debate surrounding the future of environmental law has been framed in numerous ways, often breaking down along political or ideological lines. Some argue that the federal government is doing too little and needs to do more,<sup>5</sup> while others frame federal environmental law as too big, too costly, too intrusive, and too restrictive. Consider, for example, the sheer scope and cost of implementation of the major federal environmental statutes, specifically the Clean Air Act (CAA),<sup>6</sup> Clean Water Act (CWA),<sup>7</sup> and Endangered Species Act (ESA).<sup>8</sup> These statutes have provided arguably incalculable benefits to society in the form of improved environmental quality. But even the most ardent environmentalist should agree that each of these statutes has left a great deal to be desired. Consider the failure of the CWA to address the single largest threat to the nation's waters, nonpoint-source water pollution;<sup>9</sup> the

1. HENRY L. DIAMOND & PATRICK F. NOONAN, *LAND USE IN AMERICA* 99 (1996).

2. On file with author.

3. See *infra* note 23 and accompanying text.

4. See David W. Case, *The Lost Generation: Environmental Regulatory Reform in the Era of Congressional Abdication*, 25 *DUKE ENVTL. L. & POL'Y F.* 49, 53 (2014).

5. *Id.*

6. Pub. L. No. 88-206, 77 Stat. 392 (1963) (codified as amended in scattered sections of 42 U.S.C. (2012)).

7. Pub. L. No. 92-500, 86 Stat. 816 (1972) (codified as amended at 33 U.S.C. §§ 1251–1387 (2012)).

8. Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended at 16 U.S.C. §§ 1531–44 (2012)). Consider that the regulated community faces annual compliance costs estimated at \$200 billion to comply with mandatory federal environmental regulations. ROBERT V. PERCIVAL ET AL., *ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY* 5 (7th ed. 2013); see also DANIEL J. FIORINO, *THE NEW ENVIRONMENTAL REGULATION* 1 (2006) (noting that “the nation spends more than \$200 billion annually to carry out these [environmental] laws”); LeRoy C. Paddock, *Green Governance: Building the Competencies Necessary for Effective Environmental Management*, 38 *ENVTL. L. REP.* 10,609, 10,610 (2008) (same).

9. See ENVTL. PROT. AGENCY, *NONPOINT SOURCE POLLUTION: THE NATION'S LARGEST WATER QUALITY PROBLEM* (1996), <https://nepis.epa.gov/Exe/ZyPDF.cgi/20004PZG.PDF?>

ESA's focus on keeping species on life support rather than aggressively addressing the habitat loss and fragmentation that causes species decline,<sup>10</sup> and the attempts to arguably fit a square peg into a round hole by using the CAA to address climate change.<sup>11</sup>

If one accepts criticisms of federal environmental law, from the perspective of either those skeptical of federal controls or supportive of them, then the question becomes: What is a better way? This question has perplexed environmental scholars for some time. While there are a number of environmental policies available at the state and local level that may provide a superior method of regulating the environment, they remain little used, or at least not used aggressively or holistically enough to make significant national environmental gains. Such policies can achieve the goals of both detractors of federal environmental law and those who would see it do even more.

Many of these policies are based on a straightforward governmental use of line drawing (alternatively referred to in this Article as "geographic delineations"). As detailed in this Article, line drawing can simplify certain forms of environmental policy and make environmental administration less complex. In this way, one could say these policies have high "relative administrability" (or relatively low administrative costs). Such policies include the creation of development buffer zones within eroding forested watersheds, agricultural lands contributing the most to nonpoint-source water pollution, coastal areas that must adapt to sea-level rise, and floodplains facing increasing development pressures. Geographic delineations also include urban growth boundaries and density/open-space controls utilized in state and local land-use planning. These tools may be utilized to protect air, water, biodiversity, and other resources targeted by federal environmental laws. Geographic delineation policies might prohibit certain development densities on one side of a line but not the other, allow individuals to only cut trees up to X feet from a stream, require parties to leave X feet of buffer around agricultural land to protect water quality, or compel developers to integrate X acreage of open space into a commercial development.

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Dockey=20004PZG.PDF; Robin Kundis Craig & Anna M. Roberts, *When Will Governments Regulate Nonpoint Source Pollution? A Comparative Perspective*, 42 B.C. ENVTL. AFF. L. REV. 1, 2 (2015).

10. See, e.g., *Ecological Principles for Managing Land Use*, ECOLOGICAL SOC'Y AM., <http://www.esa.org/esa/science/reports/managing-land-use/> (last visited Nov. 14, 2016).

11. See Daniel A. Farber & Amy Sinden, *Six Myths About Climate Change and the Clean Air Act 1* (Ctr. for Progressive Reform, White Paper No. 1105, 2011). This Article does not assert that in the absence of federal legislation aimed specifically at carbon utilizing the CAA is in any way inappropriate, only that it would be preferable to address it directly through a statute designed for those purposes. It may be administratively inefficient to use the CAA to do so.

While each of these policies harnesses geographic line drawing to achieve environmental goals, each policy—even if aggregated across the entire nation—has very low administrative costs relative to current federal environmental statutes. Federal statutes require virtually continuous funding for permitting, monitoring and enforcement, scientific research, implementation of procedures required by the Administrative Procedures Act, among a number of other federal agency activities that consume vast amounts of economic, human, and temporal resources—if, that is, a federal agency receives funding to carry out its mandates at all.<sup>12</sup> Geographic delineations, on the other hand, do not require continuous data collection and analysis; allow the market to work freely after taking into account where the line is drawn; reduce federal involvement, since state and local governments typically implement these policies;<sup>13</sup> and reduce taxpayer expenditures under federal statutes, among a number of other gains touted by those calling for regulatory reform. Perhaps most importantly, by attacking the driver of environmental issues rather than seeking to remedy the symptoms, geographic delineations act as a precautionary proxy for the environmental problems that many of the primary federal statutes seek to address, such as protecting clean air, clean water, and endangered species.

The use of geographic delineations provides benefits that the entire spectrum of federal environmental law critics should support. Yet, such policies are underutilized despite the fact that they have been available to policy makers for at least a century. Science increasingly supports the use of line drawing to gain efficiencies in the protection of resources by concentrating development or other human activities in certain areas while concentrating protection of resources in other areas. In other words, policies that effectively say “you can develop on this side of the line, but not that side” are increasingly gaining scientific support. Consider the empirical data underpinning the “species-area relationship” for biodiversity protection, which posits that the larger the habitat area preserved, the more species are supported.<sup>14</sup> Similar research has demonstrated the water quality gains of reducing impervious surface cover,<sup>15</sup> and we further understand the increased impacts that mobile-source emissions have on air quality in sprawling cities.<sup>16</sup>

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12. See, e.g., JAMES RASBAND ET AL., *NATURAL RESOURCES LAW AND POLICY* 350–51 (2d ed. 2009) (discussing the moratorium on species listing in 1995, which prohibited “expenditure of any funds on listing or critical habitat designation”).

13. Geographic delineations could certainly be mandated at the federal level, but that would likely be frowned upon by conservative environmental scholars.

14. RASBAND ET AL., *supra* note 12, at 329–30.

15. Kristen M. Fletcher, *Managing Coastal Development*, in *OCEAN AND COASTAL LAW AND POLICY* 147–48 (Donald C. Baur et al. eds., 1st ed. 2008).

16. HOWARD FRUMKIN ET AL., *URBAN SPRAWL AND PUBLIC HEALTH* 22–23, 67 (2004).

Despite scientific support, geographic-delineation policies remain largely unutilized, or at least not utilized in a coordinated fashion and on a large enough scale to result in significant environmental gains across the nation. The question is: Why? The reasons are many and multifaceted, and include both legal and political dimensions. One important contributing factor, however, is the failure of conservative policy makers and commentators, at least those identifying more closely with states' rights advocacy, to come to grips with the fact that prescriptive line-drawing policies actually support a number of principles valued by those at the conservative end of the political spectrum. At the very least, such policies could be considered the lesser of two evils when compared to the federal bureaucracy that conservative environmental scholars criticize. Geographic delineations therefore present an important environmental reform opportunity for conservatives—reform that will go a long way toward achieving the goals of environmental protection advocates of any political stripe.

The use of broad labels like “conservative” or “liberal” often masks the actual nuance of people’s politics and behavioral dispositions and can be over-inclusive. Professor Barton H. “Buzz” Thompson Jr. has noted that conservatives maintain wide ranging views on which environmental issues are important and which policies should make up the field of environmental law.<sup>17</sup> Even so, a number of environmental scholars have touted “conservative” approaches to environmental law.<sup>18</sup> These approaches highlight different values of conservative thought, including states’ rights, free market environmentalism (typically opposing prescriptive regulation),<sup>19</sup> reduced taxation and government spending,<sup>20</sup> stringent private property right protections, provision of clear rules and stability within the law, utilitarian use of natural resources, and reduced governmental bureaucracy. Each of these values typically falls along the spectrum from libertarian to conservative ideology.<sup>21</sup> This Article posits

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17. Barton H. Thompson, Jr., *Conservative Environmental Thought: The Bush Administration and Environmental Policy*, 32 *ECOLOGY L.Q.* 307, 309 (2005).

18. See, e.g., TERRY L. ANDERSON ET AL., *TAPPING WATER MARKETS* (2012); Jonathan H. Adler, *Conservative Principles for Environmental Reform*, 23 *DUKE ENVTL. L. & POL'Y F.* 253, 254–55 (2013); Shi-Ling Hsu, *A Conservative Approach to Environmental Law: Be Data Driven*, 23 *DUKE ENVTL. L. & POL'Y F.* 281, 285–86 (2013); Bib Inglis, *Putting Free Enterprise to Work: A Conservative Vision of Our Environmental Future*, 23 *DUKE ENVTL. L. & POL'Y F.* 247, 247 (2013); Thompson, *supra* note 17, at 312–23 (discussing the five general philosophies of conservative thinking about environmental policy).

19. See Reed Watson, *Public Wildlife on Private Land: Unifying the Split Estate to Enhance Trust Resources*, 23 *DUKE ENVTL. L. & POL'Y F.* 291, 295 (2013).

20. See Nicolas Loris, *The Wind Production Tax Credit and the Case for Ending All Energy Subsidies*, 23 *DUKE ENVTL. L. & POL'Y F.* 323, 324 (2013).

21. See Thompson, *supra* note 17, at 309.

that while the use of geographic delineations may give rise to some dissonance between certain conservative principles, line drawing at the state and local level is actually quite consistent with most of these principles of conservatism. Even though geographic-delineation policies are prescriptive in nature and could potentially limit some private property rights, such policies can reduce federal intrusion into state and local governance, reduce size of the bureaucracy that sets environmental policy, reduce federal taxpayer expenditures, create clear rules in contrast to the regulatory discretion enjoyed by federal administrative agencies, and could lead to a utilitarian conservation ethic and a more stable economic market within which to operate.<sup>22</sup> A failure of conservatives to accept that geographic delineations are consistent with many principles of conservatism contributes to a failure to adopt policies that many, if not most, environmentalists would support but that would also provide more efficient environmental management from a conservative perspective—at least more efficient than relying predominantly on expansive federal control as we do today.

This Article argues that, given the benefits of line drawing and the high relative administrability of geographic-delineation policies, conservative scholars and policy makers should embrace environmental strategies that will contribute to the environmental regulatory reforms that they seek. To be clear, this Article is not declaring that complex environmental policies at the federal level should be jettisoned wholesale. Even if an environmental policy is difficult or expensive to administer, it may remain a critical and justifiable component of our domestic suite of environmental laws. Rather, this Article recognizes that there is always room for improvement in environmental policy, especially at the federal level, and further advocates for policies that can reform environmental law from the bottom up, rendering the federal government a less important (not non-existent) component of holistic U.S. environmental policy across federal, state, and local scales. In short, this Article calls for environmental regulatory reform that better harnesses state-level land-use policy to achieve environmental goals at lower cost, and that also appeals to a segment of the political spectrum typically considered—rightly or wrongly—as resistant to environmental regulation.

Part II details the many calls for environmental regulatory reform. Part III first describes how and why the use of geographic delineations renders those policies easier to administer than many traditional environmental

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22. Consider the extreme influence that agricultural interests exert on the government to keep agricultural subsidies in place and to exempt agriculture from many environmental laws (specifically the regulation of both point- and nonpoint-source water pollution under the CWA). MEGAN STUBBS, CONG. RESEARCH SERV., R41622, ENVIRONMENTAL REGULATION AND AGRICULTURE I, 14 (2014); J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 *ECOLOGY L.Q.* 263, 293–304 (2000).

laws—particularly those at the federal level that seek to address related environmental ills. Part III then highlights several needed environmental policies that utilize geographic delineations with high relative administrability but that have yet to be enacted on large enough scales to address these ills in any meaningful way. Part III details some of the institutional and political impediments to using relatively more administrable line-drawing policies to address environmental problems. Part III also details how line drawing presents an environmental regulatory reform opportunity that is more in line with principles valued by federal environmental law’s more robust critics, and specifically those who self-identify with principles of conservatism.

### I. CALLS FOR ENVIRONMENTAL REFORM

A growing number of scholars have criticized the current state of federal environmental law, either calling for or suggesting reforms to the current environmental regulatory system.<sup>23</sup> While this Part will not fully

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23. *E.g.*, JOHN E. BLODGETT, CONG. RESEARCH SERV., RL30760, ENVIRONMENTAL PROTECTION: NEW APPROACHES (2000); ASPEN INST., SERIES ON THE ENVIRONMENT IN THE 21ST CENTURY, THE ALTERNATIVE PATH (1996); Cary Coglianese & Jennifer Nash, *Management-Based Strategies: An Emerging Approach to Environmental Protection*, in LEVERAGING THE PRIVATE SECTOR: MANAGEMENT BASED STRATEGIES FOR IMPROVING ENVIRONMENTAL PERFORMANCE 3 (Cary Coglianese & Jennifer Nash eds., 2006); J. CLARENCE DAVIES & JAN MAZUREK, REGULATING POLLUTION 2 (1997); ENTER. FOR THE ENV’T, THE ENVIRONMENTAL PROTECTION SYSTEM IN TRANSITION: TOWARD A MORE DESIRABLE FUTURE (1997); Andrew King & Michael W. Toffel, *Self-Regulatory Institutions for Solving Environmental Problems: Perspectives and Contributions from the Management Literature*, in GOVERNANCE FOR THE ENVIRONMENT 98, 112–13 (Magali Delmas & Oran Young eds., 2009); Debra S. Knopman, *Easier to Be Green: The Second Generation of Environmental Action*, in BUILDING THE BRIDGE 163, 164 (Will Marshall ed., 1997); CHRISTOPHER MCGRORY KLYZA & DAVID J. SOUSA, AMERICAN ENVIRONMENTAL POLICY x (2013); DOUGLAS A. KYSAR, REGULATING FROM NOWHERE 1–3 (2010); NAT’L ACAD. OF PUB. ADMIN., RESOLVING THE PARADOX OF ENVIRONMENTAL PROTECTION: AN AGENDA FOR CONGRESS, EPA, & THE STATES (1997); NAT’L ACAD. OF PUB. ADMIN., SETTING PRIORITIES, GETTING RESULTS: A NEW DIRECTION FOR EPA (1995); NAT’L ENVTL. POLICY INST., INTEGRATING ENVIRONMENTAL POLICY: A BLUEPRINT FOR 21ST CENTURY ENVIRONMENTALISM (1996); NAT’L ENVTL. POLICY INST., REINVENTING THE VEHICLE FOR ENVIRONMENTAL MANAGEMENT (1995); DAVID SCHOENBROD ET AL., BREAKING THE LOGJAM (2009); THE PRESIDENT’S COUNCIL ON SUSTAINABLE DEV., SUSTAINABLE AMERICA: A NEW CONSENSUS FOR PROSPERITY, OPPORTUNITY, AND A HEALTHY ENVIRONMENT FOR THE FUTURE (1996); THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY (Marian R. Chertow & Daniel C. Esty eds., 1997); Todd S. Aagaard, *Environmental Law Outside the Canon*, 89 IND. L.J. 1239, 1242 (2014); Bruce Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1341–48 (1985); Adler, *supra* note 18, at 254–55; Carol A. Casazza Herman et al., *The Breaking the Logjam Project*, 17 N.Y.U. ENVTL. L.J. 1, 3 (2008); David W. Case, *The EPA’s Environmental Stewardship Initiative: Attempting to Revitalize a Floundering Regulatory Reform Agenda*, 50 EMORY L.J. 1, 7–8 (2001); Cary Coglianese, *The Rhetoric and Reality of Regulatory Reform*, 25 YALE J. ON REG. 85 (2008); Nicole Darnall & Stephen Sides, *Assessing the Performance of Voluntary Environmental Programs:*



recount those critiques, representative accounts describe environmental law as being in a “malaise”<sup>24</sup> and “in . . . a midlife crisis,”<sup>25</sup> and not suited to address current environmental challenges.<sup>26</sup> Scholars have argued that environmental law will have to adapt in the twenty-first century to meet new challenges and that now is “an opportune time to investigate alternative models for environmental lawmaking.”<sup>27</sup> A number of prominent scholars have recently argued that modern environmental law is “notoriously complex” and that its “overlapping statutory schemes and inconsistent federal and state programs have sparked recurring conflict, controversy, and criticism. This fractured and complicated network of environmental laws and programs has become increasingly difficult to modify or update to account for emerging environmental concerns.”<sup>28</sup>

Calls for reform of federal environmental law come both from those who oppose federal environmental controls and those who support them.

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*Does Certification Matter?*, 36 POL’Y STUD. J. 95, 97 (2008); E. Donald Elliott, *Environmental Markets and Beyond: Three Modest Proposals for the Future of Environmental Law*, 29 CAP. U. L. REV. 245, 245 (2001); Benjamin Ewing & Douglas A. Kysar, *Prods and Pleas: Limited Government in an Era of Unlimited Harm*, 121 YALE L.J. 350, 354 (2011); Daniel A. Farber, *Climate Policy and the United States System of Divided Powers: Dealing with Carbon Leakage and Regulatory Leakage*, 3 TRANSNAT’L ENVTL. L. 31, 54 (2014); Michael B. Gerrard & Shelley Welton, *US Federal Climate Change in Obama’s Second Term*, 3 TRANSNAT’L ENVTL. L. 111, 112 (2014); Al Iannuzzi, *Self-Regulation—Has Its Time Come?*, 33 ENVTL. L. REP. 10,917, 10,921–22 (2003); Sam Kalen, *Dormancy Versus Innovation: A Next Generation Dormant Commerce Clause*, 65 OKLA. L. REV. 381, 382 (2013); Bradley C. Karkkainen, *Bottlenecks and Baselines: Tackling Information Deficits in Environmental Regulation*, 86 TEX. L. REV. 1409, 1419 (2008); Timothy F. Malloy, *The Social Construction of Regulation: Lessons from the War Against Command and Control*, 58 BUFF. L. REV. 267 (2010); Lesley K. McAllister, *Regulation by Third Party Verification*, 53 B.C. L. REV. 1, 25 (2012); Paddock, *supra* note 8, at 10,609; Jeffrey Rudd, *J.B. Ruhl’s “Law-and-Society System”: Burying Norms and Democracy Under Complexity Theory’s Foundation*, 29 WM. & MARY ENVTL. L. & POL’Y REV. 551, 556 (2005); David B. Spence & Lekha Gopalakrishnan, *Bargaining Theory & Regulatory Reform: The Political Logic of Inefficient Regulation*, 53 VAND. L. REV. 599, 601 (2000); Toddi A. Steelman & Jorge Rivera, *Voluntary Environmental Programs in the United States*, 19 ORG. & ENV’T 505, 507 (2006); Richard B. Stewart, *A New Generation of Environmental Regulation*, 29 CAP. U. L. REV. 21, 27–38 (2001); Richard B. Stewart, *United States Environmental Regulation: A Failing Paradigm*, 15 J.L. & COM. 585, 585–91 (1996); Michael P. Vandenbergh, *An Alternative to Ready, Fire, Aim: A New Framework to Link Environmental Targets*, in *Environmental Law*, 85 KY. L.J. 803 (1997); Sandra Zellmer, *Treading Water While Congress Ignores the Nation’s Environment*, 88 NOTRE DAME L. REV. 2323, 2326–27 (2013).

