

COMMENT

GETTING TO HERE: BIOREGIONAL FEDERALISM

BY
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Within some complex systems, structures not determined at the top level or planned from the outset may nevertheless develop over time as emergent properties arising as a result of the self-organization of the system. Market economies are one such species of complex system. Environmental problems are among the byproducts of modern market economies. Accordingly, environmental problems are byproducts of complex, self-organizing systems.

This Comment posits that a complex, self-organizing system for establishing environmental policy would be more competent to thoroughly police environmental problems than a command-and-control system for establishing environmental policy. Proceeding, this Comment suggests that the establishment of boundaries of legal effect along environmentally significant lines, structured to exploit a sense of “place,” could result in a system under which environmental policy might self-organize. Such a “Bioregional Federalism,” related to but distinct from existing notions of bioregionalism, ecosystem

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management, and watershed management, could provide a systemic basis for self-organizing environmental policy.

This Comment concludes with an extended thought experiment exploring how Bioregional Federalism might be achieved.

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I. INTRODUCTION

In the face of socioeconomic activity, the environment doesn't take care of itself. Environmental degradation seems to be the default path of modern society absent conscious ameliorative efforts. Such conscious effort expended in pursuit of more environmentally protective policies can mitigate environmental degradation, but the cost in political capital can limit the scope, duration, and effectiveness of those policies. As a result, environmental problems emerge more quickly than they can be thoroughly policed. Our approach toward establishing environmentally protective policies leaves us chronically playing the part of a harried bureaucrat, running down the road after the problem, paperwork in hand.

This Comment posits that our system for establishing environmental policy has a structural problem that exacerbates all of our environmental problems, but that a structural mechanism may exist that could address this underlying structural problem. That structural mechanism lives in the overlap of two seemingly disparate political philosophies, one a product of the modern environmental movement, the other as old as the United States itself. The pairing may amount to a case of politics making strange bedfellows. However, there is evidence to suggest that the citizens of this country may be receptive to cross-ideological solutions to our pressing national problems.¹

This Comment is speculative and exploratory in nature. Part II identifies our environmental problems in general as byproducts of a complex system. Part III first summarizes the philosophy of bioregionalism, as well as its more practically-minded relatives, ecosystem management and watershed management, then proposes a structural mechanism to mitigate these complex-system byproducts. Part IV is an extended thought experiment exploring how that structural mechanism, implementing a politics of *place*, might be achieved. Reflections on all of this follow in Part V.

¹ President Barack Obama, Inaugural Address (Jan. 20, 2009) (transcript available at Posting of Macon Phillips to the White House Blog, President Barack Obama's Inaugural Address, <http://www.whitehouse.gov/blog/inaugural-address> (Feb. 20, 2009, 13:27 EST) (last visited Apr. 18, 2010)) ("On this day, we come to proclaim an end to the petty grievances and false promises, the recriminations and worn-out dogmas that for far too long have strangled our politics.").

II. OUR COMPLEX, SYSTEMIC ENVIRONMENTAL PROBLEM

A. *The Persistent Difficulty of Environmental Problems*

Generally speaking, environmental problems are a natural consequence of human industry. A business will have an environmental impact to one degree or another in the simple course of doing business.² The impact a business has upon the environment is not present as a force guiding its decisions in the same way as other forces acting on it, such as the need to secure funding, gain customers, and in general grow the business with a view to profits. At the same time, environmental impacts are not present as a force guiding governmental decisions in the same way as other forces faced by those in government, such as the need to discern and establish policies both proper and feasible on behalf of one's constituency, most often in a partisan environment (and, perhaps, with an eye to preserving one's own position and interest in government).³

Admittedly, a business may seek to become green, embracing business practices or developing products with an eye to reducing environmental impact. Admittedly, there are statutes and regulations outlining environmental policies, groups organized to petition the government for redress regarding environmental grievances, and factions in the electorate for whom environmental policy informs their votes—and thus pressures elected office-holders—to one degree or another.⁴ However, all of this requires force of will to maintain. The green practices a business may embrace, or the development of environmentally minded products, may be subject to change in the face of conflict with more immediate interests of the business. Similarly, absent sustained political pressure, desirable environmental policies may never come to pass. Even where stated governmental environmental policies are at issue, countervailing political pressures may result in those environmental policies being given short shrift at enforcement time. Altruism is constantly subject to headwind forces.

At the same time, the difficulty of addressing many environmental problems is complicated by their cross-jurisdictional nature.⁵ When the

² Richard York et al., *Footprints on the Earth: The Environmental Consequences of Modernity*, 68 AM. SOC. REV. 279, 279 (2003).

³ See, e.g., Posting of John M. Broder to The Caucus, Climate Change Bill Is in Doubt, <http://thecaucus.blogs.nytimes.com/2010/01/20/climate-change-bill-is-in-doubt> (Jan. 20, 2010, 18:55) (last visited Apr. 18, 2010) (discussing significant scaling back of energy and climate change legislation pending in Congress in order to “focus[] more on job-creating technologies than on limiting climate-altering pollution”). See generally David R. Jones, *Position Taking and Position Avoidance in the U.S. Senate*, 65 J. POL. 851, 851 (2003) (discussing how the roll-call votes in the Senate are “significantly related to factors such as diversity of constituents’ opinions, pursuit of higher office, electoral marginality, retirement decisions, and visibility within the institution”).

⁴ See, e.g., National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4347 (2006); Sierra Club, Environmental Law Program, <http://www.sierraclub.org/environmentallaw> (last visited Apr. 18, 2010) (describing the legislative and judicial efforts of one organization working on environmental issues).

⁵ See George Francis, *Ecosystem Management*, 33 NAT. RESOURCES J. 315, 344 (1993) (“‘Ecosystem management’ poses a special challenge to boundaries. Boundaries associated with

policies of more than one state or jurisdiction contribute to an environmental problem, the political will of all states or jurisdictions involved must be brought to bear in order to coordinate, negotiate, and reach agreement.⁶ Thus, there is also a persistent barrier to entry for solutions to cross-jurisdictional environmental problems.

With respect to governmental policy, the forces set against altruism, as well as cross-jurisdictional barriers to entry, sap the will behind environmental policies. Assuming that industry will always be with us, environmental problems will always be with us. The establishment and enforcement of environmental policies will in turn always be hindered by dependence upon continuing political will.

B. Complex Systems, Self-Organization, and Emergent Properties

Complexity theory observes that some systems in which multitudes of independent actors are governed by simple rules may not only possess surprising structural complexity, but may also be capable of self-organization and self-regulation.⁷ Such systems may have properties that are not direct results of the particular set of rules in the system, but that instead emerge as indirect, iterative, cumulative consequences of the operation of the system under that particular set of rules over time.⁸

jurisdictions, administrative districts, and ownerships artificially transect ecosystems. While the international boundary is important for historical and other reasons, in the case of the Great Lakes it has also served as a perceptual and psychological boundary, impeding the development of a shared understanding of a major bioregion.”).

⁶ See *id.*; see also Robert W. Adler, *Addressing Barriers to Watershed Protection*, 25 ENVTL. L. 973, 991–92 (1995) (“[W]ater resource programs logically should be organized according to watershed boundaries. Politically, however, this has been difficult because each level of government guards its authority jealously. . . . [A]s described by the Natural Research Council Restoration Committee: ‘ . . . The politics and consensus building required for integrated resource management of the resource are often as complex as the ecosystem itself.’”); Charles H.W. Foster, *Bioregionalism: Cooperation to Live By*, ALB. L. ENVTL. OUTLOOK, Winter 1996, at 13, 15 (“A heritage of intergovernmental mistrust seemed to dim any hope for true multi-jurisdictional action”); Michael V. McGinnis, *On the Verge of Collapse: The Columbia River System, Wild Salmon and the Northwest Power Planning Council*, 35 NAT. RESOURCES J. 63, 65 (1995) (“In many respects, the plethora of entities, interests and individuals responsible for developing restoration strategies creates additional problems for a comprehensive ecosystem restoration effort.”); Paul S. Weiland & Roberto O. Vos, *Reforming EPA’s Organizational Structure: Establishing an Adaptable Agency Through Eco-Regions*, 42 NAT. RESOURCES J. 91, 98 (2002) (“Human boundaries confound efforts to manage human-environment relations. To overcome the problems associated with such boundaries, it is necessary for people and institutions to cooperate. Cooperation to protect or enhance the natural world is only possible after parties have agreed that cooperation is necessary and specified the nature and extent of such cooperation. This agreement may be elusive due to value differences and scientific uncertainty.”).