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

25. Linda A. Malone, *Looking Beyond Environmental Law’s Mid-life Crisis*, 23 PACE ENVTL. L. REV. 679, 680 (2006).

26. Aagaard, *supra* note 23, at 1240–41.

27. *Id.* at 1242.

28. E.g., Tracy Hester et al., *Restating Environmental Law*, 40 COLUM. J. ENVTL. L. 1, 2–3 (2015) (footnote omitted).

Professor Jonathan Adler, a critic of federal environmental bureaucracy who identifies with American conservative philosophy, has argued that “reform is long overdue.”<sup>29</sup> Professor Adler would see a retrenchment of much environmental policy making back to state and local governments, arguing that the federal administrative state has simply become too unwieldy, costly, inefficient, and at times ineffective at resolving environmental problems.<sup>30</sup>

Even advocates of federal environmental regulatory controls, however, argue that federal environmental law is extremely out-of-date.<sup>31</sup> Criticisms of federal environmental law from these circles have been levied not only at its function but also at its stagnation. Congress has only once passed significant federal environmental legislation since the Clean Air Act Amendments of 1990, when it recently amended the Toxic Substances Control Act.<sup>32</sup> Professor David Case notes that, since 1990, Congress has routinely failed to make even the most basic amendments to environmental regulations, even to clarify its intent in the face of court opinions or agency actions—a situation that has resulted in a “legislative stalemate”<sup>33</sup> or “gridlock.”<sup>34</sup> Furthermore, while Congress has largely abdicated its role in updating or creating new federal environmental programs, there is widespread recognition that the EPA and other environmental agencies are severely overburdened in carrying out current federal mandates,<sup>35</sup> much less new ones.

Regardless of the lens through which one views federal environmental law, it results in many costs—both for the government agencies seeking to administer these laws and for the regulated community attempting to comply with them. These costs have clearly provided benefits in the form of societal economic and physical health improvements.<sup>36</sup> While an

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29. Adler, *supra* note 18, at 253.

30. See JONATHAN ADLER, LET FIFTY FLOWERS BLOOM: ENVIRONMENTAL FEDERALISM FOR THE TWENTY-FIRST CENTURY 1–3 (unpublished manuscript) (on file with author).

31. Case, *supra* note 4, at 51.

32. Revised by the Frank R. Lautenberg Chemical Safety for the 21st Century Act. 15 U.S.C §§ 2601–97 (2012), amended by Pub. L. No. 114182 (2016); see also Aagaard, *supra* note 23, at 1241.

33. Case, *supra* note 4, at 60.

34. KLYZA & SOUSA, *supra* note 23, at 285–87; Morris P. Fiorina, *America's Polarized Politics: Causes and Solutions*, 11 PERSP. POL. 852, 852 (2013); Ashley E. Jochim & Bryan D. Jones, *Issue Politics in a Polarized Congress*, 66 POL. RES. Q. 352, 352 (2013); Zellmer, *supra* note 23, at 2369–70.

35. See Lakshman Guruswamy, *Integration & Biocomplexity*, 27 ECOLOGY L.Q. 1191, 1233 (2001); 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.”).

36. Jeff Spross, *New Study: The Economic Benefits of EPA Regulations Massively Outweigh the Costs*, THINKPROGRESS: CLIMATEPROGRESS (May 3, 2013, 11:00 AM),

arguable over-emphasis on cost-benefit analysis has become a trend of late in the field of environmental law,<sup>37</sup> there remains room to acknowledge that society could have achieved those environmental gains through more cost-effective means. There is also, of course, a correspondingly high cost to the regulated community of complying with mandatory federal environmental regulations, with annual expenditures currently estimated at \$200 billion.<sup>38</sup> On the other hand, agencies often do not have the budgetary funds to actually implement all of their legal mandates, either because they were not allocated enough funds<sup>39</sup> or because most of their resources are tied up in litigation.<sup>40</sup>

Despite the wealth of criticism of federal environmental law, “[e]xisting political gridlock in Congress suggests that comprehensive, legislative reforms of the federal environmental regulatory system are, to say the least, wildly improbable. The forecasts of commentators for a potential end to gridlock and political polarization in Congress, particularly on environmental issues, are decidedly negative.”<sup>41</sup> Given the lack of action on the part of Congress on many important environmental issues, the executive branch has increasingly stepped in to fill the void,<sup>42</sup> a situation that has also given rise to a great deal of criticism. For example, some commentators have accused former President Barack Obama of implementing environmental policies—particularly those related to climate change—outside of legislative processes that facilitate democratic principles.<sup>43</sup>

Given the wide spectrum of criticisms levied at federal environmental law, it may be merely adding to the chorus to explore what policies might better achieve environmental goals. Even so, many of the suggestions proffered to date have arguably been too polarized in form. Scholars who dislike federal governance simply want environmental regulations to be

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<http://thinkprogress.org/climate/2013/05/03/1955891/new-omb-study-the-economic-benefits-of-epa-regulations-massively-outweigh-the-costs/>.

37. See generally Amy Sienden et al., *Cost–Benefit Analysis: New Foundations on Shifting Sand*, 3 REG. & GOVERNANCE 48 (2009) (expressing skepticism over a cost–benefit analysis of government regulation of, among other areas, environmental law).

38. PERCIVAL ET AL., *supra* note 8, at 5.

39. RASBAND ET AL., *supra* note 12, at 351; Case, *supra* note 4, at 64.

40. RASBAND ET AL., *supra* note 12, at 352, 364–65.

41. Case, *supra* note 4, at 96 (footnote omitted).

42. Zellmer, *supra* note 23, at 2384, 2398.

43. See Ryan Koronowski, *Laurence Tribe Says Obama’s Clean Power Plan Is Like ‘Burning the Constitution,’* THINKPROGRESS: CLIMATEPROGRESS (Mar. 20, 2015, 11:09 AM), <http://thinkprogress.org/climate/2015/03/20/3634680/tribe-burning-the-constitution>; Alan Neuhauser, *Obama’s Climate Authority Came Straight from Congress*, U.S. NEWS & WORLD REP. (Apr. 10, 2015, 5:00 AM), <http://www.usnews.com/news/articles/2015/04/10/obama-not-sidestepping-congress-on-climate-action-experts-say>.

rolled back and devolve to state and local governments,<sup>44</sup> many of which have repeatedly demonstrated an unwillingness to holistically address serious environmental problems.<sup>45</sup> While it is true that one can point to examples of innovative state and local government policies, with over 89,000 subnational governments in the United States<sup>46</sup> these examples are just too few and far between. On the other hand, scholars in favor of federal environmental governance want more of it, or at least want it to improve.<sup>47</sup> This may be a laudable goal, but runs into political difficulties when considering the polarization and political gridlock arising over the proper role of the federal government in environmental policy making.

There is a middle ground. If conservative scholars and policy makers truly want to see reform and reduce federal involvement in environmental policymaking, then they must come up with an alternative means to deliver the results sought by those who would see a more expansive and better functioning federal administrative state. Some scholars, like Professor Adler, have made these attempts.<sup>48</sup> Even so, a more robust shift in understanding must occur in conservative circles regarding how better and more stringent environmental management at the local level is both consistent with principles of conservatism and the only realistic means of reducing the size and scope of the federal government in environmental policy making.

More specifically, this Article focuses on one critique of federal environmental law arising from conservative circles—the administrability of federal government programs. Given that much conservative criticism of federal environmental law has been levied at its complex and costly administration, what policies provide us the most environmental benefit for the least cost, specifically the least administrative cost? In other words, what alternative policies would have

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44. See, e.g., Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the “Race-to-the-Bottom” Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210, 1211–13 (1992) (refuting the race-to-the-bottom justification for federal regulation and describing the ineffectiveness of federal regulation even in the face of the race to the bottom); see also Deborah Keeth, Comment, *The California Climate Law: A State’s Cutting-Edge Efforts to Achieve Clean Air*, 30 ECOLOGY L.Q. 715, 716–17 (2003) (applauding California’s use of an exception in the CAA to achieve better air-quality results than those obtained simply by implementing the CAA).

45. See, e.g., N.C. GEN. STAT. § 113A-107.1 (2015) (refusing to “mandate the development of sea-level policy”).

46. Press Release, U.S. Census Bureau, *Census Bureau Reports There Are 89,004 Local Governments in the United States* (Aug. 30, 2012), <https://www.census.gov/newsroom/releases/archives/governments/cb12-161.html>.

47. See, e.g., Dan L. Gildor, *Preserving the Priceless: A Constitutional Amendment to Empower Congress to Preserve, Protect, and Promote the Environment*, 32 ECOLOGY L.Q. 821, 823 (2005) (advocating a constitutional amendment to explicitly enshrine the preeminence of the federal government in environmental regulation).

48. See ADLER, *supra* note 30.

the high relative administrability sought by critics of federal environmental law? The question of how geographic delineations help us achieve high relative administrability is explored in the next Part.

## II. RELATIVE ADMINISTRABILITY IN ENVIRONMENTAL LAW

A thought experiment demonstrates exactly how geographical delineations facilitate high relative administrability. Imagine you are the manager of a new, paid parking lot in a high-traffic area of town—a parking lot with no lines. Predictably, the efficient administration of a lineless parking lot requires a great deal of cost and effort. First, you must gather detailed information on the square footage and shape of the parking lot, the relative size of the cars most likely to use the space, and a number of additional data points to determine how much space you have to work with and how many cars you can fit within the lot.

Next, after undertaking planning efforts, gathering information, and developing expertise in the efficient placement of cars within your lot, you open for business. You then must undertake continuous monitoring of the lot to keep up with how many cars come in, how many go out, and where they are placed within the lot when present. Because there are no lines, your level of involvement in physically directing cars around the lot is significant. In addition to directing traffic in the lot, you must collect fees from users, police the use of the lot to avoid violations, and resolve conflicts between users when they inevitably arise. This all requires a great deal of work for you as the lot administrator, or for whomever you pay to manage the lot for you. In short, administration of a parking lot without lines is exceedingly difficult and results in continual expenditures of labor, time, and money.

One way to ease administration of the lot is to have both no lines and no manager, with no fee for the lot's use. While this would obviously ease administration (since there would be no external administration), the resource is not likely to be used most efficiently—conflicts will arise between users that may result in violence, and the resource may very well be a net cost to society rather than a net benefit.<sup>49</sup>

Another, more effective way to ease administration of the parking lot is to use lines. The presence of lines maximizes the value of this common-pool resource space, where users may still pay an entrance fee (or they may not), but for the most part the resource is self-administrable. With lines, a payment system can be automated, as each space can be marked with a number corresponding to a ticket. Users have freedom to choose

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49. Even lined parking lots can give rise to administrative problems, depending on how they are designed, given that they remain a common-pool resource. See Earl Brigham Daniels, *Credible Commitments, Credible Threats, and Environmental Policy 1–2* (2010) (unpublished Ph.D. dissertation, Duke University), [http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/2381/D\\_Daniels\\_Earl\\_a\\_201005.pdf;sequence=1](http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/2381/D_Daniels_Earl_a_201005.pdf;sequence=1).

where to park within the lines. Efficiency is predetermined by the spacing and placement of the lines within the lot. User conflicts are likely to be minimal (absent accidents or road rage) because the lines provide users all the information they need to self-regulate and keep conflict low. Of course, the owner of the lot still faces start-up and other transaction costs in the initial establishment of the lot and must still gather information about lot size and vehicle spacing. But aside from maintenance of the resource, most of the cost (in labor, time, and money) is an up front, one-time investment.

In short, the administrability of a lined parking lot is simply greater than an unlined lot. The parking-lot hypothetical provides a useful metaphor for modern environmental law. As noted in the introduction, scholars have been critical of the complexity of major federal environmental statutes. Much of the complexity arising out of federal environmental law is inevitable, because the statutes address issues of astounding geographical, ecological, economic, and jurisdictional scope. Portions of the CAA, for example, necessarily operate like managing an unlined parking lot, and “[a] massive environmental statute such as the Clean Air Act may be sprawling, complex, and far from comprehensively coherent.”<sup>50</sup> There is little way to directly regulate air pollution from industrial sources without constantly gathering a great deal of scientific and technological data, communicating with and permitting regulated parties, and engaging in continuous monitoring and enforcement.<sup>51</sup> This is especially so because air pollution is the quintessential transboundary environmental problem and requires coordination across a large geographic space. Indeed, given the sheer scope and complexity of federal involvement in environmental policy across fifty different states, most federal statutes maintain an almost overwhelming degree of complexity that contributes to the high administrative costs associated with many environmental regulatory policies.

Air-quality issues resulting from the discharge of pollutants from industrial sources may be necessarily complex, but many environmental problems arise from the simple replacement of natural resources (or, “natural capital”<sup>52</sup>) through land-use development—that is, the replacement of natural capital with human-built capital. This is even the case for certain forms of air pollution, as removal of natural capital creates localized air-pollution issues—because trees are no longer present to trap particulates, for example—and the developments that replace

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50. Aagaard, *supra* note 23, at 1270.

51. Yet even with air, lines have been used. What is a regulatory cap under the acid rain cap-and-trade program if not a line that demarks a limit over which a polluter may not step?

52. Robert Costanza & Herman E. Daly, *Natural Capital and Sustainable Development*, 6 CONSERVATION BIOLOGY 37, 38 (1992); Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253, 254 (1997).

natural capital often facilitate sprawl that leads to more mobile-source air emissions in a region. The use of geographic delineations to address these types of problems has the potential to resolve or at least mollify much of the complexity commonly found in federal environmental law—perhaps an irony since artificial line drawing has probably been one of the most significant drivers of environmental ills in the United States. Our nested collection of local, state, and federal government jurisdictions, with their varying degrees of regulatory control over resource management,<sup>53</sup> simply do not match the boundaries of the ecosystems that they overlay. Neither do the private and public property lines that segment control over and management of resources maintain any relationship to ecological systems. The resulting fragmentation of environmental policy making has led to gridlock, litigation, general political inaction, and a host of other problems that have undermined effective environmental management. The structure of the U.S. federal system as it relates to the environment looks as if we took an empty parking lot and, rather than arranging straight lines based upon the average width of cars, painted lines along random, naturally forming cracks in the asphalt.

But where lines have offered environmental challenges, they also offer solutions. Environmental laws like the CAA lend themselves to complexity, but even complex federal laws largely address the symptoms of environmental and land-use planning ills rather than the illness itself. As noted, air-quality problems arise in part because state and local governments engage in poor land-use planning that contributes to urban sprawl.<sup>54</sup> Aside from addressing the symptoms of the land-use planning illness (poor air quality), there are many other ways to achieve positive environmental outcomes while reducing the administrative burden on federal and other levels of government. Just as with a parking lot, a movement toward the use of lines can ease administrative burdens. As described in the following subsections, while geographic delineations require political will and transaction costs for gathering information on where to place the line, once the line is delineated, it forms the basis for a highly administrable policy. The human resources required to police the line are low relative to the monitoring and enforcement of many current federal policies. By requiring a party to build a structure on one side of the line but not the other, or to only cut trees up to X feet from a stream, or to leave X feet of buffer around agricultural land to protect water quality, or to integrate X acreage of open space into a commercial development, parties have a clear directive on what they can and cannot do. And upon government inspection, which itself need not involve great

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53. See BLAKE HUDSON, *CONSTITUTIONS AND THE COMMONS* 3–4 (2014).

54. David B. Resnik, *Urban Sprawl, Smart Growth, and Deliberative Democracy*, 100 *HEALTH POL'Y & ETHICS* 1852, 1852–53 (2010).

expenditure of human resources, it is immediately clear whether the policy was violated.

In contrast, consider the complexity of monitoring and permitting wetland fill activity under § 404 of the CWA<sup>55</sup>: gathering information on wetland fill activities that may be taking place illegally and ensuring that wetlands permitted for destruction are offset with other, functionally equivalent wetlands. Determination of wetland functionality is a profoundly complex calculation and one that is imprecise at best. Similarly, § 402 of the CWA requires identification of the best control technologies to deal with pollution from industrial or other sources,<sup>56</sup> the issuance of permits that allow the use of those technologies at a myriad of facilities, and the monitoring and enforcement of that use. In the same vein, consider the assessment of air-quality violations under the CAA, which requires constant review and interpretation of technological data and information on emissions outputs.<sup>57</sup> Or the difficulty under the ESA of determining which species are imperiled, listing them as protected through what can be a highly litigious process, uncovering activities that may threaten them illegally, and—on an ad-hoc basis—preventing those activities from taking place or punishing those who engage in those activities.<sup>58</sup> And these are only a few of the federal statutes that require a great deal of human, economic, and temporal resources to implement.

Enforcement of a line, by contrast, simply involves an assessment of whether the proscribed activity takes place on one side of the line or the other, rather than actually delving into the detailed activities and intentions of regulated entities. In this way, perhaps the biggest advantage of lines is their utility as a proxy for many of the environmental ills that the above-outlined complex statutes seek to address. The subsections below detail how a greater use of line drawing in land-use planning can curb urban sprawl and preserve open space, which reduces air pollution from commuting (CAA), reduces water quality problems from impervious surface cover (CWA), forestalls the rapid development of wetlands (CWA), and reduces habitat fragmentation that leads to imperiled species (ESA).

Line drawing also tracks closely with certain categories of proposed environmental reforms. While federal environmental regulations have often been pejoratively referred to as “command and control,” alternative environmental policy approaches “include market-based regulatory instruments, voluntary or ‘self-regulatory’ policies, and various forms of contractual or collaborative decision-making.”<sup>59</sup> While perhaps not

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55. 33 U.S.C. § 1344(a) (2012).

56. 33 U.S.C. §§ 1311(b), (e), 1314(b).

57. 42 U.S.C. §§ 7401–71 (2012).

58. 16 U.S.C. §§ 1531–44 (2012).

59. Case, *supra* note 4, at 72–73.



apparent at first blush, the use of lines has more in common with these proposed alternatives than with federal command and control. Command and control is a system in which the government formulates a set of rules, dictates the terms under which certain activities can take place through permitting processes, monitors regulated entity activities, and enforces rules through penalties for noncompliance. Geographic delineations merely constrain a single set of decisions—that is, the initial decisions about where development can take place. Beyond that initial constraint, and as long as parties comply with activity placement, the market can work freely without additional governmental controls. In this way, lines, just as in a parking lot, assist people in self-regulation. Parties gain regulatory certainty because they know exactly what they can and cannot do on either side of the line. Parties are free to engage in contracts or collaborations to act with freedom as long as their activity takes place within the appropriate zone (that is, on the correct side of the line). There is minimal governmental micro-management of how activities on the appropriate side of the line take place. This is not to say that there will be no additional governmental requirements—developers would, after all, be subject to the host of requirements to which they are already subject when they develop. So too would industrial actors subject to regulatory restrictions. Even with these additional requirements, the costs associated with line drawing could nonetheless be minimal relative to the increased costs to society, developers, and industry if we continue to see aggregations of individually small environmental harms and continue to address them only through ever-expanding bureaucracy and complex federal statutes.<sup>60</sup>

Finally, line drawing does not extract money out of any person or corporate entity's bank account the way current federal policies do.<sup>61</sup> Line drawing frees the government from being involved in environmental-regulation taxation or subsidization processes. In fact, for many policies, the use of lines puts money back into taxpayer bank accounts. Without the use of adequate lines, taxpayers often must double pay. For example, as further described below, citizens are taxed to pay for a government subsidized flood insurance program, then when floodplains are developed and disaster strikes, the government dips into taxpayer bank accounts again to pay for disaster relief. Society refuses to adequately protect wetlands and forests through line drawing, or to

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60. See, e.g., Dave Owen, *Critical Habitat and the Challenge of Regulating Small Harms*, 64 FLA. L. REV. 141 (2012) (describing judicial application of the ESA's proscription against "adverse modification[s]" of "critical habitat[s]" as one way of addressing individually small environmental harms (quoting 16 U.S.C. § 1536(a)(2))).