⁷ See STUART KAUFFMAN, *AT HOME IN THE UNIVERSE: THE SEARCH FOR LAWS OF SELF-ORGANIZATION AND COMPLEXITY* 8 (1995).

⁸ See *id.* at 24 (stating, with respect to the author’s theory about the chemical nature of life, “If true, then life is not located in the property of any single molecule—in the details—but is a collective property of systems of interacting molecules. . . . Life, in this view, is not to be located in its parts, but in the collective emergent properties of the whole they create”).

A number of phenomena serve as examples of emergent properties of self-organizing, complex systems. Biodiversity may be seen as an emergent property of life under forces of evolution over vast spans of time—as one species succeeds and becomes plentiful, other species can succeed by relying on it as food, and the balance between populations of predator and prey becomes self-regulating over time.⁹ The variety of languages may be seen as an emergent property of linguistic evolution among multitudes of peoples over time, constrained by an ingrained nature of grammar acting as the simple rules out of which complexity may arise.¹⁰ The Internet in its current abundance came to be not because a government decreed its structure, but rather emerged because certain building blocks became available (URLs, servers, and site hosting services) and individuals, compelled by their own self-interest (ranging from hobby to profit) each built up one small part of it.¹¹ Even the Constitution may be seen to have implemented a system having emergent properties: Power is separated at the federal level into the three branches,¹² counting by design on the jealous tendencies of each branch to guard its own power to serve as a check on power's inherent self-aggrandizing nature,¹³ an arrangement which is (mostly) self-regulating, and under its constraints, our complex government has evolved.

Similarly, a free market secures contracts and property rights, and the resulting system in its startling variety provides a mechanism—an imperfect mechanism, to be sure, but still an effective mechanism—by which employment, material wealth, and prosperity are created and distributed, generally speaking, for the greater part of its constituent members.¹⁴ The system does not specifically mandate these results. Instead, interestingly, a free market exploits the self-interest of individual actors

⁹ *Id.* at 115 (“But while the biosphere as a whole is supracritical, . . . the individual cells that make up the biosphere must be subcritical This, I will try to persuade you, is the source of the creative tension that brings about the ever-increasing diversity of the biosphere.”).

¹⁰ See JACK COHEN & IAN STEWART, *THE COLLAPSE OF CHAOS: DISCOVERING SIMPLICITY IN A COMPLEX WORLD* 174 (1994) (“Language exploits, and may even have arisen from, a trick that our brains seem to find natural in any case.”).

¹¹ See Fed. Commc'ns Comm'n, *History of Communications—Internet: Common Standards*, <http://www.fcc.gov/omd/history/internet/common-standards.html> (last visited Apr. 18, 2010) (discussing the “explosive growth” of the Internet upon the formal decommissioning of ARPANET in 1990 and charting the growth in the number of internet hosts from 100,000 in 1990 to 1,000,000 in 1992); Nat'l Acad. of Eng'g, *History of the Internet*, <http://www.nae.edu/cms/8743.aspx> (last visited Apr. 18, 2010) (detailing the use of the internet to “search thousands of databases and libraries worldwide in several languages, browse through hundreds of millions of documents, journals, books, and computer programs,” as well as to follow news, shop online, and pay bills); Ian Peter, *History of the World Wide Web*, <http://www.nethistory.info/History%20of%20the%20Internet/web.html> (last visited Apr. 18, 2010) (discussing the “massive growth” of the Internet “[e]very year from 1994 to 2000” and the development from being “mainly used for displaying information” to including some 750,000 commercial sites showing “the power of the web as a sales medium”).

¹² U.S. CONST. art. I, § 1; *id.* art. II, § 1; *id.* art. III, § 1.

¹³ Akhil Reed Amar, *Five Views of Federalism: “Converse-1983” in Context*, 47 VAND. L. REV. 1229, 1237 (1994).

¹⁴ See generally Cheyney C. Ryan, *Yours, Mine, and Ours: Property Rights and Individual Liberty*, 87 ETHICS 126, 127–28 (1977).

therein, and the results emerge from the self-organizing system as it operates.¹⁵ By relying on the inherent force of human self-interest, no force of will on the part of government is required in order to guarantee, by dictate, specific economic benefits. Instead, society seems guided as if by an “invisible hand” to act in such ways as to ultimately provide them.¹⁶

These benefits do not magically appear without any effort by any party. Indeed, to establish and run a business is a continuing act of will. However, the will involved is not the force of will exercised by a top-level actor (such as a government), but is rather the force of will of many actors distributed within the system, as guided by self-interest. Thus, in a market economy, from the perspective of top-level actors, solutions to economic problems appear to be self-organizing. That is, to a certain extent, economic problems seem to solve themselves.

C. Self-Organizing Environmental Policy

Our environmental problems are also the aggregate results of the acts of a multitude of independent actors. Individuals, businesses, and government may not set out to directly cause environmental impacts. Instead, they are byproducts of our social system. Since our social system fundamentally establishes a free market, those environmental impacts may be understood largely as being byproducts of a self-organizing, complex system. In other words, our complex, systemic problem is that our environmental problems as a whole are an emergent property of a complex, self-organizing system—a free market. Accordingly, it would be unsurprising if a command-and-control system for establishing environmental policy proved to be no more competent to thoroughly police those environmental problems than a command-and-control economy would prove to be in keeping pace with the underlying free market itself.

However, what if there was some force that our social system could exploit—analogue to the force of self-interest in a market system—that could guide the establishment of environmental policy? If it could be found, such a force could provide the basis for a systems-theory version of fighting fire with fire, or setting a thief to catch a thief. If the system establishing environmental policy could exploit such a force, perhaps an “invisible green thumb” could be set to tame the “invisible hand.” Doubtless, environmental policy would still require acts of will. However, if such a force could be exploited, from the perspective of top-level actors, solutions to environmental problems might appear to be self-organizing. Under such conditions, environmental problems might seem to solve themselves.

¹⁵ See generally ADAM SMITH, WEALTH OF NATIONS 400 (J.M. Dent & Sons Ltd. 1977) (1776) (explaining the relationship between promoting one’s own self-interest and the interest of society).

¹⁶ See *id.* (“By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.”).

III. EXPLOITING *PLACE* TOWARD SELF-ORGANIZING ENVIRONMENTAL POLICY

In searching for a force to exploit in establishing self-organizing environmental policy, the philosophy of bioregionalism would be a profitable first stop. Bioregionalism maintains that political interests should be aligned with environmental boundaries.¹⁷ Under the bioregionalist view, the inherently greater concern people are capable of having for their own immediate environment, as opposed to the concern people are capable of having for the environment in general, can act as a force for more environmentally sound policies.¹⁸ Political decisions would therefore inherently come to take environmental considerations into account, as a result of living, so to speak, more directly in the “here” in which we find ourselves.¹⁹ If this is true, then if bioregionalism were established, perhaps environmental policy could become self-organizing. However, bioregionalism as presently envisioned is extremely politically problematic.

A. *The Bioregional Vision*

Over twenty years ago, Kirkpatrick Sale summarized a vision for a social order capable of resolving the severe environmental stresses that characterize the modern world.²⁰ Under this social order, called bioregionalism, humanity would become “dwellers in the land,” approaching the environment with an admiration and respect born of “understand[ing] *place*, the immediate specific place where we live.”²¹ This understanding would derive from knowing the constituent elements of the environment, understanding the limits to development that the environment can tolerate, and appreciating the relationship between human societies and the environment.²² Ultimately, under a bioregional social order, the boundaries of social power would shift from political boundaries that have no particular relationship to the environment to bioregional boundaries existing in harmony with the environment.²³

In the simplest case, bioregionalism might be conceived as the redrawing of political boundaries along more environmentally directed

¹⁷ Foster, *supra* note 6, at 13.

¹⁸ *Id.* at 14.