61. Some may quibble with this point because line drawing will invariably have some impact on property values. But this value is speculative, unlike the taxes assessed on individuals that support government programs.

control urban sprawl through growth boundaries, and then asks taxpayers to pay for the problems created by those failures in the form of greater expenditures under the CAA, the CWA, and the ESA. These are the types of inefficiencies created by overreliance on complex federal environmental policies to holistically address national environmental problems—problems that result from an aggregate of localized decisions and the failure of state and local governments to adequately protect resources. Lines can help avoid inefficient use of taxpayer money and provide an immediate double dividend for the public in the form of improved environmental quality at less cost.

It is true that lines may result in foregone profit and other lost opportunity costs for parties who might otherwise develop on one side of the line.<sup>62</sup> And private property values may be affected or there may be other lost opportunity costs for businesses. Some may characterize these costs as equivalent to extracting money from bank accounts. Yet these problems are in many ways speculative concerns, as property owners may or may not be inclined to sell their property and businesses may or may not be able to gain just as great a profit margin by developing elsewhere—perhaps on the appropriate side of the line. In addition, from a societal-benefit perspective, if demand for the development activity is sufficient, development will occur somewhere on the appropriate side of the line. Furthermore, these property owners and businesses will financially benefit from reduced costs of government response to environmental problems.

Some will no doubt quibble with whether the use of stark line drawing is economically efficient. A question might arise as to how we determine with certainty that the consumption of resources on the “wrong” side of the line would do harm to the environment that outweighs the economic return it would provide. This argument could be debated in perpetuity, however, and is unwinnable at any rate—it is virtually impossible to predetermine the synergistic, aggregated effects of development on environmental well-being, especially through time. In law and economics terms, there will *always* be imperfect information. Lines, on the other hand, are an exercise of the “precautionary principle,”<sup>63</sup> and they provide certainty. A party can do X on this side of the line and Y on the other side (which may entail outright preservation). Then the market can act freely within those simple and straightforward bounds.

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62. Furthermore, some activities undoubtedly can only take place on what might otherwise be considered the “wrong side” of the line. Perhaps a manufacturing plant needs to access a river subject to a riparian buffer zone. These case-by-case circumstances may arise, but these should be the exception rather than the rule, and can be handled with long-standing land-use tools like variances and special exceptions. The periodic deviation from the rule should not undermine the benefits gained through the widespread use of the policy.

63. RASBAND ET AL., *supra* note 12, at 45.

Geographic delineations are implemented primarily through state and local government land-use law, which Professor Todd Aagaard describes as “noncanonical environmental law.”<sup>64</sup> While it may currently be viewed as noncanonical, given its longstanding status as the first form of environmental law in the United States, land-use planning has the potential to be one of the most powerful tools to holistically address the environmental challenges that Congress attempts to address through canonical environmental laws like the CAA, CWA, and ESA—but only if land-use planning efforts can be holistically implemented in a coordinated manner across states.

The list of benefits of line drawing—from both an administrative perspective and an environmental perspective—are many, and these benefits become clearer through the practical examples laid out in the subsections below. While scholars and policy makers understand that lines make the administration of environmental laws easier, society has failed to implement them in many areas of environmental policy where they are much needed and would have high impact. The following subsections highlight a number of policies that are currently not used or underutilized and that establish geographic delineations to ease administration of environmental regulation. With higher relative administrability, these policies answer the call for environmental regulatory reform—particularly from conservative critic perspectives—as well as tackle many environmental problems that currently appear intractable.

#### A. *Needed Environmental Policies with High Relative Administrability*

This Article is about drawing lines either around specific resources to prevent their degradation (“environmental buffers”) or around development that might negatively impact resources that society wants to protect as a general matter (growth boundaries/density restrictions). The former is discussed in Subsection III.A.1. below. The latter is discussed in Subsection III.A.2.

##### 1. Environmental Buffers

Environmental buffers create a zone between natural resources and commercial, residential, industrial, and agricultural development activities. This Subsection details several of these policies, describing their benefits and how each has high relative administrability.

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64. Aagaard, *supra* note 23, at 1263.

### i. Forest Riparian Buffers

Riparian buffer zones in forested watersheds provide a number of environmental benefits related to preventing nonpoint-source water pollution, regulation of stream temperatures, protection of fisheries habitat, prevention of erosion, protection of harvestable timber, increased biodiversity habitat, reduction of downstream flooding, water retention for groundwater filtration and recharge, among other ecosystem services.<sup>65</sup> Yet buffer zones in forested watersheds are woefully underrepresented in governmental policy for a majority of forestlands in the United States. Sixty percent of the nation's forests are privately owned.<sup>66</sup> No federal laws require riparian buffer zones for private forests, and most states containing important forest resources maintain no state regulatory controls. A comparative review of forest policies around the globe by Professors Ben Cashore and Constance McDermott found that a total of nine states in the southeastern region of the United States—which over the last few decades has produced more timber than any other *nation* globally<sup>67</sup>—maintain only voluntary best-management practices that *suggest* the use of streamside buffers in forested watersheds but do not require them.<sup>68</sup> This region of the country has some of the most lax forest-management standards in the world. Perhaps it is no surprise, then, that the southeastern United States is projected to lose up to 13% of its forests in coming decades if current trends of urbanization and lax land-use policy continue.<sup>69</sup> On the other hand, some states, such as Washington, California, Alaska, Idaho, and Montana do require such zones. A riparian-buffer-zone policy may prescribe that no timber extraction activities take place within, for example, thirty-five feet of a flowing waterway. Other riparian-buffer-zone policies may state that only fifty percent of the tree-canopy density can be removed from the area within thirty-five feet of the waterway.

The environmental (and economic) benefits of moving toward a holistic use of riparian buffer zones nationally are clear.<sup>70</sup> In addition to

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65. See CONSTANCE L. McDERMOTT ET AL., GLOBAL ENVIRONMENTAL FOREST POLICIES 15 (2010) (describing the benefits of riparian buffer zones).

66. U.N. ENV'T PROGRAMME, STATE OF THE ENVIRONMENT AND POLICY RETROSPECTIVE: 1972–2002 ch. 2, at 110 (2002).

67. DAVID N. WEAR & JOHN G. GREIS, U.S. FOREST SERV., THE SOUTHERN FOREST FUTURES PROJECT 17, 35 (2011), [http://www.srs.fs.usda.gov/futures/reports/draft/summary\\_report.pdf](http://www.srs.fs.usda.gov/futures/reports/draft/summary_report.pdf).

68. McDERMOTT ET AL., *supra* note 65, at 327 tbl.10.7.

69. WEAR & GREIS, *supra* note 67, at 17.

70. See PHYLLIS BONGARD & GARY WYATT, BENEFITS OF RIPARIAN FOREST BUFFERS (2010), <http://www.extension.umn.edu/environment/agroforestry/riparian-forest-buffers-series/benefits-of-riparian-forest-buffers/doc/riparian-benefits.pdf> (providing that riparian forest buffers improve trout and wildlife habitats and water quality, and provide income producing opportunities); JULIA C. KLAPPROTH & JAMES E. JOHNSON, UNDERSTANDING THE SCIENCE BEHIND

the benefits outlined above, several co-benefits related to the goals of federal environmental laws are preserved. The aggregated effect of preserving forest cover along watersheds leaves climate and pollutant-regulating forest cover in place (CAA), helps maintain habitat corridors for species (ESA), and improves water quality (CWA).<sup>71</sup> But unlike many environmental laws already on the books, the administration of riparian buffer zones is a straightforward endeavor. The policy does require the use of information gained through years of scientific and silvicultural study to determine the distance that the line should be drawn from the stream bank, and a decision must be made regarding whether the government will prohibit all timber extraction or only a certain degree of timber extraction within the zone.<sup>72</sup> But once the rule is put into place, administration of the program is not complicated—a single person piloting a helicopter can fly over the state looking for violators. Forest agency officials are likely to be flying over the state anyway looking for pine beetles or related threats to forest owners.<sup>73</sup> An emerging option, even easier to administer, might involve a member of the forest agency sitting in an office monitoring a live feed of a drone flying over a specific region of the state and snapping aerial photographs of property owners in violation of the policy.<sup>74</sup> Then, GPS coordinates of the property's location linked with state title record systems will identify the responsible landowners. The trees, after all, do not grow back overnight, and trees are of such size as to render the violation readily observable, especially if a watercourse flows through property that has been clear-cut. Violators then receive their notice of violation or penalty either in the mail or after a visit from their local forester.

ii. Agricultural Riparian Buffers (Nonpoint-source Water Pollution)

Agricultural buffer zones achieve many of the same environmental goals of forest riparian buffers. Agricultural buffers, however, are largely aimed at ameliorating problems unique to agricultural production—namely, the use of fertilizers and other nutrients for agricultural crops.

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RIPARIAN FOREST BUFFERS: EFFECTS ON WATER QUALITY (2009), [https://pubs.ext.vt.edu/420/420-151/420-151\\_pdf.pdf](https://pubs.ext.vt.edu/420/420-151/420-151_pdf.pdf) (providing that riparian forests have positive effects on sediment, nutrients, and other pollutants).

71. See BONGARD & WYATT, *supra* note 70; KLAPPROTH & JOHNSON, *supra* note 70.

72. See BONGARD & WYATT, *supra* note 70.

73. See *Aerial Survey Shows Spruce Beetle Activity Escalating, Mountain Pine Beetle Declining*, COLO. ST. FOREST SERV. (Feb. 6, 2015), <http://csfs.colostate.edu/2015/02/06/aerial-survey-shows-spruce-beetle-activity-escalating-mountain-pine-beetle-declining/>.

74. See David James, *The Fourth Amendment, Future Methods of Environmental Enforcement, and Warrantless Inspections*, 33 REV. LITIG. 183, 203–04, 204 n.86 (2014); U.S. Forest Serv., *Unmanned Aircraft Systems*, U.S.D.A., <http://www.fs.fed.us/science-technology/fire/unmanned-aircraft-systems> (last visited Apr. 14, 2016).

Agricultural buffer zones are particularly needed considering that nonpoint-source water pollution is the number one threat to the nation's waterways, and agriculture is a leading contributor.<sup>75</sup>

A few years ago, an article titled *Minnesota Farmer Battles Gulf "Dead Zone"* detailed the 2010 dead zone in the Gulf of Mexico, which was one of the largest recorded dead zones in history and was roughly the size of the state of New Jersey.<sup>76</sup> The dead zone is caused largely by nutrients flowing to the ocean from farms all along the Mississippi River.<sup>77</sup> Phosphorus and nitrogen fertilizers rob the water of oxygen, preventing sea life from respiring.<sup>78</sup> With forty percent of the land in the United States draining into the Gulf of Mexico via the Mississippi River Valley, the dead zone effectively pits farmers against fishermen as fertilizer runoff from farming operations ultimately has an aggregated, substantial effect on commercial fisheries in the Gulf of Mexico.<sup>79</sup> But the dead zone is threatening more than just fisheries. Scientists warn that if dead zones continue to grow in the Gulf of Mexico, the entire ecosystem may reach a "tipping point" from which it may not recover.<sup>80</sup>

To date it has been exceedingly difficult to convince most farmers in the Mississippi River Valley that they should take voluntary measures to rectify the negative impacts of their activities on the Gulf.<sup>81</sup> This Minnesota farmer, however, decided to adjust his farming methods.<sup>82</sup> He stopped tilling his land to decrease nitrogen and phosphorus runoff, planted a nutrient-greedy alfalfa buffer along the edge of his farm, and

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75. ENVTL. PROT. AGENCY, *supra* note 9; 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."); *Nonpoint Source: Agriculture*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/nonpoint-source-agriculture> (last visited Nov. 14, 2016); *What Is Nonpoint Source?*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/what-nonpoint-source> (last visited Nov. 14, 2016).

76. John D. Sutter, *Minnesota Farmer Battles Gulf 'Dead Zone'*, CNN (Aug. 30, 2010, 3:47 PM), <http://www.cnn.com/2010/TECH/innovation/08/30/gulf.dead.zone.minnesota.farm/index.html>.

77. *Id.*

78. *Id.*

79. *See id.*

80. *Id.*

81. Douglas R. Williams, *When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response to Agricultural Nonpoint-source Water Pollution*, 9 WASH. U. J.L. & POL'Y 21, 22 (2002) ("[Farmers] have not, however, been particularly good stewards of our water resources: excessive or inappropriate use of fertilizers and pesticides, soil erosion, habitat alteration, soil salinization, animal wastes, and rates of water usage are causing serious water quality problems throughout the country. Indeed, agricultural nonpoint-source pollution is now considered the nation's most persistent and most difficult water quality problem." (footnote omitted)).

82. Sutter, *supra* note 76.

rather cost-effectively placed a bioreactor in the ground near the stream that removes nitrates from runoff before it reaches the waterway.<sup>83</sup> These small adjustments to agricultural methods worked—the farmer’s yields went up, wildlife he had not seen in years returned, and the water in the area became clearer.<sup>84</sup> Though this individual farmer’s efforts were admirable, “cleaning up the Gulf from the Midwest will require continental changes.”<sup>85</sup>

Other watersheds face similar challenges, particularly important estuaries like the Chesapeake Bay, which suffers from a dead zone impacted by waste runoff largely from chicken farms.<sup>86</sup> The federal government does not regulate point source pollution for most types of agriculture under the CWA, and they do not regulate nonpoint source pollution under the CWA at all. In turn, states are doing very little, if anything, to address this problem. The EPA has refused to set water-quality standards for the Gulf in the absence of state action.<sup>87</sup> In the absence of EPA regulation, some parties have attempted to utilize the court system to force a reduction of nutrient pollution into the Mississippi watershed.<sup>88</sup> Those efforts have failed.<sup>89</sup>

How can geographic delineations be utilized to address the problem of nutrients in agricultural watersheds? Consider the Minnesota farmer’s use of alfalfa around the perimeter of his land, and imagine it as a simple line-drawing exercise. The aggregated effects of farmers planting buffers of alfalfa or other types of nutrient-loving plants around their farms or leaving other types of buffer strips (such as forested buffer strips) to reduce the number of nutrients entering waterways would have a profound effect on watersheds like the Gulf. Yet these buffers are virtually nonexistent in policies across all levels of government.<sup>90</sup> As with forests, once the size and scope of agricultural buffer zones are established, their implementation requires little more than a drone or helicopter to scan farms looking for violators. Granted, depending on the

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83. *Id.*

84. *Id.*

85. *Id.*

86. *Frontline: Poisoned Waters* (PBS television broadcast Apr. 21, 2009).

87. *E.g.*, *Gulf Restoration Network v. McCarthy*, 783 F.3d 227, 231 (5th Cir. 2015).

88. *See* Complaint at 1–2, 13, *Bd. of Water Works v. SAC Cty. Bd. of Supervisors*, No. 5:15-cv-04020 (N.D. Iowa Mar. 13, 2015). The federal government has attempted to set total maximum daily loads in the Chesapeake Bay, which presumably would force the state to quantify nonpoint-source water pollution amounts. *Am. Farm Bureau v. U.S. EPA*, 792 F.3d 281, 292 (3d Cir. 2015), *cert. denied*, 136 S. Ct. 1246 (2016). The Third Circuit upheld the government’s authority to do so. *Id.* at 299–300.

89. *See* *Bd. of Water Works Trs. of Des Moines v. SAC Cty. Bd. of Supervisors*, 890 N.W.2d 50, 72 (Iowa 2017).

90. *See, e.g.*, Ruhl, *supra* note 22, at 265 (“[F]arms are virtually unregulated by the expansive body of environmental law that has developed in the United States in the past 30 years.”).

type of buffer required, the enforcement of agricultural-buffer-strip policies are likely to be more difficult than forest riparian buffers. Agricultural-buffer-strip policies may prescribe specific species within the buffers, many of which are fast-growing and may be difficult to spot or identify from high above. This may be particularly problematic between crop rotations or outside the growing season. Nonetheless, with technological gains, the increased precision of GPS, and use of Geographic Information System mapping, violators would be relatively easy to track.

### iii. Future Coastline Buffers

Geographic delineations can also be a useful way to adapt to impending changes on the coast wrought by climate change, particularly sea-level rise. State and local governments have an opportunity to get ahead of the curve (and ahead of the federal government) by utilizing land-use regulatory authority to set the rules for managing the coastlines of the future. Over the last century, Americans have rushed to the coast in droves and have replaced natural capital with human capital at an alarming rate. Better land-use planning during that rush could have ameliorated adaptation costs that society faces today, as natural-resource buffers are not as available as they might have been to slow the surge of rising sea levels. Even though society missed an opportunity in its initial development of the coast, preparing today for the changing shorelines of the future provides society with a new opportunity to use line drawing to leave more and better buffers in place and to avoid the worst harms of sea-level rise.

In 2010, approximately 164 million U.S. citizens, or 52% of the population, lived in coastal-watershed counties.<sup>91</sup> Ten of the fifteen largest U.S. cities are in coastal counties,<sup>92</sup> and “23 of the 25 most densely populated U.S. counties are coastal.”<sup>93</sup> Coastal counties, as a general matter, average 319 people per square mile—far more than the national average of 105 people per square mile.<sup>94</sup> Even though over half of the U.S. population lives within coastal counties, these counties make up only 17% of the U.S. land area.<sup>95</sup> A few coastal states maintain over half

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91. NAT'L OCEANIC & ATMOSPHERIC ADMIN., NATIONAL COASTAL POPULATION REPORT 3 (2013), <http://oceanservice.noaa.gov/facts/coastal-population-report.pdf>.

92. KRISTEN M. CROSSETT ET AL., NAT'L OCEANIC & ATMOSPHERIC ADMIN., POPULATION TRENDS ALONG THE COASTAL UNITED STATES 1 (2004), [http://oceanservice.noaa.gov/programs/mb/pdfs/coastal\\_pop\\_trends\\_complete.pdf](http://oceanservice.noaa.gov/programs/mb/pdfs/coastal_pop_trends_complete.pdf).

93. *Id.* at 7.

94. NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 91, at 3.

95. CROSSETT ET AL., *supra* note 92, at 6.



of their population in the coastal zone.<sup>96</sup> The rate of population growth in the coastal zone is also increasing. Coastal population increased by 33 million people between 1980 and 2003,<sup>97</sup> accounting for nearly half of the United States' total population growth during that time period.<sup>98</sup> The rate of population growth in coastal counties, combined with fast-growing coastal economies and wealth accumulation in the coastal zone,<sup>99</sup> further compounds the rate at which coastal land is developed.<sup>100</sup> For example, “[s]ome large coastal metropolitan areas are consuming land ten times as fast as they are adding new residents,”<sup>101</sup> and on the whole, land is developed at more than twice the background rate of population growth.<sup>102</sup> If current rates of land consumption continue unchecked, more than one-quarter of coastal acreage will be developed by 2025.<sup>103</sup> In fact, “[b]y most measures, human impacts on coastal ecosystems have grown faster than the rate of population growth. So, although population statistics paint an alarming picture for coastal management, they actually understate the magnitude of the challenge.”<sup>104</sup>

Indeed, rapid development of the coast has replaced much of the natural capital that previously protected coastal populations from the increasing threat of sea-level rise.<sup>105</sup> Consider the loss of coastal

96. *Id.* at 18.