¹⁹ See KIRKPATRICK SALE, *DWELLERS IN THE LAND: THE BIOREGIONAL VISION* 97 (1985) (“Even if we haven’t modern experience to ratify it entirely, the logic certainly suggests that because bioregional governance stands in a direct and vital relation to the natural environment and its resources, and because it can deal with a population of cultural and ecological homogeneity, it can do more effectively for the populace those things that governments are supposed to do.”).

²⁰ See generally *id.* at ix–x, 37 (describing the modern state of environmental crisis resulting from “an *industrial*-scientific worldview”).

²¹ *Id.* at 42.

²² See *id.*

²³ See *id.* at 55–59, 66 (discussing various hierarchical “scales” at which the environment can be partitioned into regions); *id.* at 97 (“[B]ecause bioregional governance stands in a direct and vital relation to the natural environment and its resources, and because it can deal with a population of cultural and ecological homogeneity, it can do more effectively for the populace those things that governments are supposed to do.”).

lines.²⁴ However, the extent and ambition of the bioregional vision described by Sale encompasses much more than a mere redrawing of boundaries. Sale described bioregionalism as being profoundly different from what he dubbed the “industrial-scientific paradigm.”²⁵

As envisioned, bioregionalism is bundled with extreme changes to the social, political, and economic order. First of all, in a bioregion reoriented toward goals of conservation, stability, and cooperation, market structures would be abolished.²⁶ Economic activity would be communally directed and planned,²⁷ property would be communally owned,²⁸ and labor would be essentially selfless and community-directed, “performed without the idea of a wage return or individual benefit, indeed largely without the notion of ‘work’ at all.”²⁹

Further, in such a bioregion, governance would be radically decentralized and organized around relatively small numbers of people (ranging in size from one thousand to ten thousand),³⁰ and would potentially aggregate into larger “confederate bodies.”³¹ Such societies would be nonhierarchical, resembling tribal societies,³² and the fundamental social values of some of those societies might depart disturbingly from traditional American or even western norms.³³

Finally, the social fabric under bioregionalism would be vastly changed. Massive population dispersal would be undertaken in the course of

²⁴ *Id.* at 94–95.

²⁵ *See id.* at 50.

²⁶ *See id.* at 82 (“[T]he marketplace of our traditional capitalist economy, with its emphasis on competition, exploitation, and individual profit, needs to be phased out.”).

²⁷ *See id.* at 76 (explaining in regard to a bioregion’s efforts to achieve self-sufficient sustainability that “[t]hese kinds of adjustments need not be sudden, or hard, or privative, and they could be planned with great care and sophistication once the bioregional stocks and supplies are fully known.”); *id.* at 79 (“Self-sufficiency . . . is not the same thing as isolation, nor does it preclude all kinds of trade at all times. It does not *require* connections with the outside, but within strict limits—the connections must be nondependent, nonmonetary, and noninjurious—it allows them.”).

²⁸ *See id.* at 84–85 (“[T]here would be a sense that the wealth of nature is the wealth of all—people should not be able to *own* the land, or its ores, or its trees, any more than they can own the sky and its clouds—and whatever is taken from Gaea’s realm is not to be hoarded and used for personal glory but distributed and used for regional benefit.”); *id.* at 85 (“*Ownership* . . . might logically be in community rather than regional or individual hands . . .”).

²⁹ *Id.* at 84.

³⁰ *Id.* at 94–95.

³¹ *Id.* at 96 (explaining that among communities in a bioregion, “possibly some kind of political deliberative and decision-making body would eventually seem to be necessary”).

³² *See id.* at 97–102. “Hierarchy and political domination would have no place; systems of ruler-and-ruled, even of elected-president-and-electing-people, are nonecological. . . . No leader, no ruling committee, no oligarchy, only citizens performing necessary roles . . .” *Id.* at 101.

³³ *See id.* at 104–10 (“Bioregional diversity . . . does not mean that every community in a bioregion . . . would construct itself along the same lines, evolve the same political forms. Most particularly it does not mean that every bioregion would be likely to heed the values of democracy, equality, liberty, freedom, justice, and the like, the sort that the liberal American tradition proclaims. . . . Different cultures could be expected to have quite different views about what political forms could best accomplish their bioregional goals, and . . . those forms could be at quite some variance from the Western Enlightenment-inspired ideal.”).

establishing symbiotically dependent rural and urban areas.³⁴ Fashions would cease to be driven by the new and would instead be driven by slow-to-change “images of sustenance and maintenance.”³⁵ Moral codes would be reoriented such that actions causing severe ecological harm would be classified on the order of murder and treated accordingly.³⁶ Even limited bioregional warfare, on the off chance that it were to occur, would be conducted in an environmentally cognizant, environmentally friendly way.³⁷

As a practical matter, the achievability of any of these hard facets of the described bioregional vision lies between *hard to imagine* and *flatly unrealistic*. Beyond these hard facets, however, lie soft facets—attitudes and aesthetic trappings—that deepen the gulf between the vision and much of the body politic.

Beginning with appearances, a certain melodrama runs through the vision, from the description of the alternative to the industrio-scientific paradigm (“to become ‘dwellers in the land’”³⁸), to the characterization of the scientific worldview as “our god,”³⁹ to the statement that “[t]he effect of scientific technology . . . has been to put a vast psychic distance between humans and nature,”⁴⁰ to his ultimate message that “[i]t behooves us . . . to give up those unearthly, demonic practices that threaten in so many ways the fundamental forms of life.”⁴¹ Perhaps the vision is merely intended to be communicated to a fairly small audience, as a matter of preaching to the choir. However, the ideologically attuned presentation is likely to prove discordant to others.

Further “soft” facets of the vision may be even more difficult for the temperamentally skeptical to take. The vision evinces a fairly uncritical reverence of tribal life (both of Native Americans and of early or tribal societies elsewhere) that seems informed by “noble savage” sentiment.⁴²

³⁴ See *id.* at 113–16 (indicating that for cities of more than an “upper limit” of 250,000 people, “there seems to be no sensible choice but to break down the current multimillion-people cities both by dividing them into smaller cities . . . and by resettling them into different-sized communities in the surrounding region,” and that this “population relocation” would affect one-fifth of the U.S. population among 48 cities).

³⁵ *Id.* at 119.

³⁶ See *id.* at 120 (“Greatest opprobrium, and presumably punishment, would attend those acts that are most violent and disruptive, that cause severe or permanent damage to the ecosystem, no matter what supposed economic or material benefits they may offer—such as murder or clearcutting or species extinction or the introduction of the gypsy moth.”).

³⁷ See *id.* at 127.

³⁸ *Id.* at 41.

³⁹ *Id.* at 21.

⁴⁰ *Id.* at 22.

⁴¹ *Id.* at 192.

⁴² See *id.* at 60–61 (discussing “American Indian habitation in bioregional patterns” as a demonstration of the firm grounding of the bioregional vision since “it is a concept inherent in the cultures of age-old peoples who knew the ways of nature best”); *id.* at 81–85 (stating that “what we take for granted in our market system . . . is really a rather recent development,” and that “the simple economies of most societies before the modern age . . . seem to have much that a bioregional society could learn from,” perhaps as a result of the nature of such social systems whereby “no activity is undertaken that is not a custom or a ritual or a spontaneous part of social congress, and where seldom does anyone have to be forced or coaxed to perform it”); *id.*

At the same time, the vision greatly disparages the modern way of industry, economy, and society,⁴³ and presents something like a bioregional order as practically necessary to stave off impending environmental Armageddon.⁴⁴

Of particularly grievous impact to the vision is its presentation, as a spiritual matter, of a necessity to preserve Gaea: not the colloquial “mother earth,” a “mother” only figuratively speaking, but rather “the earth mother,” a living entity whose personification is meant literally.⁴⁵ As the vision puts it, “We must try to learn that [Gaea] is, in every real sense, *sacred*, and that there is therefore a holy way to confront her and her works, a way of awe and admiration and respect and veneration that simply will not permit despoliation or abuse.”⁴⁶ The vision would seem to require that religious devotions be radically altered on the road to bioregionalism.