97. *Id.* at 1.

98. POPULATION DIV., U.S. CENSUS BUREAU, ANNUAL ESTIMATES OF THE POPULATION FOR THE UNITED STATES, REGIONS, AND DIVISIONS 1 (2004), <https://www.census.gov/popest/data/state/totals/2003/tables/NST-EST2003-08.pdf>; POPULATION DIV., U.S. CENSUS BUREAU, MONTHLY ESTIMATES OF THE UNITED STATES POPULATION 9 (2001), <http://www.census.gov/population/estimates/nation/intfile1-1.txt>.

99. Coastal counties have median household incomes that are approximately 17% higher than those of noncoastal counties. CROSSETT ET AL., *supra* note 92, at 12; *see also* Jordan Rappaport & Jeffrey D. Sachs, *The United States as a Coastal Nation*, 8 J. ECON. GROWTH 5, 5–7, 16 (2003).

100. *See* CROSSETT ET AL., *supra* note 92, at 1.

101. DANA BEACH, PEW OCEANS COMM’N, COASTAL SPRAWL: THE EFFECTS OF URBAN DESIGN ON AQUATIC ECOSYSTEMS IN THE UNITED STATES ii (2002), [http://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/reports/protecting\\_ocean\\_life/envpewoceanssprawlpdf.pdf](http://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/reports/protecting_ocean_life/envpewoceanssprawlpdf.pdf).

102. *Id.* at 4–5.

103. *Id.*

104. *Id.* at 2.

105. Scholars have noted that “[b]oth urban disasters and environmental hot spots are already located disproportionately in low-lying coastal areas. Climate change will increase the risk of both.” Gordon McGranahan et al., *The Rising Tide: Assessing the Risks of Climate Change and Human Settlements in Low Elevation Coastal Zones*, 19 ENV’T & URBANIZATION 17, 18 (2007) (footnote omitted) (stating further that “[i]n particular, rising sea levels will increase the risk of floods, and stronger tropical storms may further increase the flood risk”).

wetlands,<sup>106</sup> over half of which have been replaced by development over the last century.<sup>107</sup> Wetlands provide a wide variety of ecosystem services important to the maintenance of coastal land.<sup>108</sup> This is especially so in deltaic states particularly vulnerable to sea-level rise, such as Louisiana.<sup>109</sup> Due to the historic diversion of Mississippi River sediment,<sup>110</sup> Louisiana faces not only an increasing risk of sea-level rise but also a rapid sinking of land due to subsidence—having the highest rate of relative sea-level rise in the world.<sup>111</sup> Louisiana is losing 6,600 acres of coastal wetlands per year, and while some of this loss is naturally occurring, “[t]he real culprits are human-made”<sup>112</sup> and include commercial and residential development, levees, navigational channels, and oil-and-gas infrastructure. When an adequate buffer is in place, the overland flow of storm surge can be slowed down by healthy marshes and cypress swamps.<sup>113</sup> And though “[d]ecades ago the [Louisiana] delta had thick, robust marshes and swamps that began behind the barrier

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106. See *Conserving Coastal Wetlands for Sea-level Rise Adaptation*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://coast.noaa.gov/digitalcoast/training/wetlands.html> (last updated Oct. 12, 2016) (providing techniques for the conservation of wetland functions and ecosystems services); Katie K. Arkema et al., *Coastal Habitats Shield People and Property from Sea-Level Rise and Storms*, 3 NATURE CLIMATE CHANGE 913, 913, 917 n.4 (2013). See generally CHAD J. MCGUIRE, ADAPTING TO SEA-LEVEL RISE IN THE COASTAL ZONE (2013) (discussing the science and legal impact of sea-level rise and providing strategies and solutions for the future).

107. NOAA Analysis Reveals Significant Land Cover Changes in U.S. Coastal Regions, NAT’L OCEANIC & ATMOSPHERIC ADMIN. (Aug. 18, 2014), [http://www.noanews.noaa.gov/stories2014/20140818\\_landcover.html](http://www.noanews.noaa.gov/stories2014/20140818_landcover.html).

108. Wetlands act as a key buffer system that protects against storm surge caused by hurricanes and other weather events, dissipating and absorbing flood waters and stormwater runoff—thus protecting local communities and reducing municipality flood-control expenditures; acting as an anchor for preserving coastal lands by dispersing coast-building sediment and forestalling coastal erosion; providing water filtration services that clean coastal waters; acting as a major carbon sink that helps regulate the climate; and providing habitat for coastal species, among a variety of other services. *Functions and Values of Wetlands*, WASH. ST. DEP’T ECOLOGY, <http://www.ecy.wa.gov/programs/sea/wetlands/functions.html> (last visited Nov. 14, 2016). The effects of removing coastal wetlands can be quite severe. See McGranahan et al., *supra* note 105, at 19.

109. Bob Marshall, *New Research: Louisiana Coast Faces Highest Rate of Sea-Level Rise Worldwide*, LENS (Feb. 21, 2013, 10:54 AM), <http://thelensnola.org/2013/02/21/new-research-louisiana-coast-faces-highest-rate-of-sea-level-rise-on-the-planet/>.

110. Human development activities in coastal Louisiana have “accelerate[d] coastal land loss by reducing the natural flow of the [Mississippi] [R]iver’s freshwater and sediment to wetland areas, where the lost land would then naturally be replenished.” ROBERT R. M. VERCHICK, *FACING CATASTROPHE* 19 (2010).

111. Marshall, *supra* note 109.

112. VERCHICK, *supra* note 110, at 19.

113. COASTAL LA. ECOSYSTEM ASSESSMENT & RESTORATION, REDUCING FLOOD DAMAGE IN COASTAL LOUISIANA: COMMUNITIES, CULTURE & COMMERCE 2 (2006), [http://ian.umces.edu/pdfs/ian\\_newsletter\\_13.pdf](http://ian.umces.edu/pdfs/ian_newsletter_13.pdf).

islands and ran back for miles and miles to where towns and cities had sprouted,”<sup>114</sup> those sprouting cities expanded and replaced natural systems with development. A return to these kinds of buffers will be increasingly important in the future, especially as sea levels rise at an accelerated rate and have profound interjurisdictional and nationwide impacts.<sup>115</sup>

Creating coastal buffer zones through line drawing is a climate-change-adaptation policy, seeking “to adjust the built and social environment to minimize the negative outcomes of now-unavoidable climate change.”<sup>116</sup> Such policies might involve relocating populations, transitioning existing and future infrastructure away from the coast, protecting riverine and new coastal floodplains and wetlands from future development, and increasing preservation of ecosystems to act as species corridors and natural-capital reservoirs when coastal ecosystems are lost to sea-level rise.<sup>117</sup>

Adaptation in the coastal zone, therefore, includes reigning in human development to, first, remove the populace from lands likely to be lost and, second, provide more natural land to act as a buffer between rising seas and future human habitations that have moved farther inland. Geographic delineations in the coastal zone would foster both types of adaptation policies. Even so, such measures “require significant land to undertake, often through the provision of open space used for . . . stormwater management, sea-level rise planning, or for migration corridors” and may require “a dramatic reduction in available areas for new development and redevelopment” within existing communities.<sup>118</sup> Furthermore, buffer zones would need to be created by the establishment of “policy framework[s] for re-situating land uses that may become unsafe or unsuitable in the future due to climate change,” by “[i]dentify[ing] and reserv[ing] locations for relocation of major infrastructure,”<sup>119</sup> and by “[a]ctively plan[ning] ahead for settlement

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114. Mark Fischetti, *New Orleans Protection Plan Will Rely on Wetlands to Hold Back Hurricanes*, SCI. AM. (Jan. 26, 2012), <https://blogs.scientificamerican.com/observations/new-orleans-protection-plan-will-rely-on-wetlands-to-hold-back-hurricanes/>.

115. JOSH EAGLE, COASTAL LAW 27 (2011); Patrick A. Parenteau et al., *Climate Change and the Marine Environment*, in OCEAN AND COASTAL LAW AND POLICY, *supra* note 15, at 631, 634–35; U.S. CLIMATE CHANGE SCI. PROGRAM, SUBCOMM. ON GLOB. CHANGE RESEARCH, COASTAL SENSITIVITY TO SEA-LEVEL RISE: A FOCUS ON THE MID-ATLANTIC REGION 177 (2009), <https://downloads.globalchange.gov/sap/sap4-1/sap4-1-final-report-all.pdf>.

116. Elisabeth M. Hamin & Nicole Gurrán, *Urban Form and Climate Change: Balancing Adaptation and Mitigation in the U.S. and Australia*, 33 HABITAT INT’L 238, 238 (2009).

117. *Id.* at 241.

118. *Id.* at 241–42.

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*Id.* at 243.

reorientation or design.”<sup>120</sup> Finally, “[m]odification of the prevailing forms of coastal settlement, so as to protect local residents, will also be needed.”<sup>121</sup>

Preventative action regarding the placement of *new* settlements in areas either likely to be lost or that will be needed in the future as a buffer for settlement farther inland is a much cheaper and more practical approach to adapting to coastal land loss.<sup>122</sup> This is especially so when compared to adaptation approaches that seek to shift current development and infrastructure out of coastal areas. Line drawing can help achieve these goals.

#### iv. Flood Zone Prohibitions

The National Flood Insurance Program (NFIP)<sup>123</sup> subsidizes the insurance of property owners who live in high-risk areas—primarily in floodplains.<sup>124</sup> As a result, property owners do not bear the true cost of the risk their properties face. If these parties were paying actuarial rates, most would be unable (or unwilling) to afford living in those areas. The NFIP, therefore, acts as a massive market distortion. The program has no doubt resulted in a great deal of economic gain, as residential, industrial, commercial, and agricultural developments have been able to expand into areas where development would likely have been economically infeasible. But at what cost? In fact, the NFIP has created a great deal of both economic and environmental cost. While the program predicates eligibility on some level of local land-use planning to mitigate flood risk,<sup>125</sup> the program has facilitated risky development in high-risk areas. Taxpayers subsidize development in these areas, and then when disaster strikes the government reaches back into taxpayers’ bank accounts to provide disaster relief.<sup>126</sup> But the program is not only economically damaging. Floodplains often contain the most sensitive ecosystems, and so their development removes natural resources crucial to water quality, species habitat, carbon sequestration processes, and overall ecosystem

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120. *Id.* at 244.

121. McGranahan et al., *supra* note 105, at 17.

122. *See id.* at 21.

123. 42 U.S.C. §§ 4001–4129 (2012); *see also* Patricia E. Salkin, *The Quiet Revolution and Land Use*, 45 J. MARSHALL L. REV. 253, 272–74 (2012) (discussing the history of the NFIP’s enactment).

124. Laurel Adams, *Government-Subsidized Flood Insurance Premiums Are About Half of Full-Risk Price*, PUB. INTEGRITY (June 23, 2011, 4:42 PM), <https://www.publicintegrity.org/2011/06/23/5006/government-subsidized-flood-insurance-premiums-are-about-half-full-risk-price>.

125. Salkin, *supra* note 123, at 274.

126. *The Disaster Process & Disaster Aid Programs*, FEMA, <http://www.fema.gov/disaster-process-disaster-aid-programs> (last updated Oct. 3, 2015).

functionality.<sup>127</sup> Development has also replaced natural resources that would otherwise act as buffers to protect social systems, as described earlier in this Section.<sup>128</sup> This has led to an overreliance in these areas on human-made capital, such as dams, levees, floodgates, sea walls, and other structures. A review of satellite images of the Mississippi River Watershed drives home the effects of the NFIP, whereby wetlands that once absorbed and dispersed the energy of floodwaters have been replaced by dry, developed lands or have been cut off by levee systems.<sup>129</sup> In fact, problems caused by the NFIP synergize with the agricultural-runoff issue discussed above. Many farmlands have developed in floodplains directly abutting important waterways like the Mississippi River,<sup>130</sup> and so agricultural runoff has a direct pathway to those waters.

There are several additional problems with the NFIP that make a shift away from the policy incredibly difficult. The first is how the lines for flood zones are currently drawn, which may or may not be supported by the best available data and science.<sup>131</sup> Floodplains are floodplains whether or not we legally designate them as such based upon our best modeling. Another problem is that serious equity issues would arise if society moved toward actuarial rates for current developments and left home and business owners high and dry, so to speak. Many of these owners would be unable to stay in their current properties and unable to recoup investment through selling those properties to others. The contentious 2012 NFIP amendments of the Biggert–Waters Reform Act,<sup>132</sup> and their subsequent repeal,<sup>133</sup> demonstrate the practical difficulty moving toward actuarial rates for current developments.

Nonetheless, a better harnessing of geographic delineations can assist in undoing some of the harms caused by programs like the NFIP and can assist in better land-use planning going forward—planning that both better preserves natural capital in high-risk areas like floodplains and helps society adjust to looming new threats like sea-level rise. As sea levels rise, after all, there will be new floodplains for which to account.

Better line drawing can assist in determining which areas are truly floodplains, providing better certainty for what remains of the NFIP

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127. *See supra* note 108.

128. *See supra* Section II.A.

129. *See* Anne Jefferson, *Levees and the Illusion of Flood Control*, NEWS & COMMENT. FROM WORLD GEOLOGY & EARTH SCI. (May 19, 2011), <http://all-geo.org/highlyallochthonous/2011/05/levees-and-the-illusion-of-flood-control/>.

130. *See, e.g., id.*

131. For a general overview of the NFIP flood studies, see NAT'L ACAD. OF SCIS., *TYING FLOOD INSURANCE TO FLOOD RISK FOR LOW-LYING STRUCTURES IN THE FLOODPLAINS* (2015).

132. Biggert-Waters Flood Insurance Reform Act of 2012, Pub. L. No. 112-141, 126 Stat. 957 (codified as amended at 42 U.S.C. § 4012a (2012)) (repealed 2014).

133. Homeowner Flood Insurance Affordability Act of 2014, Pub. L. No. 113-89, 128 Stat. 1020 (codified at 42 U.S.C. 4012a (2014)).

program over time. Line drawing can also make it easier to determine where to prohibit development (or redevelopment) in previously undeveloped areas or in areas that have been destroyed by disaster events (in which case property owners can recoup investments through insurance claims rather than through the sale of property). The administrative simplification provided here seems obvious. Notwithstanding political difficulties in forming such policies, simply prohibiting development in these areas frees government from tracking who owes what for insurance depending on where in the floodplain they have developed and similarly complicated inquiries. The program also reduces taxpayer expenditures on the front end through the reduction of subsidized rates and on the back end through fewer disaster relief expenditures. Rather than tracking, monitoring, and administering a complicated insurance subsidization program, lines allow us to say simply, you can develop outside of the floodplain, but not within it.

## 2. Growth Boundaries/Density Restrictions

Probably the most politically controversial types of geographic delineations described in this piece are urban growth boundaries and other development-density requirements (which this Article will group together under the “growth boundaries” moniker for ease of discussion). The four categories of buffers described above are somewhat limited in scope, protecting the fringes of watersheds, agricultural fields, coastlines, and flood zones from development to preserve specific resources. Growth boundaries, on the other hand, protect the environment outside of a boundary without reference to any particular resource. While each of the buffers described above is linked to a particular resource (forests, agricultural lands, water, coasts), growth boundaries are applicable to all development and land-use planning across the entire nation, at least in large metropolitan areas.<sup>134</sup> Growth boundaries further target almost all categories of development: residential, commercial, industrial, and agricultural.

The irony, however, is that while supposedly more “restrictive” and more controversial, urban growth boundaries have perhaps the highest potential to achieve the greatest environmental gain—with reference to the goals of federal environmental laws—at the lowest overall administrative cost to the U.S. citizenry. As discussed in greater detail in Part III, if conservative environmental reform advocates really want to have the best chance of reducing federal government involvement in environmental policy making, then they should support state and local

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134. See *Urban Growth Boundaries*, RELIABLE PROSPERITY, [http://www.reliableprosperity.net/urban\\_growth\\_boundaries.html](http://www.reliableprosperity.net/urban_growth_boundaries.html) (last visited Nov. 14, 2016).

growth-boundary policies.<sup>135</sup> If conservative reform advocates want the best chance of reducing federal taxpayer expenditures under the CWA, the CAA and the ESA, then they should support state and local growth-boundary policies. Were it not for long commutes and lack of public transportation due in large part to urban sprawl, air pollution could be lessened and federal (or state) expenditures under the CAA reduced.<sup>136</sup> Were it not for the extreme habitat fragmentation caused by sprawling development, leading to more species becoming imperiled in the first instance,<sup>137</sup> expenditures under the ESA could be reduced. With fewer sprawling impervious surfaces (parking lots and road surfaces) and rooftops,<sup>138</sup> point and nonpoint-source water pollution could be lessened, leading to reduced expenditures under the CWA.

Growth boundaries present high upfront costs, both political costs due to interest-group pressures and economic and administrative transaction costs as governments determine where the boundaries should be placed. But once in place, markets can work freely within or without the boundary and according to its strictures. Developers have all the information they need to develop, and the environmental benefits are predetermined and built into the system—just like putting lines on a lineless parking lot.

While growth boundaries could be categorized along with the buffers detailed in the prior section, they are somewhat distinct as a form of geographic delineation. Forest riparian and agricultural buffers are aimed primarily at protecting water quality, though they provide several environmental co-benefits. Coastline and flood zone buffers are aimed primarily at protecting humans *from* water,<sup>139</sup> though they too provide co-benefits. Growth boundaries might be seen as a more holistic policy than mere buffers—and indeed, they may incorporate various types of buffers. Most importantly, growth boundaries are not aimed at treating the symptoms of human development activities—the pollution and resource-scarcity problems at which most environmental laws are aimed. Rather, growth boundaries attack the *drivers* of poor air and water quality and reduced biodiversity, which ultimately results from the replacement of the natural environment with the human-built environment. In this way, growth boundaries act as a precautionary proxy, internalizing externalities by forcing a more efficient use of developed space so that forests, wetlands, species habitat, waterways, and other natural resources are impacted as little as possible.

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135. See *infra* Part III.

136. See *supra* text accompanying note 16.

137. See *supra* text accompanying note 14.

138. See *supra* text accompanying note 15.

139. See *supra* Subsection II.A.4.

Growth boundaries are a more stringent form of land-use planning and can better protect important public resources that may just happen to fall on private lands. Speaking strictly in terms of environmental outcome and relative administrability (and not political feasibility), a more holistic use of regulatory limits like growth boundaries is desperately needed if society is to resolve both the continued degradation of the land base and the associated environmental problems that follow. Of course, local governments face economic disincentives to utilizing such controls,<sup>140</sup> and sometimes they face institutional demands that they not enact such policies, most often in the form of state preemption mandates.<sup>141</sup> If growth boundaries are to be utilized to rectify environmental problems that federal statutes seek to address, then state governments will be crucial to both removing institutional hurdles and curbing economic disincentives for local governments. Because states are the locus of constitutional land-use regulatory authority,<sup>142</sup> they must play a direct role in requiring local governments to undertake better land-use planning. As Professor John Nolon has noted, “[c]alling on state and federal lawmakers to enable and guide local action has the salutary effect of ordering top-down reform efforts. This gives those lawmakers purpose and direction and suggests proper roles for each level of government in a national framework of laws.”<sup>143</sup>

Growth boundaries may include urban limit lines, which effectively draw a line (or series of lines) around a municipality and require reduced development densities outside each successive line. This has the effect of preserving a portion of each property outside the lines. But the types of lines contemplated by growth-boundary policies need not be limited to urban limit lines. Lines may be incorporated into individual projects to require the integration of more green space into developments. Building big box retailers *up* on fifty acres, with parking underneath, while setting aside another fifty acres for forest, habitat, wetland, or green space, provides an example.<sup>144</sup> This is an alternative to the more common approach of building *out* on 100 acres, with parking provided adjacent to the box. In this way, lines can also be utilized not to create an overall limit outside of a certain geographic region, but rather within individual projects to adjust density to better integrate environmental resources and services into development—which can lead to many air, water, biodiversity, and other resource gains.