Other features of the vision can give a reader pause. It tends to acknowledge the difficulties inherent in many of his policy proposals, but then, having acknowledged the difficulties, it brushes lightly past them.⁴⁷ The work is dated, as well. The vision was captured in the mid-1980s, before the fall of the Berlin Wall, let alone the fall of the Soviet Union. Accordingly, its reliance upon such hard-socialist or communist standbys as economic planning is understandable. On the other hand, in light of the subsequent

at 99–101 (describing “preliterate cultures” as lacking such unsavory elements as “those ‘organized stratifications’ we have become accustomed to in the industrial world,” meaning hierarchical relationships).

⁴³ See, e.g., *id.* at 28 (“[T]he economy is *based* precisely on the concepts of exploitation, productivity, and growth.”); *id.* at 29 (characterizing industrialized agriculture as “reckless”); *id.* at 48 (describing the notion in industrial society “of controlling and remaking the world in the name of a global monoculture” and characterizing industrial economy as “imperiling” humanity).

⁴⁴ See *id.* at 12–37 (“I take what little comfort I can . . . from the belief that we have at our grasp the instrument—the philosophy, if you will—by which to begin to rescue . . . our beleaguered species, creating for ourselves . . . an ecological worldview with which to replace the scientific worldview . . . that has so imperiled us. That instrument, that philosophy, is the bioregional vision.”); *id.* at 192 (advocating the implementation of the bioregional vision “[b]ecause what other choice, really, do we have?”).

⁴⁵ See, e.g., *id.* at 3–11 (“In all the long stretch of human history . . . the people of this planet saw themselves as inhabitants within a world alive.”); *id.* at 183–92 (“And so, after all, the Greeks seem to have been right. There is no real doubt about it: the earth, the biosphere, is alive, ‘a living creature, one and visible, containing within itself all living creatures.’”).

⁴⁶ *Id.* at 41–42.

⁴⁷ See *id.* at 48–49 (noting that the bioregional vision “is so at odds with the conventional way of looking at the world nowadays that it must strike most people at first as either too limiting and provincial, or quaintly nostalgic, or wide-eyed and utopian, or simply irrelevant—or all of those,” and while continuing to describe the improbabilities involved, concluding that he is “certain that in the bioregional paradigm we have a goal, a philosophy, and a process” that is “not only *necessary* for the continuation of our species, but is also *desirable* and *possible*”); *id.* at 179 (“The bioregional project, then, certainly has its full measure of dreams of things that never were; yet when properly understood in its totality, it is not in any sense fantastical, chimerical, quixotic, or illusory. I do not suggest that it is inevitable or fated, or that once begun it could not be frustrated and defeated; just that it is without doubt possible.”). Ironically, Sale writes, “[T]he bioregional project has the virtue of *realism*. It does not demand any elaborate wrenching of the physical or human conditions of the world we know, any fantastic alterations of nature-as-it-is or people-as-they-are.” *Id.* at 177.

real-world failures of just the sorts of social models that are part and parcel of it, such policy prescriptions do not further endear the bioregional vision to modern audiences.

Under Sale's bioregional vision, a simple redrawing of boundaries along environmentally friendlier lines is weighed down by a heavy cargo-load of far-left socioeconomic policy programs. To those already in agreement with most aspects of the vision, it may well sound both plausible and attractive. Accordingly, perhaps a small subset might rally behind the vision as stated. However, those not already in agreement will find much about which to be dismissive. Given that the supporting coalition would likely be thin, at best, the vision as it stands is little more than a pipe dream. A more widely palatable bioregional vision, if it could be found, would be required to make *place* a feasible force to consider exploiting toward self-organizing environmental policy.

B. Bioregionalism's Cousins

The philosophy of bioregionalism did not arise in isolation from the rest of the world, and the same sorts of concerns that inform bioregionalism have informed similar notions, of which some have had more mainstream success. In the search for a more widely palatable bioregional vision, it may be instructive to examine two of bioregionalism's cousins: ecosystem management and watershed management.

1. Ecosystem Management

a. Defined

Ecosystem management approaches land management policy from a regional ecosystem perspective. Ecosystem management views non-ecosystem boundaries (such as state lines that might divide an ecosystem) as obstacles that must be overcome in the course of managing ecosystems, which are seen as units that are far more fit for analysis than traditional states.⁴⁸ Ecosystem management is characterized by increased interagency cooperation (including consultation and coordination), analysis

⁴⁸ See Robert B. Keiter, *NEPA and the Emerging Concept of Ecosystem Management on the Public Lands*, 25 LAND & WATER L. REV. 43, 43 (1990) ("Modern science has revealed that dynamic, complex ecological processes are a vital and important part of the natural environment, and that neither biological processes nor environmental phenomena respect conventional boundary lines. Indeed, virtually all of the natural resources found on the public domain are part of ecosystems that extend beyond established legal boundaries." (footnote omitted)); *id.* at 45 ("The evolving concept of ecosystem-based management is still in its formative stages and remains rather ill-defined. As a general principle, ecosystem management views public lands and resources from a regional or resource system perspective; it regards natural phenomena, such as watersheds, airsheds and wildlife habitats, as the appropriate focus for management decisionmaking. . . . In short, management priorities—set in accordance with ecological principles—should transcend jurisdictional boundaries and reflect an overarching commitment to an integrated public domain.").

of the impact of resource management proposals on ecosystems, commitment to preserving biodiversity, and commitment to preserving the aesthetic integrity of the environment.⁴⁹ Notable principles of ecosystem management include collaborative decision building, organizational change, and operating under a systems perspective.⁵⁰ Ecosystem management recognizes that people are part of an ecosystem and that human needs will play some role in the management of ecosystems.⁵¹

Ecosystem management is seen as a mechanism to deal with the mismatch between administrative boundaries and “meaningful ecological boundaries.”⁵² It is seen as a means of addressing complicated problems,⁵³ of accommodating nondevelopment interests in lands,⁵⁴ and of holistically dealing with the full range of known environmental stressors.⁵⁵

⁴⁹ See *id.* at 47–50.

⁵⁰ Richard Haeuber, *Setting the Environmental Policy Agenda: The Case of Ecosystem Management*, 36 NAT. RESOURCES J. 1, 4–5, 26–27 (1996) (noting that “a generally accepted set of [ecosystem management] principles, or components, has emerged” out of past regional-scale management efforts that have not been consciously “ecosystem management,” with these principles being sustainability, systems perspective, broad spatial and temporal scales, humans as ecosystem components, socially defined goals and objectives, collaborative decision building, organizational change, adaptive management, monitoring, and data collection).

⁵¹ See Scott W. Hardt, *Federal Land Management in the Twenty-First Century: From Wise Use to Wise Stewardship*, 18 HARV. ENVTL. L. REV. 345, 392 (1994) (“As a result of our dependence on resources harvested from our environment, human society is a significant force in shaping the world’s environment and must be considered part of the ecological community being managed. . . . Consequently, human use of natural resources and the creation of human-induced successional stages should be considered an appropriate element of ecosystem management. . . .” (footnotes omitted)).

⁵² See *id.* at 393 (“To manage ecosystem viability effectively, federal land managers . . . will need to adjust the geographic areas over which they make multiple use decisions since administrative boundaries seldom reflect meaningful ecological boundaries.”).

⁵³ See Haeuber, *supra* note 50, at 2 (“The generation of environmental issues now upon us, however, are defined by greater political, economic, social, and even cultural, complexity. They include difficult scientific questions, such as appropriate scales for resource management; thorny administrative matters, such as inter- and intra-governmental relations; political controversies surrounding land use planning and property rights; the problems involved in restructuring of natural resource-based economies; and the cultural underpinnings of ranching, logging, fishing and other traditional resource dependent communities.”).

⁵⁴ See Jack Ward Thomas, *Foreword* to ECOSYSTEM MANAGEMENT: APPLICATIONS FOR SUSTAINABLE FOREST AND WILDLIFE RESOURCES, at ix, x (Mark S. Boyce & Alan Haney eds., 1997) (“Emergence of ecosystem management is a consequence of conflicts over how we manage our public lands. The American public will no longer tolerate commodity-production priority for managing our national forests and other public lands; neither can we afford to exclude commodity users from public lands and support a human population of 5.6 billion people.”).

⁵⁵ See STEVEN L. YAFFEE ET AL., ECOSYSTEM MANAGEMENT IN THE UNITED STATES: AN ASSESSMENT OF CURRENT EXPERIENCE 9–11 (1996) (listing “anthropogenic ecosystem stresses,” including hydrologic alteration; land conversion to urban use; agricultural practices; disruption of fire regime; nonpoint source pollution; grazing and range management; timber and forest management; land conversion to agricultural uses; recreation; point source pollution; mining; and overfishing, overhunting, or overcollecting).

b. History and Current Practices

The roots of ecosystem management may be traced back at least to the late 1800s, when worries arose about the future of the nation's natural resources in the face of rapid development.⁵⁶ In 1891, the Forest Reserve Act,⁵⁷ as modified by the later Organic Act,⁵⁸ provided "broad management authority" of public forest lands.⁵⁹ In 1905, Gifford Pinchot, the head of the Division of Forestry within the United States Department of Agriculture at the time, established the early principles of "multiple use and sustained yield management," called "wise use," under which lands were to be managed "from the standpoint of the greatest good of the greatest number *in the long run*," although "good" was seen as primarily from the perspective of development, not what would modernly be seen as environmental or aesthetic concerns.⁶⁰

The perception of what uses are "good" changed with the Multiple-Use Sustained-Yield Act of 1960⁶¹ to include such things as recreational and aesthetic uses.⁶² In the 1970s, "development" uses became further restricted.⁶³ In the 1960s and 1970s, both Yellowstone and the Great Lakes, respectively, were the subject of early ecosystem management efforts.⁶⁴ From these roots, "ecosystem management" as a formal idea arose in the 1980s and came to prominence in the 1990s.⁶⁵

⁵⁶ See Hardt, *supra* note 51, at 350 ("An affirmative policy of federal land management began evolving in the late nineteenth century only after a century of uncontrolled exploitation of the public domain created broad public concern that the rate of exploitation, if left unchecked, would rapidly deplete the nation's resource base.").

⁵⁷ Act of Mar. 3, 1891, ch. 561, 26 Stat. 1095, *repealed by* Federal Land Policy and Management Act of 1976, Pub. L. No. 94-579, 90 Stat. 2743.

⁵⁸ Forest Service Organic Administration Act of 1897, ch. 2, 30 Stat. 11, 34-36 (codified as amended at 16 U.S.C. §§ 473-482, 551 (2006)).

⁵⁹ See Hardt, *supra* note 51, at 353-55.

⁶⁰ See *id.* at 355-58 (quoting GIFFORD PINCHOT, *BREAKING NEW GROUND* 261 (commemorative ed., Island Press 1998) (1947)).

⁶¹ 16 U.S.C. §§ 528-531 (2006).

⁶² Hardt, *supra* note 51, at 351 (noting that the limited multiple use policies of the late 1800s have changed in two major ways: 1) "multiple use" has expanded to cover more uses, such as recreation and aesthetic uses, and 2) requirements have been introduced for comprehensive management and noncommodity use management).

⁶³ Jan G. Laitos & Thomas A. Carr, *The Transformation on Public Lands*, 26 *ECOLOGY L.Q.* 140, 149-50 (1999) ("During the heyday of the multiple-use management era (1930-1970), commodity uses of federal lands were dominant. In the 1970s, however, new environmental laws (triggered by a burgeoning environmental movement) led to growing restrictions on the traditional extractive uses of public lands." (footnote omitted)).

⁶⁴ Haeuber, *supra* note 50, at 4 ("Regional scale resource management approaches have been evident in the United States for quite some time. For example, the Great Lakes Water Quality Agreement, signed in 1972 and revised in 1978, established the principles and process for a functioning regional [ecosystem management] approach. Similarly, land and resource managers in the Greater Yellowstone Ecosystem region have experimented with elements of an [ecosystem management] approach for nearly 30 years, beginning with establishment of the Greater Yellowstone Coordinating Committee in the early 1960s." (footnote omitted)).

⁶⁵ J.B. Ruhl, *Ecosystem Management, the ESA, and the Seven Degrees of Relevance*, 14 *NAT. RESOURCES & ENV'T* 156, 157 (2000) ("Threads of scientific research and commentary consistent

As of 1990, the federal government was beginning to experiment with ecosystem management.⁶⁶ The National Environmental Policy Act (NEPA)⁶⁷ was seen as imposing procedural requirements, if not substantive requirements, toward ecosystem management,⁶⁸ a position that was seemingly validated by the Supreme Court.⁶⁹ NEPA regulations were seen as requiring an accounting for the “cumulative impact” of the sorts of development proposals under consideration that might impact an ecosystem, leading to an evaluation of the aggregate impact upon the ecosystem of multiple similar development proposals.⁷⁰ NEPA regulations were also seen to require an assessment of “the impact of resource management decisions on shared ecosystems,” although courts were seen to have not “been eager to expand NEPA obligations beyond traditional jurisdictional boundaries.”⁷¹

By 1996, United States Forest Service regulations had incorporated ecosystem management principles,⁷² and at least eighteen federal agencies were exploring ecosystem management.⁷³ In addition, 105 independent ecosystem management efforts were underway at various locations around the country,⁷⁴ primarily managed at the local level and directed toward specific problems.⁷⁵ States were also experimenting with ecosystem management.⁷⁶

with the ecosystem management theme extend back well into the 1980s, but until the early 1990s writers did not routinely use the phrase ‘ecosystem management’ as a term of art with which readers were generally expected to be familiar.”).

⁶⁶ Keiter, *supra* note 48, at 44 (“[F]ederal land management officials are beginning to take initial, cautious steps to design meaningful transboundary management programs that protect shared ecosystems . . .”).

⁶⁷ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4307f (2006).

⁶⁸ Keiter, *supra* note 48, at 44–45 (concluding that NEPA does not “impose[] a legal obligation on federal land managers to protect shared ecosystem resources,” but also concluding that “as a procedural matter,” NEPA “compels land managers to view their actions from an ecological perspective, even if it does not require them to adopt the most ecologically sensitive course of action”).

⁶⁹ *Id.* at 48 (“[W]hile NEPA insures ‘process’ coordination among neighboring federal land management agencies, it does not insure meaningful substantive coordination sensitive to transboundary ecological realities. Nonetheless, the courts have proven particularly sensitive to interagency disagreements or disputes when reviewing NEPA claims.”); *see also* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989).

⁷⁰ *See* Keiter, *supra* note 48, at 51 (“In sum, NEPA contemplates that serial development proposals will be analyzed aggregately at the outset and not after the agency has committed itself to a course of action.”).

⁷¹ *See id.* at 51–52.

⁷² *See* Hardt, *supra* note 51, at 393 (“Forest Service regulations currently direct that regional and forest plans be based upon the ‘[r]ecognition that the National Forests are ecosystems and their management for goods and services requires an awareness and consideration of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems.’” (alteration in original) (quoting 36 C.F.R. § 219.1(b)(3) (1992))).

⁷³ Haeuber, *supra* note 50, at 2 (“Ecosystem management . . . is a prominent recent policy alternative proposed to address this new generation of issues. At least 18 federal agencies currently are exploring the concept of ecosystem management and its implications for their activities. Each of the major land and natural resource management agencies has drafted policy guidance regarding ecosystem management approaches.” (footnote omitted)).

⁷⁴ YAFFEE ET AL., *supra* note 55, at xvi (stating, in addition to cataloging 105 ecosystem management efforts in the United States and analyzing the available results, that “[t]he intensity

c. Prescriptions

Based on the available ecosystem management experiences, emphasis has been placed on making sure that nondevelopment uses are not lost among development uses in determining which uses should go forward.⁷⁷ One commenter saw a synthesis of concern for development and concern for ecosystem integrity, concluding that “[m]aintaining [v]iable [e]cosystems” would best serve development interests in the long run.⁷⁸ The importance of accounting for the effects of cumulative uses of the land was noted.⁷⁹

Finally, the administrative nature of ecosystem management implies that the region being managed must be administrable. Interestingly, watersheds have been identified as among the more easily defined sorts of ecosystem, which may make them advantageously administrable.⁸⁰

of the debate over ecosystem management at times has hidden a simple reality: People on the ground . . . are already actively engaging in ecosystem management experiments. . . . Few are managing at the ecosystem scale, but most are taking an ecosystem approach to resource management”).