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140. HUDSON, *supra* note 53, at 73–74.

141. *Id.* at 74.

142. Salkin, *supra* note 123, at 257.

143. John R. Nolon, *Champions of Change: Reinventing Democracy Through Land Law Reform*, 23 PACE ENVTL. L. REV. 905, 911 (2006).

144. See Patricia E. Salkin, *Supersizing Small Town America: Using Regionalism to Right-Size Big Box Retail*, 6 VT. J. ENVTL. L. 48, 55 (2005).



Consider the integration of trees into parking lots or around the perimeter of developments. Much nonpoint-source water pollution results from impervious surfaces like parking lots. Much energy is consumed in commercial and residential developments due to the “urban heat island” effect from removing buffers along these surfaces. Localized air pollution (especially particulates) is exacerbated because trees are not in these areas to capture pollutants. Urban sprawl in Houston, Texas, where buffers have largely been left out of parking lots, (as just one example) is quite different from urban sprawl in Florida, where local governments often require medians, curbs, grass, and trees to be integrated into parking lots. These are fairly simple requirements to place upon development. Either developers integrate lines or they do not, and once they do integrate lines those buffers are fixed and need little continued administration. Though some maintenance will undoubtedly be required, replanting trees accidentally backed over by a vehicle in the Best Buy parking lot hardly rises to the level of monitoring particulate emissions from a coal-fired power plant.

Two resources in particular may be protected by better land-use planning and yield the same benefits sought by major federal statutes given the services they provide—forests and wetlands. Forests provide:

- a renewable source of building materials and associated jobs;
- a renewable source of paper products and associated jobs;
- a renewable source of energy in the form of biofuel;
- clean-air services that filter and trap air pollutants;
- clean-water services that prevent nutrient, chemical, and other non-point pollution run-off from entering waterways;
- protection of fisheries by mitigating run-off pollution that leads to “dead zones” in water bodies;
- flood-control services;
- important habitat for diverse species;
- regulation of local ambient air temperatures in urban and rural areas;
- energy cost savings for households and businesses;
- aesthetic, spiritual, and cultural values;
- recreational values.<sup>145</sup>

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145. See *Ecosystem Services*, U.S. FOREST SERV., <http://www.fs.fed.us/ecosystemservices/> (last updated Oct. 7, 2016).

Despite the importance of these resources, the U.S. Forest Service projects that the region of the country where geographic delineations are least likely to be used,<sup>146</sup> the southeastern United States (where 86% of forests are privately owned), is projected to lose up to 23 million acres, or 13%, of its forestland in the coming decades—primarily because of urban development.<sup>147</sup>

The nation's wetlands are also under increasing strain, notwithstanding federal regulation under the CWA's § 404 program, and over half of the nation's wetlands have already been lost to development.<sup>148</sup> Many wetlands crucial to the nation continue to escape even that program's jurisdictional reach—so called “isolated wetlands.”<sup>149</sup> Ecosystem services provided by wetlands generally, and isolated wetlands left outside the scope of federal jurisdiction specifically, include:

- groundwater recharge<sup>150</sup> and water retention;<sup>151</sup>
- mitigation of flood damages (a watershed consisting of at least 30% wetlands can reduce flooding by 60% to 80% relative to watersheds containing no wetlands);<sup>152</sup>
- nutrient transfer and transformation;
- temperature moderation for receiving waters to which they maintain connections;<sup>153</sup>

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146. MCDERMOTT ET AL., *supra* note 65, at 327 tbl.10.7.

147. WEAR & GREIS, *supra* note 69, at 23.

148. David Moreno-Mateos et al., *Structural and Functional Loss in Restored Wetland Ecosystems*, 10 PLOS BIOLOGY, Jan. 2012, at 1, 1 (2012).

149. Blake Hudson & Michael Hardig, *Isolated Wetland Commons and the Constitution*, 2014 BYU L. REV. 1443, 1445. Several states having lost anywhere from 70–95% of their wetlands. Raissa Marks, *Ecologically Isolated Wetlands*, WILDLIFE HABITAT COUNCIL 1, 2 (2006), <http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=18517.wba>; *see also* NAT'L WILDLIFE FED'N & NAT. RES. DEF. COUNCIL, *WETLANDS AT RISK: IMPERILED TREASURES 7* (2002), <http://www.nrdc.org/water/conservation/atrisk/wetlands.pdf> (detailing U.S. wetlands that have been lost or are in jeopardy).

150. Scott G. Leibowitz & Tracie-Lynn Nadeau, *Isolated Wetlands: State-of-the-Science and Future Directions*, 23 WETLANDS 663, 669 (2003); Loren M. Smith et al., *Are Isolated Wetlands Isolated?*, NAT'L WETLANDS NEWSL., Sept.–Oct. 2011, at 26, 26.

151. Leibowitz & Nadeau, *supra* note 150, at 670.

152. Marks, *supra* note 149, at 2.

153. *Id.* at 3; Karen Cappiella & Lisa Fraley-McNeal, *The Importance of Protecting Vulnerable Streams and Wetlands at the Local Level*, WETLANDS & WATERSHEDS, Aug. 2007, at 1, 10.

- water-quality<sup>154</sup> and erosion-control services, filtering out nutrients like nitrogen, phosphorus, and organic pollutants,<sup>155</sup>
- carbon sequestration that can “contribute to amelioration of climate change impacts;”<sup>156</sup>
- biodiversity protection for a diverse number of economic and non-economic species.<sup>157</sup>

Consider that one-third of threatened or endangered species in the United States depend on wetlands generally, and many of those are found only in isolated wetland habitats.<sup>158</sup> A 2005 study found that isolated wetlands supported 274 at-risk plant and animal species, many of which were endemic to isolated wetland habitats.<sup>159</sup> Consider once again the area of the country most resistant to the use of geographic delineations as a foundation for environmental and land-use policy, the southeastern United States. The Southeast maintains a wide range of unique isolated wetlands habitat.<sup>160</sup> Habitat loss has been particularly severe in the region.<sup>161</sup> Despite their great value, these wetlands continue to be threatened by agriculture, forestry, and mining activities, as well as by general land development for commercial, residential, and other purposes.<sup>162</sup> Population pressures in the Southeast, a region which is growing faster than any other region of the country,<sup>163</sup> are increasing this strain. Recall that in recent decades, land is being developed at a rate *more than twice* the rate of population growth.<sup>164</sup>

Preservation of forest and wetland ecosystem services can further reduce the costs of developing human-built structures to achieve the same

154. Leibowitz & Nadeau, *supra* note 150, at 670.

155. Marks, *supra* note 149, at 2.

156. Smith et al., *supra* note 150, at 27.

157. Capiella & Fraley-McNeal, *supra* note 153, at 11; Leibowitz & Nadeau, *supra* note 150, at 671; Marks, *supra* note 149, at 2.

158. Marks, *supra* note 149, at 4.

159. Capiella & Fraley-McNeal, *supra* note 153, at 11. Scholars have argued that because of biodiversity in isolated wetlands, they “should receive the same degree of protection as contiguous wetlands,” and that “[t]he legal emphasis on protection of contiguous wetlands can be traced to limited understanding of the biological importance of isolated wetlands.” ROBIN HART & JAMES R. NEWMAN, *THE IMPORTANCE OF ISOLATED WETLANDS TO FISH AND WILDLIFE IN FLORIDA* 2, 15 (1995) (citation omitted).

160. *Id.* at 3.

161. Raymond D. Semlitsch & J. Russell Bodie, *Are Small, Isolated Wetlands Expendable?*, 12 *CONSERVATION BIOLOGY* 1129, 1132 (1998).

162. Capiella & Fraley-McNeal, *supra* note 153, at 11.

163. WEAR & GREIS, *supra* note 69, at 6, 18.

164. BEACH, *supra* note 101, at 4–5.

environmental ends, in the form of flood detention ponds and control structures, groundwater recharge stations, erosion control structures, and municipal water-treatment systems. They can also assist in cleaning the air, preserving biodiversity habitat, and facilitating carbon sequestration.

To be sure, current urban-growth-boundary policies are not without their critics or their flaws,<sup>165</sup> but even then, the problems ultimately arise because states do not formulate growth-boundary policies in a holistic manner. One growth boundary around one city in one state may not be effective if surrounding areas are not subject to the same or similar constraints. Citizens may simply move outside the boundary, further exacerbating landscape fragmentation, contributing to additional pollution and other externalities as citizens drive further to get to the municipality, and creating environmental justice issues they are unable to afford purchasing housing within the boundary.

Ultimately, however, utilizing growth-boundary policies to protect resources like the nation's forests and wetlands from urban sprawl furthers air-quality gains, regulates climate through carbon sequestration, and reduces energy consumption, all goals of the CAA. Guarding these resources from the negative effects of development also protects biodiversity (ESA) and water quality (CWA).

### III. A CONSERVATIVE VISION OF ENVIRONMENTAL REGULATORY REFORM—BALANCING PRINCIPLES

It is sometimes difficult to determine whether conservative criticisms of environmental regulation are aimed primarily at the expansive federal regulatory bureaucracy or rather at the mere existence of environmental regulatory controls. The political spin machine of the twenty-four-hour news cycle might have us believe the latter. Yet, given that conservative critics calling for regulatory reform have claimed to support the ends of environmental protection, but are critical of federal bureaucracy as the means of achieving that protection,<sup>166</sup> the arguments put forth in this Article are based upon an assumption—that as a threshold matter these conservative critics are not wholesale opposed to regulatory controls, but rather prefer state and local governments to be the locus of any prescriptive environmental policy making.<sup>167</sup> In this way, this Article

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165. See generally L. ANDERS SANDBERG ET AL., *THE OAK RIDGES MORAINES BATTLES* (2013); PETER A. WALKER & PATRICK T. HURLEY, *PLANNING PARADISE* (2011) (describing Oregon's unique land-use planning system).

166. Adler, *supra* note 18, at 254–55.

167. Adler, *supra* note 18, at 280. These critics may also reject prescriptive regulation altogether, believing that markets are more suitable and adaptable to providing environmental benefits than government prescriptive intervention.

focuses primarily on the concerns of Jeffersonian conservatives who support the devolution of governmental authority.<sup>168</sup>

It may be that some conservative critics are on the libertarian end of the spectrum, preferring market-based mechanisms over prescriptive regulation to achieve environmental goals.<sup>169</sup> I presume, however, that reasonable conservative critics of federal environmental regulation recognize the realities of human behavior, acknowledge the disincentives fostered by our current economic system for environmental protection,<sup>170</sup> and do not trust individuals or corporations to *always* make the right environmental choices when subject solely to market incentives, voluntary approaches, or unconstrained liberty. Within this context, federal versus state and local control is a threshold conservative principle to contend with, and other principles, such as valuing markets over prescriptive regulation, staunch support for property rights, or aversion to high tax rates, are subsidiary to the threshold question of which level of government should set environmental policy.<sup>171</sup>

Professor Thompson has described five strands of conservative philosophy that play a role in conservative environmental policymaking.<sup>172</sup> These include: libertarians who seek freedom from

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168. Thompson, *supra* note 17, at 312.

169. Other critics may simply believe that if state and local governments are the locus, then there is a strong likelihood that there will be less environmental regulation overall. *See, e.g., HUDSON, supra* note 53, at 73–74.

170. Blake Hudson, *Realigning Metrics of Economic Well-Being in Residential and Commercial Development Through Sustainable Land Use Planning*, 54 WASHBURN L.J. 575, 576 (2015).

171. Even within the debate over which level of government should set environmental policy, Richard Lazarus's observation rings true that many stakeholder arguments are not internally consistent, as "sometimes it is environmentalists who are the champions of 'states' rights,' 'federal supremacy,' 'judicial activism,' or 'judicial restraint,' while sometimes it is the regulated community." Richard J. Lazarus, *The Greening of America and the Graying of United States Environmental Law: Reflections on Environmental Law's First Three Decades in the United States*, 20 VA. ENVTL. L.J. 75, 97 (2001). This is why in some ways the structural debates are truly "secondary to broader issues relating to environmental protection law." *Id.* Lazarus continues:

After a while, it is hard to believe that either side of the environmental debate retains any core concerns on any of these broader structural issues. They instead possess only a short term concern stemming from how the resolution of any one of these issues may affect their interests in an isolated setting. In the environmental law context, therefore, debates regarding these structural issues tend mostly to mask rather than reveal the parties' true policymaking concerns.

*Id.* Lazarus's analysis provides important cautionary advice not to oversimplify descriptions of modern policy debates or the positions of supposed conservatives or liberals on environmental issues.

172. Thompson, *supra* note 17, at 312.

government interference, freedom from pollution and other forms of nonconsensual harm, and in particular freedom from actions that clearly harm human health or property;<sup>173</sup> economic conservatives (“Pareto Optimists”) who support policies that maximize the overall economic welfare of society, even if it means the implementation of prescriptive and stringent environmental protections;<sup>174</sup> Jeffersonian conservatives who prefer environmental policymaking at the state and local rather than federal level, and are less concerned with the substance of environmental policies;<sup>175</sup> Hamiltonian conservatives who seek greater national authority and the expansion of economic markets, and who are likely to resist environmental policies that interfere with economic growth;<sup>176</sup> and, finally, Burkean conservatives who insist upon sound scientific support for environmental regulation and who, while disliking dramatic shifts toward stringent environmental policies, are also concerned about obligations to future generations and their ability to access sustainable resources.<sup>177</sup> The strands that Professor Thompson details provide a useful means of categorizing conservative views on environmental policymaking, though it tells us nothing about what proportion of the entire conservative political spectrum is constituted by each strand. Indeed, under each strand arise several general principles that I argue are valued by a majority of conservatives. These principles may fall under one or multiple of Professor Thompson’s strands and each may be more or less valued by certain strands of conservatism. While the groups Professor Thompson describes “do not subscribe to a uniform philosophical creed”<sup>178</sup> on environmental policymaking, the below principles assist in assessing what types of environmental policies are *generally* preferable to conservatives. The following are the general preferences of American conservatives<sup>179</sup> most relevant to environmental policymaking:

- 1) State and local policy making over federal policy making;
- 2) Smaller government over larger government;

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173. *Id.* at 314–15.

174. *Id.* at 317.

175. *Id.* at 319.

176. *Id.* at 320.

177. *Id.* at 322.

178. *Id.* at 312.

179. American conservatism has been distinguished from traditional conservative philosophy in important ways. *See, e.g.*, GREGORY L. SCHNEIDER, *THE CONSERVATIVE CENTURY* xi–xii (2009).

- 3) Lower taxes over higher taxes;
- 4) Clear rules over regulatory discretion;
- 5) Conservation for the utility it provides to humans over conservation for its own sake;<sup>180</sup>
- 6) Legislative process over executive process;
- 7) Markets over regulatory prescriptions (including establishing property rights in resources that incentivize conservation);
- 8) Compensation for restraints on property rights over the provision of uncompensated public benefits through property rights restrictions; and
- 9) Cost-benefit analysis over precautionary rulemaking.

Section III.B below argues that the geographic delineations described in this Article are clearly consistent with conservative principles one through six; are more consistent with principle seven than is typically assumed; and, while some conceptions of conservatism are at odds with principles eight and nine, those conceptions have deviated from what arguably should be the conservative position. Before turning to that analysis, however, Section III.A details how certain institutional and political impediments have caused conservatives to overlook geographic delineations at the state and local level as policies consistent with their political philosophy.

#### A. *Impediments*

The impediments to conservatives supporting geographic delineations as a path for environmental regulatory reform have institutional and political dimensions that, of course, are interrelated in important ways. These impediments include federalism and prevailing legal conceptions of private property rights. This Article does not detail each of these impediments in great detail, as they are thoroughly discussed elsewhere. Even so, it is important to provide context for the primary roadblocks that contribute to conservatives' failure to get behind these policies.

Also keep in mind that this Article is focused primarily on the administrability of environmental policies and the relative advantages that line-based policies provide over the current canon of federal environmental law. This is a purposefully narrow focus, and leaves out a thorough assessment of the political feasibility of enacting these

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180. Conservatives may tend to adopt an anthropocentric view of conservation over a biocentric view. RASBAND ET AL., *supra* note 12, at 12–13, 16 (defining an anthropocentric viewpoint as one that is “human-centered”).

policies—in fact the Article is attempting to lay a foundation of argumentation that would assist in making these policies more politically palpable. To thoroughly assess the political question would distract from the force of the thesis, which is to understand the degree to which geographic delineations provide a more administrable body of environmental law. While it is preferable, then, to strip away the messy politics, elements of politics are nonetheless relevant and so will be discussed in a narrow context below.

### 1. Property Theory and Regulatory Takings Doctrine

The first impediment to using geographic delineations in environmental policy making is grounded in long-standing notions of American property law. American property law has been influenced by the labor theory of property perhaps more than any other theory. The labor theory effectively justifies property ownership by awarding property rights to members of society that cultivate or make economically productive use of land.<sup>181</sup> Recall homesteading acts early in the nation's history.<sup>182</sup> The labor theory even justifies taking away a property interest if an owner does not utilize resources, as in the case of prior-appropriation property regimes for water in the west<sup>183</sup> or adverse possession laws.<sup>184</sup> So the idea of limiting development or cultivation of land outside certain boundaries is antithetical to this theory.

We even see evidence of labor theory's influence in the implementation of canonical federal environmental laws. The most contentious federal environmental laws are those most closely related to restrictions on land development. I recently queried<sup>185</sup> an environmentally conscientious executive at Southwestern Energy Company—a “company primarily engaged in natural gas and crude oil exploration, development, and production”<sup>186</sup>—about the environmental laws he found most difficult to deal with and that he wished would be reformed. I expected his answer to be the CAA, the § 402 NPDES permitting program under the CWA, and other similar federal environmental laws, because of their sheer size, complexity, cost (of technological investments and otherwise), and the avenues they create for federal involvement in private operations. To my surprise, he answered that the ESA and § 404 of the CWA were the federal environmental regulatory provisions that frustrated his company the most. The reason is

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181. PAUL GOLDSTEIN & BARTON H. THOMPSON, JR., PROPERTY LAW 22–23 (2006).

182. *Id.* at 35–37.

183. *Id.* at 249.

184. *Id.* at 108.

185. Interview with Mark Boling, Sw. Energy, in Baton Rouge, La. (Jan. 28, 2015).

186. *Who We Are*, SW. ENERGY CORP., <https://www.swn.com/aboutswn/pages/ourprofile.aspx> (last visited Nov. 14, 2016).



that those statutes were the most likely to create an outright prohibition on the development of land—therefore interfering with the siting of energy facilities or exploration activities. Technological requirements under the CAA and CWA and the sheer costs of implementing those statutes are, in theory, always manageable by industry. With sufficient investment, technologies will be available, and presumably these companies will always have a profit margin from which they can monetarily meet their compliance obligations under the statute. The land base is an entirely different matter, as land is a finite resource. Society cannot create more land, and development activities presumably must take place somewhere. So restricting the use of a finite resource like the land base, which is potentially subject to many competing uses (including conservation for environmental purposes), is a highly contentious affair.<sup>187</sup>

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187. William Pedersen sums this phenomenon up best, noting that:

[L]and use planning, unlike industrial pollution control, generally requires case-by-case accommodation of sharply conflicting interests. Since federal government regulation is particularly bad at resolving such problems, land use control challenges it at a weak point.