⁷⁵ See Haeuber, *supra* note 50, at 23 (“As currently developing, [ecosystem management] is a spontaneous manifestation of local level concerns, needs and desires for the future. It is less rational planning than an ‘organic’ process characterized by mutation and natural selection of solutions that develop and evolve at different rates and in diverse ways in many areas around the country.”).

⁷⁶ YAFFEE ET AL., *supra* note 55, at 40 (“Since much of the rhetoric associated with ecosystem management in recent years has come from federal officials, it was surprising to discover how much activity is under way at the state level. State agencies are being innovative. . . . Several states are attempting to use ecosystem management as a philosophy underlying their overall approach to resource management.”).

⁷⁷ See Hardt, *supra* note 51, at 392–93 (“To render federal land use decisions within an ecosystem management framework, multiple use decisions should proceed simultaneously at two levels. First, based upon a complete inventory of current environmental conditions and natural resources, federal land managers should apply known ecological principles to establish the maximum level of disturbance that can be allowed within the management area without destroying the viability of the ecosystem. Second, an interdisciplinary team of land managers should, through federal land planning processes and based upon public input, determine the appropriate mix of uses that will be allowed within the ecosystem viability ceiling. While the ecosystem viability ceiling should be a nonpolitical, scientific determination, the second decisionmaking stage, which might be called the ‘lifestyle prong,’ clearly requires political decisions based upon public preferences It is critical, however, that the lifestyle decision not override the ecosystem viability determination and that short-term lifestyle decisions not cause long-term ecological damage.”).

⁷⁸ *Id.* at 391–96 (concluding that the principle of “[m]aintaining [v]iable [e]cosystems” should govern when evaluating public lands policies between multiple potential uses). “Only by maintaining the health of this country’s ecosystems can federal land managers ensure that they are providing the greatest good for the greatest number over the long run.” *Id.* at 391.

⁷⁹ Keiter, *supra* note 48, at 50 (“Meaningful ecosystem-based management must be concerned with the cumulative regional impacts accompanying federal land and resource management decisions. Most resource management decisions inevitably cause environmental impacts that reach beyond established boundaries, affecting adjacent and sometimes distant lands, usually through common resource systems.”).

⁸⁰ Hardt, *supra* note 51, at 394–95 (“Defining the appropriate ecological area over which management decisions should be made is complex. . . . Consequently, in defining a management area, the objective should be to establish ‘administrative ecosystems’ so that the primary energy

d. Problems

As it stands, ecosystem management is problematic. Without clear federal guidance, “ecosystem management” has had a range of meanings, particularly diverging among “biocentric” (directed toward environmental preservation) and “anthropocentric” (directed toward serving society) meanings.⁸¹ Some perceive that ecosystem management could drift backward into “wise use,” with its attendant focus on social exploitation of environmental resources, unless it consciously directs itself toward environmental preservation.⁸² Lack of funding for ecosystem management has been an issue.⁸³ The fact that nonprofits are deeply involved in many ecosystem management efforts has been seen as a point of concern with respect to “institutional design and accountability.”⁸⁴ Ecosystem management has also come under fire for radically departing from traditional governmental approaches involving fixed boundaries,⁸⁵ for being based on false notions that ecosystems can be nonarbitrarily defined,⁸⁶ and because the federal government is not a credible implementer of ecosystem management practices.⁸⁷

and nutrient links within a given biological community are managed comprehensively. Several commentators have suggested that watersheds should define ecologically based management areas.” (footnote omitted)).

⁸¹ See Haeuber, *supra* note 50, at 5–6; YAFFEE ET AL., *supra* note 55, at xv (“[T]he dialogue often has bogged down in arguments over ‘just what is ecosystem management’ and ‘what are its goals.’”).

⁸² YAFFEE ET AL., *supra* note 55, at 44 (“[E]cosystem management is not management toward any end. Rather, it seeks to protect and restore the ecological integrity of landscapes while building sustainable economies and effective organizational and decision-making structures.”).

⁸³ *Id.* at xii–xiii (noting funding problems as significant hurdles in the way of cooperative ecosystem management efforts).

⁸⁴ Lee P. Breckenridge, *Nonprofit Environmental Organizations and the Restructuring of Institutions for Ecosystem Management*, 25 *ECOLOGY L.Q.* 692, 693 (1999) (noting that while “nonprofit organizations may often provide important transformative frameworks” toward ecosystem management ends, “[n]ot all nonprofit organizations will work effectively to restore and maintain ecologically viable natural systems, . . . and the increasing reliance on nonprofit organizations raises important issues concerning institutional design and accountability”).

⁸⁵ See ALLAN K. FITZSIMMONS, *DEFENDING ILLUSIONS: FEDERAL PROTECTION OF ECOSYSTEMS* 34–39 (1999) (“Using ecosystems as a geographic basis for government authority, therefore, represents a radical departure from our national experience with establishing the spatial boundaries guiding the application of government power.”).

⁸⁶ See *id.* at 46–48 (stating that among the “geographic fraternity[,] . . . most reject the idea that regions are actual objects on the landscape”); *id.* at 48–56 (noting that climate, vegetation, and soil are all problematic bases for mapping ecosystems).

⁸⁷ See *id.* at 240–43 (“Only through national land use planning and management can the federal government ensure that the public obtain newly fabricated rights to ecosystem integrity The notion that a Washington bureaucracy can rationally plan or direct land use decision making to achieve . . . ‘optimal land use decisions’ rests on a false assumption and posits in government a wisdom and an ability that neither our government nor any others have ever demonstrated. . . . What evidence is available that a Washington bureaucracy is capable of either making or guiding intelligent land use decisions for the nation? The total amount of knowledge and information that people use in making such decisions is beyond calculation. . . . People make land use decisions that reflect constantly changing economic, social, and environmental circumstances. Their judgments factor in new developments in science, technology, and other

Ecosystem management remains plagued by unresolved issues including vague policy goals, difficulties defining ecosystems, and difficulties defining the size and the position within a jurisdictional hierarchy of areas to be administered.⁸⁸ Significantly, ecosystem management still encounters difficulties accounting for “the interests and positions of numerous actors, both inside and outside of government.”⁸⁹ Despite the efforts of ecosystem management to overcome the misalignment of ecosystem and political boundaries, such problems remain. Decision makers “often face incredible political or administrative hurdles.”⁹⁰ The “numerous land management planning processes initiated by different federal and state agencies” waste precious time and resources.⁹¹ Despite the best of intentions, lack of cooperation and “administrative red tape” remain problematic.⁹² Coordination problems among federal and state participants have not disappeared.⁹³

ingredients that contribute to the functioning of society. Decisions reflect individual choices and ideas about how to better the lives of those making them. How is it possible for a central authority to accumulate all the knowledge and data needed to make sound land use decisions, much less comprehend what it collects? How can a bureaucracy sort out the needs of tens of millions of individuals and tens of thousands of communities and make benevolent land use decisions on that basis? Because of the enormity and complexity of the task, they could not do so even if they wanted to. Ultimately, the planners’ decisions would be driven by the political signals they receive from the interests that keep them in power and by their own desires to expand their programs and budgets rather than by the views of the public from which they would be isolated and to which they would be accountable.” (footnote omitted)).

⁸⁸ Haeuber, *supra* note 50, at 5–7.

⁸⁹ *Id.* at 7.

⁹⁰ YAFFEE ET AL., *supra* note 55, at xii–xiii (“Natural resource managers, project coordinators, and decision makers on the ground are struggling against imposing odds to make land management work. They have little direction and often face incredible political or administrative hurdles.”).

⁹¹ *Id.* at 41 (“By requiring more collaborative work from diverse stakeholders with often conflicting interests, ecosystem-based approaches to land management run head-on into the problems commonly associated with human relations and group decision making. . . . Many current policies make it difficult to practice effective ecosystem management. Participation in numerous land management planning processes initiated by different federal and state agencies consumes the limited time and resources available to nongovernmental stakeholders. Multiple, independent planning processes often make it difficult to take a larger-scale perspective.”).