. . . Reducing pollution from products and factories generally is not rival to continued industrial activity. Technological innovation, over time, can reduce almost to insignificance the conflict between production and pollution. For that reason, despite its substantial expense, compliance with the past generation of environmental rules has not required any fundamental choices among social values or significant changes in consumption patterns or life style. . . . The limited impact of such non-rival decisions makes the inefficiencies of traditional regulation and its inattention to the interests of the regulated entity easier to accept.

. . .

Land use control is far more inherently rival than traditional process and product regulation. Technical advances are more likely to create an automobile that combines mobility with no pollution than to create a housing development or a shopping center that also serves as a wildlife sanctuary, or that preserves intact the current state of a neighboring stream. The potential impact of land preservation requirements on the autonomy of a landowner who might lose the ability to control his property is clear. But the potential impact on the autonomy of state and local governments that might lose their ability to plan property use within their borders could be equally substantial.

Moreover, the claims of landowners and state and local governments to have their interests considered when such rival choices contradict their preferences are more deeply rooted in our legal and political system than the autonomy claims of industrial operations. These autonomy interests enjoy both strong political support and at least some constitutional protection and thus are hard to overcome through legislative or regulatory action.

Obviously, the tale of Southwestern Energy is anecdotal. But it does demonstrate how, despite the complexity of federal statutory law, the simpler, straightforward, readily administrable, and efficient environmental response of geographic delineations faces an uphill battle against both the political notion that development of land is an inherent right of property ownership and the actual reality that there is only a finite amount of land available. One of the ways this plays out is in the administration of federal statutes. For example, the finiteness of the land base creates problems for critical habitat designation under the ESA.<sup>188</sup> Once a species is listed under the ESA, the agency is required to designate critical habitat within one year.<sup>189</sup> However, as of 2008 only one in four species had received critical habitat designations<sup>190</sup> and that number remains at less than fifty percent today.<sup>191</sup> This is unsurprising since cost-benefit analysis works its way into decisions about whether to list critical habitat for a species,<sup>192</sup> and the costs of forgoing development over the short-term will frequently outweigh perceived short-term or long-term benefits of preserving species habitat. Most importantly, however, critical habitat designation is likely to prevent development activities of swaths of private land where species may not even be present but merely *could* be present.<sup>193</sup> Leaving private land in a natural state, while beneficial ecologically, is antithetical to the labor theory of property ownership that forms the basis of modern conceptions of property.

The list of policies needed but nonexistent because of land-use conflict goes on. Nonpoint-source water pollution is not controlled under the CWA largely because of concerns over limiting the development of land, and isolated wetlands are not covered under the CWA for the same reason. Nor is there federal regulation of private forest management, in large part because it would restrict the use of land. The list could go on, but ultimately, federal law has either eschewed the use of geographic delineations or, where it has used them, those boundaries are the source of some of the most contentious conflicts over federal environmental law.

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William F. Pedersen, *Using Federal Environmental Regulations to Bargain for Private Land Use Control*, 21 YALE J. ON REG. 1, 24–27 (2004) (footnotes omitted).

188. 16 U.S.C. §§ 1531–44 (2012).

189. *Questions & Answers on Eulachon Critical Habitat*, NOAA FISHERIES, [http://www.westcoast.fisheries.noaa.gov/protected\\_species/eulachon/questions\\_answers\\_on\\_eulachon\\_critical\\_habitat.html](http://www.westcoast.fisheries.noaa.gov/protected_species/eulachon/questions_answers_on_eulachon_critical_habitat.html) (last visited Nov. 14, 2016).

190. RASBAND ET AL., *supra* note 12, at 363.

191. *Listing and Critical Habitat, Critical Habitat, Frequently Asked Questions*, U.S. FISH & WILDLIFE SERV., <http://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html> (last updated Jan. 12, 2015).

192. RASBAND ET AL., *supra* note 12, at 363.

193. *See* Markle Interests, L.L.C. v. U.S. Fish & Wildlife Serv., 827 F.3d 452, 458, 464 (5th Cir. 2016).

At the state and local level, a handful of states and some local governments have struck a balance in favor of protecting ecosystems notwithstanding property rights concerns.<sup>194</sup> But this has not occurred on a level anywhere near approaching holistic national policy, even though ecosystems invariably stretch across geopolitical boundaries.

The labor theory of property drives the jurisprudential development of legal concepts like the regulatory takings doctrine. The Fifth Amendment of the U.S. Constitution states that “nor shall private property be taken for public use, without just compensation.”<sup>195</sup> Regulatory takings doctrine as developed through the years has come to effectively equate a regulation restricting the development of land beyond a certain threshold with the physical appropriation of that land.<sup>196</sup> This accounting has been criticized by constitutional scholars like Professor William Treanor<sup>197</sup> and property theorists like Professor Peter Gerhart, who argue that regulations only give rise to takings when they restrict the ability of a property owner to exclude others from a property.<sup>198</sup>

What is lost in the predominant views of property theory and regulatory takings is that sometimes the most productive use of land for society as a whole (regardless of an individual’s short term interest) is to leave it in its natural state. This is the foundation for the concept of ecosystem services.<sup>199</sup> Professor Gerhart’s theory of property more closely accounts for conservative principles of efficiency in the use of the land base and associated resources and the duties that we owe to each other and to future generations. His theory posits that property owners have a moral obligation to be “other regarding” in their management of resources on their property.<sup>200</sup> Positive law therefore may be enacted to restrict uses of property that are not other-regarding—even without the

194. *E.g.*, TIMOTHY BEATLEY & KRISTY MANNING, *THE ECOLOGY OF PLACE* 41–43 (1997); GENE BUNNELL, *MAKING PLACES SPECIAL* 72–74 (2002); *CITIES AND NATURE* 111 (Roger L. Kemp ed., 2006); TOM SCHUELER, *SITE PLANNING FOR URBAN STREAM PROTECTION* 147–48 (1995); Craig Anthony Arnold, *For the Sake of Water: Land Conservation and Watershed Protection*, 14 *SUSTAIN* 16, 24–25 (2006); John R. Nolon, *In Praise of Parochialism: The Advent of Local Environmental Law*, 26 *HARV. ENVTL. L. REV.* 365, 382 (2002).

195. U.S. CONST. amend. V.

196. PETER M. GERHART, *PROPERTY LAW AND SOCIAL MORALITY* 262–65 (2014).

197. William Michael Treanor, *The Original Understanding of the Takings Clause* (Georgetown Env'tl. Law & Policy Inst., Paper No. 2, 2010), [http://scholarship.law.georgetown.edu/gelpi\\_papers/2/](http://scholarship.law.georgetown.edu/gelpi_papers/2/).

198. GERHART, *supra* note 196, at 261–62.

199. James Salzman, *Integrating Ecosystem Services into Environmental Law*, in *MANAGING HUMAN-DOMINATED ECOSYSTEMS* 77–78 (Victoria C. Hollowell ed., 2001); James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 *STAN. ENVTL. L.J.* 309, 310–11 (2001); James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 *N.Y.U. L. REV.* 870, 872 (2005); James Salzman, *A Field of Green? The Past and Future of Ecosystem Services*, 21 *J. LAND USE & ENVTL. L.* 133, 133–34 (2006).

200. GERHART, *supra* note 196, at 28.

payment of compensation to individually affected owners. This is the foundation for numerous restrictions on the use of property that are relatively non-controversial, arising out of both nuisance law and zoning regulations implemented at the state and local level—that there are some uses of property that are harmful to other property owners and the broader public. These uses were never part of the property owners’ bundle of rights to begin with, and therefore they may be restricted without giving rise to takings liability.

The reality of the interest of other private property owners and the public in any one private property owner’s resources is becoming clear, as recognition of the need to preserve ecosystem services for the broader public increases. Even forests anchored to individual properties no longer provide benefit to only the property owner. They regulate water quality, air quality, and provide many other ecosystem services of value to society—not the least of which is climate regulation. Thus, the aggregated cutting of trees on individual properties in the United States can have impacts on sea levels on the other side of the globe. Preservation of a stable society—one that flourishes within a stable environment—should be a core principle of conservative thought, as should preserving option values for the future. This, of course, sounds in the Burkean strand of conservative philosophy. What is more conservative than preserving our options going forward, rather than locking society into an uncertain fate through the waste of resources? Conservation and conservative, after all, share the same root word. Social conservatives argue for the consideration of future generations in many social debates, such as abortion, so how much more so should they care about future generations impacted by today’s resource use? These generations will depend on those resources for their well-being and their ability to engage in stable and productive economic systems on other portions of the land base. Is leaving them with fewer and more degraded resources to maintain their standard of living a conservative stance? Or is holding those resources hostage by demanding that society pay for their nonuse a conservative principle?

While popular modern theories of property and the regulatory takings doctrine may be buttressed by Blackstonian notions that private property is an absolute right,<sup>201</sup> we must remember that Blackstone also said:

[T]here are some few things, which, notwithstanding the general introduction and continuance of property, must still unavoidably remain in common . . . .<sup>202</sup>

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201. 1 WILLIAM BLACKSTONE, COMMENTARIES \*138.

202. 2 WILLIAM BLACKSTONE, COMMENTARIES \*14.

[I]t follows from the very end and constitution of society, that this natural right, as well as many others belonging to man as an individual, may be restrained by positive laws enacted for reasons of state, or for the supposed benefit of the community.<sup>203</sup>

Geographic delineations at the local level are a manifestation of such restraints.

Nonetheless, in some circles being “conservative” has morphed into merely “conserving one’s personal financial resources,” thus the regulatory takings emphasis on being compensated for significant reductions in the value of land used as an investment vehicle. That is a myopic view, but is very much present in modern environmental policy debates. Consider the attitudes of private property owners when faced with development restricting regulations,<sup>204</sup> or the complicity of state and local governments in attempting to capture short-term economic gains, despite long-term human and economic costs, because they fail to engage in more responsible, environmentally conscious land-use planning. For example, Bay St. Louis, Mississippi officials recently sought to remove markers along the interstate denoting the high-water flood mark reached during Hurricane Katrina.<sup>205</sup> The extent of Katrina’s destruction was due in large part to urban and agricultural development of floodplains that destroyed natural wetland buffer systems. The floodwaters from Katrina were so high in Bay St. Louis that they reached the elevated span where Interstate 10 crossed over another highway.<sup>206</sup> Even so, a Bay St. Louis councilmember believed that “the markers are detrimental to attracting businesses that might want to relocate [in the area], especially on undeveloped property around the interstate.”<sup>207</sup> In fact, “[s]ome city leaders envision the interstate property as a magnet that will pull in restaurants, motels, and big-box retailers.”<sup>208</sup> This is nothing if not a shortsighted concern over capturing short-term economic benefits and economic return from individual property ownership at the expense of long-term environmental and economic well-being. Even though these commercial establishments may very well be underwater during the next

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203. *Id.* at \*411.

204. *Lucas v. South Carolina Coastal Council*, DUKE L., <http://web.law.duke.edu/voices/lucas> (click on link to “Party Narrative” video) (last visited Nov. 14, 2016).

205. The Associated Press, *Bay St. Louis Officials Oppose Hurricane Katrina High-Water Markers on Highway*, NOLA.COM (July 23, 2011, 9:00 PM), [http://www.nola.com/katrina/index.ssf/2011/07/bay\\_st\\_louis\\_officials\\_oppose.html](http://www.nola.com/katrina/index.ssf/2011/07/bay_st_louis_officials_oppose.html).

206. *Id.*

207. *Id.*

208. *Id.*

major hurricane, and will be calling for federal government financial assistance and disaster relief, as a political matter local government officials and economic-development interests want to keep that information hidden from passersby.

This is a political dimension of the property theory impediment that exacerbates and impedes the use of geographic delineations to achieve many other goals that are in the wheelhouse of conservative thought. As Professor Tony Arnold has argued, the “super-dominance of private control of land” makes government regulation like that proposed in this Article difficult.<sup>209</sup> Professor Arnold attributes this to “the set of legal constraints on land use regulatory powers to protect private property rights,” the “[p]rivate property norms [that] serve as political, cultural, and even psychological constraints on decision makers from exercising strong government control over privately owned lands,” and the “dependence on private landowners for land uses and land use patterns, even if government regulation can effectively constrain or prohibit certain uses.”<sup>210</sup> Given that many of the most stringent forms of land-use regulation using geographic delineations are in regions of the country more closely identifying with liberal ideology,<sup>211</sup> it seems that the political, cultural, and psychological constraints on political action that would limit land uses are stronger in conservative circles. Nonetheless, conservatives would do well to reject the conventional wisdom that private property rights are virtually unassailable without payment from society and that individuals are on net better off economically by not maintaining line-based land-use restrictions. Given the high economic costs of degraded ecosystems, the expanding federal regulatory bureaucracy aimed at checking that degradation, and the reduced wealth of future generations if that degradation is not checked,<sup>212</sup> many conservatives seem to be grasping at conventional wisdom that does not match the foundations of conservative ideology.

## 2. Federalism

We ignore at our peril the task of integrating our efforts to manage land use and natural resources comprehensively,

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209. Craig Anthony Arnold, *The Structure of the Land Use Regulatory System in the United States*, 22 J. LAND USE & ENVTL. L. 441, 488 (2007).

210. *Id.* at 488–89.

211. It can be found in cities such as Eugene, Oregon, and Seattle, Washington, for example.

212. Studies have demonstrated that when the costs associated with the loss of natural resources are actually taken into account, nations may sacrifice up to half of their future income to achieve current rates of economic growth. DAVID HUNTER ET AL., *INTERNATIONAL ENVIRONMENTAL LAW AND POLICY* 132–33 (4th ed. 2011).

since reform at any given level should not be ignorant of its effect on the whole.<sup>213</sup>

Federalism is another impediment to the adoption of geographic delineations at the state and local level, again for both institutional and political reasons. Land-use regulation of the kind required for line drawing has long been considered a state and local government regulatory role. Consider, for example, jurisprudence reserving subnational forest regulation and protection to state and local governments, placing it in a subcategory of direct land-use regulation generally.<sup>214</sup> As a result, U.S. forest policy is dominated by strong notions that state and local governments maintain exclusive constitutional authority to regulate land use generally, and subnational forests specifically, through their zoning and other police powers.<sup>215</sup> States and other subnational units have vehemently argued against federal intrusion into private forest management on this basis.<sup>216</sup> The recent Supreme Court case *Decker v. Northwest Environmental Defense Center*,<sup>217</sup> for example, involved a dispute over whether private foresters were required to receive a national Pollutant Discharge Elimination System (NPDES) permit under the CWA for stormwater discharged from ditches along logging roads.<sup>218</sup> In an amici brief, the National Governors Association, National Association of Counties, National Conference of State Legislatures, International City/County Management Association, and Council of State Governments argued that the requirement was unlawful because, in part, forest management activities were “traditionally regulated by state and local governments under their own laws.”<sup>219</sup> More significantly, the

213. Nolon, *supra* note 143, at 925.

214. Gerald A. Rose et al., *Forest Resources Decision-Making in the US*, in *THE POLITICS OF DECENTRALIZATION* 238, 238–39 (Carol J. Pierce Colfer & Doris Capistrano eds., 2005); JAN G. LAITOS & SANDRA B. ZELLMER, *NATURAL RESOURCES LAW* 265–66 (2015).

215. See Blake Hudson & Jonathan Rosenbloom, *Uncommon Approaches to Commons Problems: Nested Governance Commons and Climate Change*, 64 *HASTINGS L.J.* 1273, 1289–90 (2013).

216. See Blake Hudson, *Climate Change, Forests, and Federalism: Seeing the Treaty for the Trees*, 82 *U. COLO. L. REV.* 363, 365 (2011) (“Though private forest management regulation, and land use regulation generally, have long been the purview of state and local regulatory authority in the United States, federal and international regulatory bodies have taken a growing interest in forest management decisions . . . .” (footnote omitted)).

217. 133 S. Ct. 1326 (2013).

218. See *id.* at 1330–31.

219. Brief for the National Governors Association et al. as Amici Curiae Supporting Petitioners at 15, *Decker v. Nw. Env'tl. Def. Ctr.*, 133 S. Ct. 1326 (2013) (No. 11-338). The amici argued:

If an agency interprets a statute as authorizing federal intrusion into areas traditionally regulated by state and local governments, such as water use and land

coalition noted that “[the U.S. Supreme] Court has held that the Constitution’s Commerce Clause, U.S. Const. art. I, § 8, cl.3, limits Congress’ power to enact laws that ‘effectually obliterate the distinction between what is national and what is local.’”<sup>220</sup> Though the *Decker* case involved the regulation of activities indirectly related to forest management (water runoff) under a federal statute (the CWA) that regulated another resource (water), it demonstrates just how jealously state and local governments guard certain regulatory subject matter based upon constitutional notions.<sup>221</sup> Despite states guarding the “quintessential state and local power”<sup>222</sup> to regulate land use, as a political matter most have chosen not to act on many needed policies related to forests. They have not, for example, taken steps to curb the urban sprawl projected to reduce southern forests by 13% in coming decades.<sup>223</sup> In this way federalism poses a complication—states remain reluctant to use more robust geographic-delineation policies and the federal government, at least according to some, may maintain little to no legal authority to require them do so (or to set such standards itself).

Nonpoint-source water pollution provides yet another example. The vast majority of state and local governments refuse to address nonpoint-source water pollution through meaningful land-use regulation, while the federal CWA exempts nonpoint-source pollution from its mandates.<sup>224</sup> Thus federalism inhibits the ability of states to coordinate the use of resources, such as the Mississippi watershed. Nutrient pollution, primarily from agricultural operations in the collection of states upstream, has a disparate impact on states downstream.<sup>225</sup> This affects the ability of states like Louisiana to utilize policies aimed at restoring wetlands or otherwise ameliorating subsidence contributing to the rapid loss of coastal lands in the state. River diversions that some policymakers argue

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use, countervailing principles of federalism come into play that limit deference to the agency’s interpretation. Under these principles of federalism, Congress presumptively does not authorize federal intrusion into areas traditionally regulated by state and local governments unless it speaks clearly and unequivocally.

*Id.* at 16–17.

220. *Id.* at 17 (quoting *United States v. Lopez*, 514 U.S. 549, 557 (1995)).

221. See *Decker*, 133 S. Ct. at 1333 (noting that the lawsuit challenged the federal CWA permitting for stormwater discharged during timber extraction).

222. *Rapanos v. United States*, 547 U.S. 715, 738 (2006).

223. WEAR & GREIS, *supra* note 69, at 31, 35.

224. Jan G. Laitos & Heidi Ruckriegle, *The Clean Water Act and the Challenge of Agricultural Pollution*, 37 VT. L. REV. 1033, 1035 (2013).

225. See J. Volk, *The Impacts of Nitrogen and Phosphorus from Agriculture on Delaware’s Water Quality*, U. DEL. (July 2013), <http://extension.udel.edu/factsheets/the-impacts-of-nitrogen-and-phosphorus-from-agriculture-on-delawares-water-quality/>.



could be utilized to rebuild sediment and associated wetlands in areas long cut off from the Mississippi River by levees are taking too many nutrients into those lands and doing more harm than good, actually causing wetlands to disappear more quickly.<sup>226</sup> The dead zones in the Gulf and the Chesapeake Bay have dramatic impacts on fisheries, as do the algal blooms overrunning Florida's waterways. The list of problems associated with each level of government in the U.S. federal system abdicating responsibility for nonpoint-source water pollution—both the federal CWA and state and local land-use managers—could go on. And there are other specific examples beyond private forests and nonpoint-source water pollution.