⁹² *Id.* at 33 (“Problems associated with agencies were reported by 31 percent of the respondents, with the largest portion describing institutional obstacles including a lack of interagency coordination and cooperation and administrative red tape. In many cases, these issues were unavoidable given the need to involve all affected stakeholders and the resulting complexities of multiple decision making layers [J]urisdictional conflicts between agencies were the source of several problems, despite the good intentions of individuals within those agencies or of project coordinators.”).

⁹³ Laitos & Carr, *supra* note 63, at 218–20 (concluding that “the promise of ecosystem management as a long-term public land management strategy is problematic” for many reasons: 1) the inherent difficulty in defining “ecosystem management,” 2) the tension between “biocentric” and “anthropocentric” policy goals, 3) establishing ecosystem boundaries, 4) insufficient data, and 5) coordination problems “among all interested parties—federal, state, and private”). On the other hand, one commentator has concluded that all levels of government—local, state, and federal—are mismatched with respect to the scale of ecosystem management projects, either being underinclusive or overinclusive with respect to any particular ecosystem, and that ecosystem-based management efforts are therefore the proper solution.

Interestingly, in a survey of ecosystem management efforts, the five most-cited outcomes were “procedural in nature.”⁹⁴ That’s a lot of procedure to move through before getting to results. Put another way, the problems of ecosystem management would seem to be centrally procedural in nature.

2. Watershed Management

a. Defined

Watershed management may be seen as one type of ecosystem management where the ecosystem in question is a watershed. Watershed management focuses on the water flowing into a river and the land from which that water flows.⁹⁵ Watersheds are seen as particularly apt ecosystems to serve as focal points for management efforts.⁹⁶ Although watersheds are much more concretely definable than other sorts of ecosystems, there is some variance as to what they encompass. In one sense, watersheds are basically river drainage basins.⁹⁷ However, watersheds may also be defined to include the soil and plants of the drainage basin, as opposed to (for example) the mere existence of a sloped contour of land down which water will run.⁹⁸ More finicky definitions distinguish between what might be

Bradley C. Karkkainen, *Collaborative Ecosystem Governance: Scale, Complexity, and Dynamism*, 21 VA. ENVTL. L.J. 189, 212–17 (2002) (arguing that, with respect to “the demands of ecosystem management,” governments at all levels of hierarchy are mismatched: Local governments are underinclusive, requiring coordination “at a larger geographic scale,” and lack resources and expertise; state governments are sometimes underinclusive and sometimes overinclusive, depending upon the state; and the federal government “is almost certainly too big and too remote from the highly variable, locally situated, complex interdependencies that comprise ecosystems to assume sole or even principle responsibility for managing them”). Under this view, presumably, ecosystem management should therefore go forward despite the hardships, as the most feasible alternative.

⁹⁴ YAFFEE ET AL., *supra* note 55, at 23 (“While one-third of the projects reported specific ecological results, the five outcomes cited most frequently can be viewed as procedural in nature.”). The five most frequently cited outcomes were 1) improved communication and cooperation (74%), 2) development of management plan (62%), 3) development of decision-making structures (56%), 4) change in approach to land management (50%), and 5) ongoing restoration activities (46%). *Id.* at 23 fig.13.

⁹⁵ George Cameron Coggins, *Watershed as a Public Natural Resource on the Federal Lands*, 11 VA. ENVTL. L.J. 1, 13–14 (1991) (noting that protection of watershed resources necessarily involves three considerations: 1) maintenance of instream flow, 2) protection of the riparian zone near streams, and 3) protection of the uplands beyond the riparian zone, which affects the largest area of land).

⁹⁶ COMM. ON WATERSHED MGMT., NAT’L RESEARCH COUNCIL, NEW STRATEGIES FOR AMERICA’S WATERSHEDS, at ix (1999) (“[W]atersheds are logical divisions or regions of the natural landscape, and for some purposes they are ultimately the best framework to use for management.”); Coggins, *supra* note 95, at 45 (“[I]t is logically inescapable that watershed is the key, integrative public resource.”); *id.* at 44 (“All resource uses are dependent on the system in which water and watershed values are integral parts.”).

⁹⁷ Coggins, *supra* note 95, at 13 (“Literally, watershed is the area drained by a river or river system, including riparian zones and uplands.” (footnote omitted)).

⁹⁸ *Id.* at 44 (“Although the term watershed technically denotes a geographic area, in congressional contemplation it more resembles an entire system with multiple productive capabilities. The system has soil, water, vegetative and other biotic components, all of which

called a “watershed proper” and other portions of a drainage basin, such as catchments.⁹⁹

As does ecosystem management, watershed management wrestles with the sorts of problems that arise when political boundaries are not aligned with watershed boundaries, such as cross-boundary coordination problems and interjurisdictional problems.¹⁰⁰ Watershed management is addressed to the full range of watershed stressors, such as timber harvesting, grazing, mining, and water diversions,¹⁰¹ from the premise that if management is not undertaken at the watershed level, stressors in one part of a watershed might impact some other part of the watershed.¹⁰²

b. History and Current Practices

As with ecosystem management, the roots of watershed management may be traced back to the late 1800s.¹⁰³ John Wesley Powell advocated that the American West be organized on the basis of watersheds.¹⁰⁴ “Watershed

interact to stabilize, maintain and enhance each other and the system itself. Without water, the other components will suffer and die.”).

⁹⁹ J.A. Stanford & J.V. Ward, *Management of Aquatic Resources in Large Catchments: Recognizing Interactions Between Ecosystem Connectivity and Environmental Disturbance*, in WATERSHED MANAGEMENT: BALANCING SUSTAINABILITY AND ENVIRONMENTAL CHANGE 91, 93 (Robert J. Naiman ed., 2002) [hereinafter WATERSHED MANAGEMENT] (“In the United States, the term *watershed* is often misused in the context of river basin research and management. By proper definition, the watershed is the ridgeline or elevation contour that delimits drainage basins or catchments. The catchment is bounded by the watershed, and since water flows downstream from the watershed through the catchment, thereby integrating influences of natural and human disturbances within the catchment, we use the watershed as the natural ecosystem boundary.”).

¹⁰⁰ William Goldfarb, *Watershed Management: Slogan or Solution?*, 21 B.C. ENVTL. AFF. L. REV. 483, 483 (1994) (“The trend toward watershed management is a response to the following fundamental legal-institutional problems of water resources management: A) Transboundary water management problems; B) Implications of federalism and separation of powers; and C) Variability of water law among political units.”).

¹⁰¹ BOB DOPPELT ET AL., ENTERING THE WATERSHED: A NEW APPROACH TO SAVE AMERICA’S RIVER ECOSYSTEMS 18–23 (1993) (listing dangers to watershed ecosystems such as logging, transportation infrastructure, grazing, mining, urbanization, point and nonpoint pollution, overharvest, and introduction of exotic species); Coggins, *supra* note 95, at 19–21 (citing timber harvesting, associated road building, extensive grazing, mining, mineral leasing, water diversions, and intensive motorized recreation as threats to watershed quality).

¹⁰² DOPPELT ET AL., *supra* note 101, at xxv–xxvi (“Watersheds are ecosystems composed of a mosaic of different land or terrestrial ‘patches’ that are connected by (drained by) a network of streams. In turn, the flowing water environment is composed of a mosaic of habitats in which materials and energy are transferred and, therefore, connected through biologically diverse food webs. Human activities can result in the fragmentation and disconnection of the habitat patches if management is not planned and implemented from an ecosystem and watershed perspective.”).

¹⁰³ See Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL’Y REV. 379, 391 (2000).