To further demonstrate the difficulty federalism poses to the holistic use of growth boundaries in federal systems, consider that the United States has around 89,000 subnational governments, but merely hundreds of growth boundaries.<sup>227</sup> There are many political reasons for this dearth of growth-boundary use, but there are also institutional reasons. Even if it is not clear that the federal government is constitutionally constrained in regulating land use, the perception that it is constrained shapes political action in the area.<sup>228</sup> Contrast land-use decision-making in the United States with that in Norway, which has strictly controlled land-use planning with ultimate authority resting in the national government.<sup>229</sup> Norway is a unitary system and has more flexibility, from a legal perspective, in arranging the affairs of its political subdivisions.<sup>230</sup> It has also moved away from a model of urban sprawl, at least of the sort found in the United States.<sup>231</sup>

While some local governments may be reluctant to use growth-boundary and other land-use policies, others may be impeded by state government preemption—another wrinkle arising out of federalism.<sup>232</sup> However, because the states are the locus of regulatory authority over land use, from an environmental-outcome perspective, states should not

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226. See Bob Marshall, *New Research Indicates Mississippi River Diversions Could Harm Marshland*, LENS (Apr. 10, 2013, 4:07 PM), <http://thelensnola.org/2013/04/10/new-research-indicates-mississippi-river-diversions-could-harm-marshland/>.

227. GOLDSTEIN & THOMPSON, *supra* note 181, at 1048.

228. Blake Hudson, *Dynamic Forest Federalism*, 71 WASH. & LEE L. REV. 1643, 1696–98 (2014).

229. ERWIN HEPPERLE ET AL., CORE-THEMES OF LAND USE POLITICS 168, 183 (2011).

230. *Id.* at 168 (stating that in Norway “planning control more frequently relies on objections, direct intervention by higher-level authorities, and direct central government involvement in order to align local plans with regional and national policies and priorities”).

231. Thomas Kalbro & August E. Røsnes, *Public Planning Monopoly – or Not?*, in LAND MANAGEMENT 49, 49–56 (Erwin Hepperle et al. eds., 2012); Petter Næss et al., *Oslo’s Farewell to Urban Sprawl*, 19 EUR. PLAN. STUD. 113, 121–22, 130 (2011).

232. Hudson & Rosenbloom, *supra* note 215, at 1308–12.

only allow local governments to curb urban sprawl but should actually mandate sprawl controls. Many of the growth boundaries that do exist are aimed only at controlling how growth ultimately and inevitably occurs, not where it occurs or if it should occur at all in certain areas.<sup>233</sup> While this type of policy is important for planning purposes, it is not enough to create environmentally sustainable human developments.

Overcoming the complications federalism poses for state and local geographic-delineation policies is necessary to achieve meaningful environmental regulatory reform. In fact, the governance advantages federalism provides must be harnessed to establish such policies. One of the justifications for federal environmental law is that the states do not maintain the individual administrative capacity or economies of scale to fund and implement complex programs aimed at, for example, curbing air and water pollution with interjurisdictional impacts. Geographic delineations through land-use law render that administrative capacity unnecessary at the state and local scale. Indeed, any successful environmental reform efforts must balance the relative advantages provided by local, state, and federal governance. As Professor Nolon has argued, “local governments must take the lead role in securing good land use, state governments must establish the ground rules on matters that affect more than one locality, and federal policies and actions must be better coordinated to properly influence the direction and pace of development.”<sup>234</sup> Key in this equation, of course, are state governments establishing ground rules for extraterritorial impacts. Currently there are very few ground rules in a majority of states. As Professor Sara Bronin argues, “[l]ocalities revise zoning and design control laws sporadically, and are not typically required to do so by the state enabling acts from which their powers are derived.”<sup>235</sup>

Professor Bronin aptly interprets the 1971 work of Professors Fred Bosselman and David Callies, *Quiet Revolution in Land Use Control*, as an argument for states to establish stronger ground rules in the environmental context.<sup>236</sup> In other words, even though local governments have historically controlled land use—borrowing state authority over land use since local governments are not recognized as legal entities

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233. See, e.g., Patricia Mazzei, *Miami-Dade Commissioners Expand Urban Development Boundary*, MIAMI HERALD (Oct. 2, 2013, 7:04 PM), <http://www.miamiherald.com/2013/10/02/3666008/miami-dade-commissioners-expand.html>; *Tennessee Growth Policy*, TENN. ADVISORY COMMISSION ON INTERGOVERNMENTAL REL., <https://www.tn.gov/tacir/section/tacir-growth-policy> (last visited Nov. 14, 2016).

234. Nolon, *supra* note 143, at 926.

235. Sara C. Bronin, *The Quiet Revolution Revived: Sustainable Design, Land Use Regulation, and the States*, 93 MINN. L. REV. 231, 257 (2008).

236. *Id.* at 231 & n.1.

under the Constitution—in the environmental context this authority should shift back to the states for “extralocal” issues like environmental protection. Despite Professors Bosselman and Callies’s advocacy, however, since the time of The Quiet Revolution local governments have actually expanded their control over such decisions.<sup>237</sup> So while Professors Bosselman and Callies touted local autonomy nudged by state guidance, it seems the former has gotten the upper hand.

Professor Bronin argues that we need a quiet revolution in how development occurs, to move toward green building and away from the externalities created by conventional construction. This Article argues that we also need a quiet revolution (or perhaps not-so-quiet revolution) in *where* development occurs. It is time that the states provide some very basic mandates to local governments to preserve the land base itself and associated natural resources. These mandates would be that local governments must use lines to achieve a certain degree of protection—there would still be autonomy and control at the local level about where to put the lines and how development proceeds on the correct side of the line. Allowing the environment to continue to degrade on the weak basis of historical inertia and notions of local autonomy, as some scholars have argued,<sup>238</sup> is simply unacceptable.

Professor Arnold has argued that the land-use regulatory system is not capable of adequately balancing land uses in a way that protects environmental resources and ecosystem services.<sup>239</sup> Professor Arnold argues that this is primarily because the land-use regulatory system was created to be a “mediating system”—one that “serves to facilitate relationships among the participants in the system and/or among institutions, forces, and processes in society”—and was not intended to be a “protective system”—one that “functions primarily to protect particular groups of people or particular resources.”<sup>240</sup> But in the U.S. federal system, the state holds the keys to the land-use kingdom, so to speak, and does have the ability to make the system more protective. There is a good argument that a mediating system should only mediate

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237. *Id.* at 232 & n.5.

238. *See* Bronin, *supra* note 235, at 235–36.

239. Arnold, *supra* note 209, at 513 (“In several respects, the land use regulatory system will not and cannot meet the demands for land uses to account for and protect ecosystem services. First, the land use regulatory system is not an ecosystem protection system at its core. As a mediating system, it does not have the capacity to form the values that people place on ecosystem services in the manner that a constitutive system would, to allocate the benefits and costs of ecosystem services in the manner that a distributive system would, or to protect ecosystem services in the manner that a protective system would. Moreover, the land use regulatory system is structured to mediate all the points of connection between human communities and the physical environment, not just relationships between humans and ecosystems. Therefore, ecosystem services will only be a part of any considerations about land-use proposals, goals, and wants.”).

240. *Id.* at 460–61.

societal relationships and interests after *first* ensuring that society functions within a healthy environment. In this way, environmental protection is a prerequisite to the mediating role of land-use law in society.

The next section briefly details several conservative principles and how they support environmental regulatory reform based upon more stringent land-use controls at the local level. Notwithstanding the property rights and federalism complications discussed in this section, these policies can get the most people—from conservatives to liberal environmentalists—what they mostly want—environmental protection at lower expenditure of human, temporal, and economic capital.

### B. *Conservative Principles and Geographic Delineations*

This Article calls for environmental regulatory reform that better harnesses land-use policy to achieve environmental goals at lower cost and that also appeals to a segment of the political spectrum typically considered—rightly or wrongly—as resistant to environmental regulation. The relative administrability of such policies is simply greater than the status quo of expanded federal governance, at least in the areas where geographic delineations address environmental harms. Professor Dan Tarlock has argued that traditional forms of law, such as land-use law, did not become foundational “environmental law”—or part of the “canon,” as Professor Aagaard describes—because the common law bases for land-use law, such as nuisance, were defective and “largely designed to promote rational (at best) resource exploitation.”<sup>241</sup> The same may be said today for zoning and other mechanisms of land-use regulation, which focus more on ensuring that economic development takes place at the expense of natural capital than in protecting natural resources. Professor Tarlock argues that environmental regulatory regimes, on the other hand, were needed to address “systemic pollution” and “long term risks rather than immediate injuries.”<sup>242</sup> In this way, land-use law as a method for protecting the environment has largely been replaced by direct regulation at the state and federal levels because of the assumptive defects present at its origin. And indeed, given phenomena like race-to-the-bottom and economic-development competition among local governments, it seems that resource exploitation remains a primary objective of land-use planning.<sup>243</sup> But there is no reason—no non-political reason, anyway—why land-use law cannot become part of the canon, and indeed replace part of the canon, as a more effective means of managing the environment.

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241. A. Dan Tarlock, *Is There a There There in Environmental Law?*, 19 J. LAND USE & ENVTL. L. 213, 230 (2004).

242. *Id.*

243. See HUDSON, *supra* note 53, at ix.

It is true that land-use law has traditionally focused on short-term economic gains, making it hard to tackle long-term environmental risks. But using geographic delineations in land-use planning as a precautionary proxy can remedy that defect. While the policy tool itself is nothing new, advocates across the political spectrum should look for ways to convince policy makers of all political stripes to utilize such policies and remedy land use law's historic failure as a long-term management tool.

Professor Adler, a conservative critic of federal environmental law, notes that while conservatives have increasingly opposed the current structure of environmental law, they offer few alternatives for protecting the environment.<sup>244</sup> So here is an alternative plan: Be more stringent with land-use planning at the state and local level, and the need for federal intervention will be lessened. Because local governments are likely to be politically reluctant to take the lead, or institutionally constrained from doing so because of state preemption, it is up to states to lead a reform effort that moves toward geographic delineations as a precautionary proxy and that situates environmental protection predominantly at the state level, not the federal level. With few exceptions, states are currently racing to the bottom in the land-use planning context, even if passively, by allowing local governments to facilitate urban sprawl. But if conservative-leaning policy makers truly want to reduce federal bureaucracy and involvement in environmental affairs, it is in each state's best interest to race to the top regarding geographic-delineation policies.

The below subsections highlight nine general principles of conservatism and assess whether and how each is consistent with the use of geographic delineations as a means of environmental reform. The gains to be achieved and the means of achieving them are admittedly likely to be more appealing to Jeffersonian, Pareto-Optimist, and Burkean conservatives than to Libertarian or Hamiltonian conservatives,<sup>245</sup> though some of the ways in which geographic-delineation policies are consistent with the below principles would also appeal to the latter groups.

### 1. State and Local Policy Making Over Federal Policy Making

Geographic delineations exercised by state and local governments are most obviously consistent with this principle of conservatism. State and local governments already maintain clear constitutional authority to engage in this type of policy making, easing the institutional federalism impediment to the use of geographic delineations. Of course, the political federalism impediment is a more difficult problem. That is, how to ensure that fifty different state governments will implement geographic-delineation policies in the absence of a federal mandate. Crucial to having

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244. Adler, *supra* note 18, at 258.

245. See *supra* notes 172–77.

states do so will be the active participation of conservative policy makers. If conservatives who value this principle want to reduce the federal government's role in environmental policymaking, then state land-use planning reform is the most viable alternative path.

As has been noted numerous times, state and local governments have long maintained the regulatory tools necessary to achieve geographic-delineation policies, primarily through zoning. All that remains is forging the political will to do so. Conservative commentators should support geographic delineations as a legitimate means of environmental regulatory reform because they preserve the principle of state and local governance as the preferred locus of policymaking. To mitigate the drivers of environmental problems that lead to the increasing complexity of federal environmental law and increasing expenditures of taxpayer money under ever-expanding federal statutes, state and local governments will need to adopt these policies holistically and across virtually the entire scale of state and local governance. Conservative participation will be crucial to those efforts.

## 2. Smaller Government Over Larger Government

Geographic-delineation policies implemented by local governments (whether at the behest of the state or not) are administered by government regulators that are individually smaller in form, closer to the people whom they govern, and less self-perpetuating and administratively complex. Professor Adler notes that conservatives maintain a “goal of shrinking government while reducing environmental harms at the same time.”<sup>246</sup> While some may consider the prescriptive nature of policies and the restrictions they place on “individual freedom” as the metrics by which we should measure “large” versus “small” government, another perspective is that the democratic process manifests more readily through having smaller scale governments engage in policymaking within smaller regions. Smaller governments are more representative of the voting populous, whereas federal government policies may only have support of a slight majority of the country's citizens, such as when one party is ushered into control of Congress or the presidency.

It also may be that most people consider how burdensome the administration of a policy is when they think of “large” versus “small” government. Though achieving “economies of scale” is often used as justification for federal government policies, the aggregated capacities of local governments across the nation to all work toward implementing geographic-delineation policies captures enormous economies of scale in comparison to the vast economic and workforce costs of maintaining a federal government presence across the nation. Governments

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246. Adler, *supra* note 18, at 267.

implementing geographic delineations are “smaller” in the sense that the administrative complexities of the policies they implement are reduced, and fifty states requiring local governments to engage in such policymaking enlists the assistance of citizens in every locality to enforce the law.<sup>247</sup> While the federal government cannot conscript states to implement federal policy,<sup>248</sup> states can conscript local governments to implement state policy and thereby outsource, so to speak, administration of policies.<sup>249</sup>

If “large” government is measured, rather, by its intrusiveness into the behavior of regulated entities, then state and local geographic-delineation policies are also not as “large” as federal policies. Local governments would not be dictating which activities take place, only where they may take place. The rest is up to the parties operating under the regulatory regime, who may operate without continuing government intervention in the locations where they are allowed to operate—at least from a planning perspective. As noted before, developers must still comply with other regulatory regimes to which they may be subject.

Consider large versus small government in the species-protection context. Ultimately, a true small-government approach seeks to curb habitat destruction through geographic delineations that stop the drivers of species loss, without extracting taxpayer money or conditioning development activities on specific government dictates. A large government approach, on the other hand, would operate like the ESA—a large federal bureaucracy that extracts vast amounts of funds from the citizenry and maintains a large presence across the nation. The approach of the ESA also provides little certainty to property owners about whether they can develop certain lands, given that they may or may not have an endangered species on those lands now or in the future. If a species is discovered, the government performs an investigation, may engage in scientific study, may physically come onto private property, and ultimately may design numerous conditions and restrictions on what a property owner can and cannot do on the land. The administration of this latter policy is much larger, more involved, and more difficult to administer than geographic-delineation policies.

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247. To be clear, local governments may have tight budgets, be understaffed, have few skilled planners, and have planners whose political clout pales in comparison to local mayors or city council members. Even so, because this effort would need to arise out of state reform of enabling acts, the states can provide a more focused effort and assistance to overcome these impediments. The point here is that once the policies are put into place, utilizing the myriad of local governments across the country harnesses the implementation and enforcement capabilities of hundreds of thousands of individuals dispersed on the ground throughout the nation.

248. See *Printz v. United States*, 521 U.S. 898, 905, 907 (1997).

249. See *Hudson & Rosenbloom*, *supra* note 215, at 1306–12.

In contrast, a policy similar to the one attempted in King County, Washington, which required landowners to set aside 50–65% of their property for conservation in areas outside a certain boundary<sup>250</sup> provides one data point for property owners to take into account and for regulators to enforce: the appropriate percentage of land protected. Other than that, government involvement is small. Furthermore, the habitat protection proxy, if utilized in jurisdictions across the nation, would reduce taxpayer expenditures and other administrative costs under statutes like the ESA. To be clear, it is not that the federal ESA will or should be abandoned, as case-by-case situations are still likely to arise when a developer is operating in an area permitted by state or local law and yet may discover an endangered species on the property. Rather, federal intervention should be far less frequent if state and local governments are doing a better job of reducing habitat fragmentation through the aggregated efforts of local governments.

### 3. Lower Taxes Over Higher Taxes

Geographic delineations do not extract money directly from property owners or the general populous. An obvious response to this might be that the practical effect is the same when, for example, an urban growth boundary causes the value of property to drop from \$10,000 an acre to \$2,500 an acre, as was claimed by the landowner in the seminal zoning case *Village of Euclid v. Ambler Realty Co.*<sup>251</sup> This is a real cost to those property owners, no doubt. Yet property investments are speculative endeavors in the first instance. A holistic use of geographic delineations will provide certainty in the market from the point at which the geographic delineation is established and into the future, and the delineation becomes integrated into the investment-backed expectations of property owners as they transact in the market. Limiting speculative values not currently part of a property owner's cash flow is different entirely from extracting funds from their bank account to implement costly policies. Property owners know that when they purchase a property its value is likely to fluctuate for a myriad of reasons, whether due to market pressures, natural phenomena, or government regulation.

For example, the ever-expanding economic cost of implementing the ESA and the CWA far outweighs the direct expenditures required to use

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250. Thane D. Somerville, *King County, Washington Ordinance 15053: Is "The Most Restrictive Land-Use Law In The Nation" Constitutional?*, 36 ENVTL. L. 257, 259 (2006). The land clearance prohibitions were struck down by a state court for being in violation of a state law related to the assessment of taxes and fees on land development. See *Questions and Answers Regarding Court Rulings on King County's Clearing Limits in the Critical Areas Ordinance*, KING CTY., <http://www.kingcounty.gov/depts/permitting-environmental-review/codes/CAO/CourtRulingsQA.aspx> (last updated Mar. 8, 2016).

251. 272 U.S. 365, 384 (1926).



geographic delineations to holistically curb the symptoms those statutes seek to address. Placing a line across which one cannot engage in certain development activities does not tax individuals directly or require the extraction of funds to implement the program. This is fundamentally different than the operation of most major federal environmental statutes.

Geographic delineations also more fairly place the cost of avoiding harm on those most likely to be doing the harm. If Alabama maintains its poor land-use policies, which cause habitat fragmentation and cause the state to have more species on the federal endangered species list than almost any other state,<sup>252</sup> why should federal taxpayers in King County, Washington, have to foot the bill to address Alabama species' survival? King County may be doing its part to save Alabama taxpayer money under the federal statute by avoiding habitat fragmentation that leads to species listings. Put differently, why should King County subsidize Alabama with federal tax dollars rather than Alabama take responsibility for its own habitat fragmentation and species decline problems?

Additionally, to the extent that some may view geographic-delineation policies as a "tax" by not allowing property owners to extract development revenue from their investment, it is impossible to fully weigh the costs and benefits of development versus conservation of resources. Someone must pay this "tax" at some point in time, whether it is the property owner prohibited from developing today or society in the future attempting to rectify environmental problems because property owners were not prohibited from developing in the past. If the aggregated environmental harm of the future is a greater cost, then the lower "tax" on society would be to prevent the harmful development from occurring in the first instance. Society makes these cost-benefit decisions frequently in other contexts, declaring that some activities are off limits because of the harm that may result—despite the fact that individuals *could* generate revenue from the activities. In this way, calling geographic-delineation policies a "tax" may be like characterizing prohibitions on people selling their own body parts a "tax"—capitalizing on certain economic transactions does not outweigh the societal costs at stake.

#### 4. Clear, Simple Rules Over Complex Rules and Regulatory Discretion

Geographic delineations provide clear rules that create certainty for regulated entities. Lines also simplify the rules that regulated entities must follow—you can develop in this location, but you cannot develop in that location. You can develop up to X% of your property but not more. These clear lines and simple rules also create stability in the markets that

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252. Russell McLendon, *Which U.S. States Have the Most Endangered Species?* (Sept. 21, 2015, 11:50 AM), <http://www.mnn.com/earth-matters/wilderness-resources/blogs/which-us-states-have-the-most-endangered-species#ixzz3j8fLuMii>.

conservatives want to foster. Once a line is placed and it is clear what activities can take place on one side of the line relative to the other, the market can work without interference (except for compliance with other regulatory requirements, of course). Contrast these clear rules to the great degree of discretion afforded federal regulatory agencies in implementing often ambiguous statutory language. It is not just the complexity of rules that may give us concern, but also the expansion of rulemaking. One scholar has argued that “[r]ules beget more rules in a seemingly inevitable process of regulatory expansion,”<sup>253</sup> which then leads to “mindless rule worship.”<sup>254</sup>

In many ways, discretion, flexibility, and instability is preferred in land-use law because it creates the option to develop lands more readily and with little constraint. This, in the short term, seems to grow local economies, may make products and services cheaper (because greenfields are cheaper to develop than brownfields, for example), and may lead to greater job creation and local tax revenue. In short, by not using geographic-delineation policies for conservation, local governments establish a baseline where the right to develop any parcel or portion of a parcel is presumed. The problem is that too much flexibility contributes to environmental problems, the symptoms of which we end up treating through costly, expansive federal environmental law once habitat is fragmented, urban sprawl proceeds apace, and air and water quality are increasingly degraded. The aggregated effects of these incremental harms contribute to the complexity, administrative difficulty, and high costs associated with implementing the major federal environmental statutes.

Obviously, there remains a degree of flexibility in establishing geographic delineations. What was once an appropriate place to draw a boundary may no longer be so at some point in the future. And exceptions may be needed regarding particular projects of special interest to society. In this way, the land is not locked up forever. It is also important to remember that geographic delineations need not result in outright restrictions on all land development. A boundary policy may be as simple as setting aside 40% of the land as open space, requiring that no more than 50% of the tree cover be removed within thirty feet of a riparian watershed, or mandating that no more than 25% of the property is impervious surface cover. For these types of policies, flexibility is built into the creation of the geographic delineation. Once the boundary is set, however, it is a far clearer and simpler policy under which to operate than being subject to agency discretion in developing and implementing

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253. Daniel J. Fiorino, *Toward a New System of Environmental Regulation: The Case for an Industry Sector Approach*, 26 ENVTL. L. 457, 463 (1996).

254. Paul N. Cox, *An Interpretation and (Partial) Defense of Legal Formalism*, 36 IND. L. REV. 57, 74 (2003).

complex regulations that, in their own right, do not arise out of clear legislative directives or provide clear and simple mandates.

### 5. Conservation for the Utility it Provides to Humans Over Conservation for its Own Sake<sup>255</sup>

It is not clear that conservatives identifying with a conservationist mindset are merely utilitarian in their concern for the environment. But it does seem likely that conservatives for whom the environment is *not* at the forefront of their minds are more likely to be utilitarian in their view of why resources should be protected. The stereotypical liberal—the “tree hugger”—cares about the environment for the environment’s own sake. This is termed biocentrism (though many who do not fit the stereotype also hold this view). The stereotypical conservative—the IBM executive who does not care about the environment until she becomes aware of how much money the company could save by being more energy efficient<sup>256</sup>—cares about the environment for what it can do for her. This is anthropocentrism. Biocentrism is the political view of many who believe we should protect natural resources because it is “the right thing to do.”<sup>257</sup> But the growing field of ecosystem services<sup>258</sup> makes clear that even if one takes a utilitarian perspective on conservation, more stringent conservation approaches are needed—in particular, geographic delineations that keep vast swaths of the landscape intact.

A utilitarian conservative would see that protecting wetlands protects humans. Not only with regard to water quality, through filtration services, but also by controlling flooding. Protecting a wetland is far cheaper than extracting taxpayer funds to build a floodwater detention pond or a water filtration plant. Wetlands also provide economic returns through the provision of recreational opportunities like hunting and fishing. Biodiversity provides utility to humans in the form of medication, as just one example.<sup>259</sup> A vast majority of the top prescription drugs in the United States come from natural sources.<sup>260</sup> A new drug treatment that

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255. Conservatives may tend to adopt an anthropocentric view of conservation over a biocentric view. RASBAND ET AL., *supra* note 12, at 12–20.

256. *IBM - Tree Huggers - Energy Savings - Go Green - TV Commercial - TV Ad - TV Spot*, YOUTUBE (Aug. 26, 2013), <https://www.youtube.com/watch?v=ZUO-tF2qYKo>.

257. RASBAND ET AL., *supra* note 12, at 332.

258. *Id.* at 336.

259. FRANCESCA GRIFO & JOSHUA ROSENTHAL, BIODIVERSITY AND HUMAN HEALTH 3–4 (Francesca Grifo & Joshua Rosenthal eds., 1997); Norman R. Farnsworth et al., *Medicinal Plants in Therapy*, 63 BULL. WORLD HEALTH ORG., 965, 965 (1985); Noel J. De Souza & Virbala Shah, *Forskolin—An Adenylate Cyclase Activating Drug from an Indian Herb*, in 2 ECONOMIC AND MEDICINAL PLANT RESEARCH 1, 2 (H. Wagner et al. eds., 1988).

260. RASBAND ET AL., *supra* note 12, at 331.

utilizes scorpion venom to more precisely attack brain tumors<sup>261</sup> provides just one of the many growing examples of the utility that preserving biodiversity provides humans. If a conservative does not care about a species for the species' sake, perhaps they would be more inclined to take precautionary measures to protect habitat to protect the species that may be studied in the future and yield a cure for cancer. The mere option value of reserving the right to discover such species should be appealing to someone identifying with virtually any strand of conservatism. Forests similarly protect biodiversity, save homeowner electricity costs by reducing the urban heat island effect, clean the air, and provide many other utilitarian ecosystem services conservatives should value.

The list could go on, but using geographic delineations to engage in greater conservation efforts provides a great deal of utility to humankind. We may not be able to readily identify all of the option values that the use of such policies can preserve. In fact, this is why it is so hard to see the utilitarian value in foregoing development. The costs of foregoing development are quantifiable today—a landowner can quantify an estimated amount of the economic revenue they forego in the short term by not being able to sell their property to Walmart. But society cannot precisely quantify the utility lost if development proceeds. We do know, however, that if we unwittingly preclude discovery of a cure for cancer, our loss is incalculable.

## 6. Legislative Process Over Executive Process

Professor Jodi Short argues that most of the critiques of federal environmental law calling for reform have far less to do with cost or efficiency, as is often presumed, and more to do with “a deep-seated anxiety about state coercion.”<sup>262</sup> Related to coercion is the concern over the “inability of a remote central authority to regulate far-flung constituencies.”<sup>263</sup> In other words, federal executive bureaucracy is just too far removed from the governed. She argues that the recent shift from “command and control” to voluntary or self-regulatory approaches at the federal level has been in response to this core anxiety.<sup>264</sup> This is in part driven by a notion of a lack of democratic process when unelected federal agency officials mandate environmental regulations. Even though they are implementing a federal statute, those statutes are all too often

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261. Virginia Hughes, *Taking the Sting out of Brain Cancer*, DISCOVER (June 30, 2006), <http://discovermagazine.com/2006/jun/scorpion>.

262. Jodi L. Short, *The Paranoid Style in Regulatory Reform*, 63 HASTINGS L.J. 633, 637 (2012).

263. *Id.* at 670.

264. *Id.*

ambiguous and give the agency a great deal of discretion. This makes regulated entities uneasy.

While state and federal statutory policies regulate citizens through these executive channels, local land-use regulations are as close as you can get to citizens regulating themselves through direct legislative means. Indeed, the use of geographic-delineation policies at the local level bears much resemblance to self-regulation,<sup>265</sup> as touted by conservative scholars. Local land-use regulation is arguably the most democratic of all levels of government. Certainly, there is executive administration at the local level, in the form of city councils, county commissions, and the like, and there is also the risk of capture by regulated entities. But overall, for the same reasons that state and local authority appeals to Jeffersonian conservatives, it also may provide a more precise representation of democracy that tends to raise less skepticism among conservatives—at least where state and local governments are not also easily captured or otherwise rendered undemocratic. While it is true that local governments have been using democratic processes *not* to implement the policies for which this Article advocates, recall that the choice here is whether there is a viable alternative to federal bureaucracy. While state and local governments may—very democratically—choose to do nothing, the question is how to provide an alternative to the arguably less democratic federal administrative bureaucracy. Local land-use policy implementing geographic delineations is the best alternative for conservatives, and they would be wise not to allow the perfect to be the enemy of the good by resisting geographic-delineation policies mandated at the state level and implemented locally.

## 7. Markets Over Regulatory Prescriptions

At first blush it may seem that geographic delineations are not consistent with this principle of conservatism, because geographic delineations are clearly a stringent form of prescriptive regulation. Even so, not all prescriptive regulations are the same. Geographic delineations merely create a boundary, making clear what activities can or cannot take place on particular sides of the line. Within those bounds the market may work freely as long as it takes into account the basic and straightforward requirements of the policy. This is a very different form of prescriptive regulation from complex federal dictates that delve into the regulated entity's affairs by assessing what types of control technologies must be

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265. *Id.* at 666; see also Eric Bregman & Arthur Jacobson, *Environmental Performance Review: Self-Regulation in Environmental Law*, in ENVIRONMENTAL LAW AND ECOLOGICAL RESPONSIBILITY: THE CONCEPT AND PRACTICE OF ECOLOGICAL SELF-ORGANIZATION 207, 209 (Gunther Teubner et al. eds., 1994) (“Regulation is self-regulation when government shares with regulated entities and regulatory beneficiaries the power either to set the contents of regulations or to enforce regulations, or both at once.”).

utilized for certain forms of pollution, mandating certain technologies be utilized over others, and permitting certain activities in cases when specific conditions are met. This type of micromanagement of a market participant's activities has a much more restrictive effect on the actor's participation within the market. As Professor Gerhart describes regarding restrictions on the use of land, "use restrictions impair the marketability of the property for the forbidden uses, but that does not keep the market from performing its coordination function, the market continues to coordinate uses among owners for the non-forbidden uses."<sup>266</sup> In fact, markets may often actually prefer the higher level of certainty that geographic delineations provide.

Similarly, the use of geographic delineations to implement more stringent development prohibitions in floodplains removes market-distorting subsidies like the NFIP. It is arguably less of a market distortion to simply state where market activities may take place and allow them to do so on the appropriate side of the line than it is to distort the free market in its entirety with a massive subsidy program. Though geographic delineations are prescriptive in nature, the market is free to work without a great deal of constraint on the appropriate side of the line. Contrast such freedom with the market interference so often attributed to the federal bureaucracy through its massive statutory programs. Not to equate government regulation with the devil, but to modify an old colloquialism, "Better the prescriptive regulation you know than the prescriptive regulation you don't."

#### 8. Compensation for Restraints on Property Rights Over the Provision of Uncompensated Public Benefits Through Restrictions on Property Rights

This principle of conservatism—at least as some conservatives conceive it—is at odds with the use of geographic delineation policies. Professor Adler notes that "[t]he protection of private property has long been a core conservative value."<sup>267</sup> Conservatives of many strands tend to staunchly support private property rights and protections, sometimes resulting in state statutes requiring that compensation be paid to property owners for even the slightest restrictions on the use of property.<sup>268</sup> And yet, even under current regulatory takings doctrine, one would be hard-

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266. GERHART, *supra* note 196, at 265.

267. Adler, *supra* note 18, at 271.

268. JOHN D. ECHEVERRIA, GEORGETOWN ENVTL. LAW & POLICY INST., PROPERTY VALUES AND OREGON MEASURE 37: EXPOSING THE FALSE PREMISE OF REGULATION'S HARM TO LANDOWNERS, [http://www.gelpi.org/gelpi/current\\_research/documents/GELPIMeasure37Report.pdf](http://www.gelpi.org/gelpi/current_research/documents/GELPIMeasure37Report.pdf). Measure 37 has been limited in application by Measure 49. See OR. DEP'T OF LAND, CONSERVATION & DEV., MEASURE 49 GUIDE [http://www.oregon.gov/LCD/MEASURE49/docs/general/m49\\_guide.pdf](http://www.oregon.gov/LCD/MEASURE49/docs/general/m49_guide.pdf).

pressed to succeed on a takings claim for restrictions on the consumption of natural resources on one's property. Even regulations like that attempted in King County, Washington, leave property with economic value and allow it to be utilized for other purposes. So, for example, requiring a buffer zone in a forested riparian watershed would not rise to the level of eviscerating all economic value of the property (one test for takings liability),<sup>269</sup> and neither would a growth boundary that lessened the value of one's property from \$10,000 an acre to \$2,500 an acre.<sup>270</sup> Nonetheless, the notion that property owners should be compensated for such restrictions makes geographic-delineation policies politically difficult to implement.

In fact, uncompensated restrictions on private property occur quite frequently, and even the staunchest property rights advocate must admit that the question really becomes where to draw the line. Nuisance law provides an example. If a property owner operates a smokestack that colors the neighbor's house black and damages her lungs, we do not compensate the property owner when ordering them to discontinue that activity. Uncompensated restrictions arise to avoid harm to the broader public. The same may be said about restrictions designed to forestall the harm that habitat fragmentation foists on the public and on future generations.

Professor Adler decries the imposition of land-use controls that do not compensate landowners under the ESA. But Professor Adler may not be able to have his cake and eat it too. He does not believe in centralized federal governance of endangered species—fair enough.<sup>271</sup> But the alternative solution, and one that would support devolution to the state and local level of government and facilitate other conservative values, is to have those levels of government enact *more stringent* land-use controls—ones that do not compensate landowners for restrictions on habitat fragmentation. The use of lines, with their high relative administrability, is the most cost-effective means of doing so.

Geographic delineations are no doubt stringent, but they also free local governments from having to maintain the administrative capacities (policy development, monitoring, enforcement, and research) that often justify federal regulation. Professor Adler argues that regulating listed species under the ESA on private land actually discourages conservation and can lead to a decline<sup>272</sup> in endangered species habitat on private

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269. *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1010 (1992).

270. *See supra* note 251.

271. *See Adler, supra* note 18, at 253, 261.

272. *See Dean Lueck & Jeffrey A. Michael, Preemptive Habitat Destruction Under the Endangered Species Act*, 46 J.L. & ECON. 27, 28–29 (2003).

land.<sup>273</sup> But this is not because the Act is overly restrictive. It is because it is not restrictive enough, it does not restrict the development of broader swaths of habitat, and is overly complex in how it attempts to protect species. Rather than using reduced habitat fragmentation as a scientifically supported proxy<sup>274</sup> for species' well-being, the ESA operates more like the CAA, as outlined in the introduction. The monitoring required to determine how critical the habitat on someone's property is to a particular species, whether certain development activities should take place on that particular parcel of property, and whether mitigation measures integrated into the development or taking place offsite of the development are sufficient to mitigate impacts on the species going forward are just the kinds of questions that line drawing renders unnecessary. By allowing people to develop intensively within a boundary, and not intensively outside of it, we need not assess fine-grained data points about their plans for use.

As seen in Subsection III.A.1 above, there are many other arguments for how modern conservative conceptions of property rights have diverged from understandings at the founding of the U.S. constitutional system. One may be unable to accept that more stringent geographic-delineation policies at the local level are not offensive to long-standing conceptions of private property or are a better means of dealing with the private property rights/environmental protection balance than expansive federal statutes. Ultimately, however, in a world where the federal environmental bureaucracy may seem as unlikely as the universe to stop expanding, conservatives may have to sacrifice their preferred version of this principle to optimize other principles that they hold dear.

### 9. Cost-Benefit Analysis Over Precautionary Rulemaking

This principle of conservatism may also seem at odds with the use of geographic delineations. Boundaries are clearly aimed at taking a precautionary approach to the drivers of the environmental problems that major federal environmental statutes seek to address. In this way, they act as proxies to achieve environmental outcomes. Cost-benefit analysis, on the other hand, seeks to place hard numbers on the economic burdens resulting from a regulation relative to its economic benefits. As evidenced by the earlier discussion of critical habitat designation under the ESA, however, there are several flaws with cost-benefit analysis.<sup>275</sup> The primary flaw is that the short-term economic costs of forgoing development activities are readily calculable, while the aggregated costs

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273. Adler, *supra* note 18, at 275.

274. RASBAND, *supra* note 12, at 329–30.

275. Once Congress required agencies to integrate cost-benefit analysis into critical habitat designation, the designation of those habitats dropped off precipitously. RASBAND, *supra* note 12, at 363.



of foregoing protection of particular isolated natural resources over time are largely unquantifiable (rendering the perceived benefit of protection small at the time of the analysis). It is not surprising, then, that a traditional form of cost-benefit analysis will most often lead to a decision to develop a particular parcel of land. But this is the very reason that the ESA has grown unwieldy, complex, and costly. As we start to see the effects of habitat loss on species decline, the previously unquantifiable costs of failing to keep those habitats intact are becoming apparent—rendering the implementation of the act even more costly as evermore species are placed upon life support. Though some economic benefit undoubtedly occurred from development activities that took place, the cost of remedying the environmental harms that later emerge through federal statute may be far greater.

In addition, a modified form of cost-benefit analysis would integrate uncertainty into the calculus, recognizing that the costs of incrementally chipping away at natural resources through development cannot be fully calculated when aggregated through space and time, even though the costs of forgone development can be. As a general matter, degrading the environment beyond a certain point through economic development is not a benefit but rather a cost to society (hence federal statutory regimes), notwithstanding economic returns gained in the initial development activity. Protecting the environment avoids those costs. In this way, perhaps the increased expenditure under an expanding federal bureaucracy is reflective of the cost of not doing a better job of protecting resources through land-use planning on smaller scales. Erring on the side of avoiding environmental costs would make more sense than the continued overreliance on readily calculable costs of foregoing development, especially if achieving a truly sustainable economic and environmental system is the goal.

The ultimate failure of traditional cost-benefit analysis is that it simply ignores unquantifiable but critical information, which means it ignores impacts on future generations that are difficult to determine with today's economic models. Conservatives would be wise to adopt a Burkean conservative approach and preserve the option value of future generations, so that those generations can utilize resources to the same extent that we utilize them today. That seems to be exactly what a conservative would want—to conservatively, cautiously consume resources.

#### CONCLUSION

This Article puts forth three primary propositions: there is great purchase to the calls for federal environmental regulatory reform from both supporters and detractors of federal environmental governance, particularly with regard to the economic, workforce, and time costs

associated with administering those laws; geographic-delineation policies have a high degree of relative administrability when compared to federal environmental laws, which answers the call from critics for a means of protecting the environment at less cost and with less centralized bureaucracy; and geographic-delineation policies at the state and local level are quite consistent with a number of important principles that conservatives value.

If society is to achieve meaningful environmental regulatory reform we need members of all political ideologies to get on board. Using geographic delineations at the state and local level more efficiently attacks the drivers of the problems that federal environmental statutes seek to address and therefore secures for conservatives state and local governance, smaller government, lower taxes (related to environmental protection), clear rules, utilitarian conservation, democratic process, and stable markets within which to operate—even if they are uncompensated for restrictions on property use and traditional cost-benefit analysis cannot pinpoint the precise monetary benefits of line-drawing policies. Society will need to enlist the support of conservatives in addressing continued environmental degradation if it is to conserve for future generations the robust environmental systems that laid a foundation for today's wealth, prosperity, and societal well-being.