¹⁰⁴ *Id.* (“In the late nineteenth century, John Wesley Powell advocated that settlement in the arid west be organized within “hydrographic basins,” or watershed units . . . rather than by the prevailing township and county system.” Reflecting the dominant values of his time, Powell’s proposal was designed to facilitate publicly controlled development of water resources for

values”—specifically, the prevention of “destructive floods that result from inadequate forest cover”—were the basis for the Timber Culture Act of 1873.¹⁰⁵ Later, the President’s ability to reserve national forests was created by the Forest Reserve (or Creative) Act of 1891,¹⁰⁶ and the subsequent Forest Service Organic Act of 1897¹⁰⁷ declared that forest reserves were “established . . . to improve and protect the forest within the boundaries[] [and] for the purpose of securing favorable conditions of water flows.”¹⁰⁸ Interestingly, the Supreme Court’s decision more than eighty years later in *United States v. New Mexico*¹⁰⁹ found that water yield was the principal aim of the establishment of the National Forest system.¹¹⁰

Around 1900, the concept of “unified river basin management” took hold.¹¹¹ Unified river basin management, as the name suggests, was a watershed-level management philosophy, although one primarily directed toward development ends.¹¹² The years between 1900 and 1990 can be divided into three periods. In the first period, from 1900 to 1933, river basin management was oriented toward development uses, such as flood control, irrigation, and power generation.¹¹³ Federal legislation established large projects in watersheds for development purposes.¹¹⁴ Comprehensive watershed management legislation was considered but never adopted.¹¹⁵

irrigation . . . [,] not to protect the ecological health of aquatic systems.” (first alteration in original) (quoting DONALD WORSTER, *RIVERS OF EMPIRE* 138 (1941))).

¹⁰⁵ Timber Culture Act of 1873, ch. 277, 17 Stat. 605 (1873) (repealed 1891); see Coggins, *supra* note 95, at 4.

¹⁰⁶ See Coggins, *supra* note 95, at 4.

¹⁰⁷ 16 U.S.C. §§ 473–478, 551 (2006).

¹⁰⁸ *Id.* § 475; see Coggins, *supra* note 95, at 4–5. By “water flows,” Congress meant “watersheds.” *Id.*

¹⁰⁹ 438 U.S. 696 (1978).

¹¹⁰ See *id.* at 712–13; Coggins, *supra* note 95, at 5.

¹¹¹ Goldfarb, *supra* note 100, at 486 (“Watershed management’s closest antecedent is the concept of ‘unified river basin management,’ which has been influential in the water resources management community since approximately 1900.”).

¹¹² *Id.* at 486–87.

¹¹³ *Id.* (noting that, of the three periods in “the evolution of unified river basin management,” the first period, 1900–1933, was characterized by “[m]ultipurpose, basinwide water resources development” that was oriented toward “flood control, municipal water supply, irrigation, hydroelectric power generation, recreation, and water quality improvement”).

¹¹⁴ Adler, *supra* note 6, at 1005 (“[M]assive federal spending on large, structural water projects to optimize and ‘manage’ the use and value of water for human benefits [is] reflected in laws such as the Reclamation Act of 1902, the Federal Power Act of 1920, and the Flood Control Act of 1936.” (footnotes omitted)).

¹¹⁵ *Id.* at 1005–06 (“The idea of integrated river basin water policy was developed during the Progressive Era in a series of reports issued by various commissions under Theodore Roosevelt’s Administration: the 1908 Inland Waterways Commission, the 1909 National Conservation Commission, the 1912 National Waterways Commission, and the authorized but never formed 1917 Newlands Commission. All proposed many of the same elements present in today’s watershed proposals, such as coordination of the goals and functions of federal water agencies, comprehensive water quality and quantity planning, . . . and comprehensive evaluation of all issues from a basinwide perspective.” (footnote omitted)). These watershed proposals—never adopted—were directed by multiple-use concerns. See *id.* at 1006.

In the second period, from 1933 to 1965, river basin management was oriented toward uses associated with economic improvement, such as hydropower.¹¹⁶ Comprehensive watershed management legislation was considered again, during the New Deal, but not adopted,¹¹⁷ and was considered and passed over yet again in the Truman and Eisenhower administrations.¹¹⁸

In the third period, from 1965 to 1990, a promising approach to cross-jurisdictional river basin management was attempted by the Water Resources Planning Act of 1965 (WRPA).¹¹⁹ In the end, this approach failed, largely because the provisions of the Act prevented it from exercising any real authority in cases of conflict with existing federal or state law.¹²⁰ Before failing, the Water Resources Council (established by the WRPA) reported that watershed management should be conducted by that level of

¹¹⁶ Goldfarb, *supra* note 100, at 486–87 (noting that, of the three periods in “the evolution of unified river basin management,” the second period, 1933–1965, was characterized by “regional socioeconomic development through publicly-owned hydropower”).

¹¹⁷ Adler, *supra* note 6, at 1007–08 (“A broader view of comprehensive river basin planning returned during the New Deal, in proposals by the National Planning Board, the Water Resources Committee of the National Resources Commission . . . , and the National Resources Planning Board As with Progressive Era proposals, the New Deal agencies suggested a ‘comprehensive approach integrating all resources into a unified, balanced program’ These proposals resembled today’s watershed proposals somewhat more closely than Progressive Era versions with their increased recognition of the link between land development (including deforestation) and water resources degradation caused by increased erosion and runoff.” (footnotes omitted) (quoting Norman Wengert, *A Critical Review of the River Basin as a Focus for Resource Planning, Development, and Management*, in UNIFIED RIVER BASIN MANAGEMENT 9, 12 (Ronald M. North et al. eds., 1981))). However, these proposals—again, aside from the Tennessee Valley Authority, never adopted—were “fundamentally rooted in human use of water and economic development.” *Id.* at 1008.

¹¹⁸ *Id.* at 1008–09 (“[T]he continued promotion of river basin planning by the Truman and Eisenhower Administrations resulted in the Hoover Commission proposal in 1949 to combine most federal water programs into a single cabinet-level department; Truman’s 1950 Water Resources Policy Commission report, which proposed joint federal-state river basin commissions to address both water quality and quantity planning and management; and Eisenhower’s Presidential Advisory Commission on Water Resources Policy, which . . . proposed independent project review through plans prepared by basin-level committees. . . . These proposals mirrored their predecessors’ focus on river basins and basin drainage areas as logical planning entities, but continued as well the underlying purpose of basin planning—to promote the development of water projects.” (footnotes omitted)). None of these proposals were adopted. *Id.* at 1009.

¹¹⁹ 42 U.S.C. §§ 1962–1962d (2000); *see also* Goldfarb, *supra* note 100, at 486–87 (noting that, of the three periods in “the evolution of unified river basin management,” the third period, 1965–1990, was characterized by the rise and fall of the federal Water Resources Council as a mechanism for supervising and implementing cross-jurisdictional river basin development plans).

¹²⁰ Adler, *supra* note 6, at 1009 (describing the WRPA as coming from “Congress and both a republican and a democratic President”). This Act, while mentioning conservation of water and related land resources, “focused primarily on optimum water resource use and development, with only passing mention of conservation or protection.” *Id.* at 1011. The WRPA (as well as the Water Resources Council and River Basin Commissions created by its titles I and II, respectively) failed, arguably due to its express declining of “any impact on existing federal, state, or interstate laws, compacts, or other authorities, regardless of consistency with the goals of [the WRPA] or the outputs of the planning process.” *Id.* at 1011–12.

government of the most appropriate scale.¹²¹ At the same time, “watershed” was established as a coequal use among multiple uses for national resources planning purposes.¹²²

c. Prescriptions

Since a watershed is impacted by uses within the river basin, watersheds (and watershed management) are important in general in multiple-use management analyses,¹²³ serving as an indicator of the “health of the land.”¹²⁴ Laws impacting watershed management are many and are related in complicated ways.¹²⁵ The abilities of a watershed management effort to cross political barriers¹²⁶ and establish cooperation among the relevant agencies¹²⁷ is important to effective watershed management.

¹²¹ *Id.* at 1013 (noting that, before its demise, the Water Resources Council under the WRPA issued a report whose findings included that “the development, management, and protection of water resources should be controlled by the level of government closest to the problem and most capable of representing the interests involved”).

¹²² Coggins, *supra* note 95, at 17 (“Watershed is a coequal multiple surface use, to be managed for sustained yield, under the 1960 Multiple-Use, Sustained-Yield Act and [the Federal Land Policy and Management Act].” (footnote omitted)); *see also* Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. § 528 (2006); Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1732 (2006).

¹²³ Coggins, *supra* note 95, at 18 (“Theoretically, all multiple use management decisions should be premised on coordinated consideration of the effects of the proposed action on all resources. Watershed should be the key element in such consideration, because all other uses ultimately depend on the quality, quantity, and stability of the soil and water—the essence of the watershed resource.” (footnote omitted)).

¹²⁴ *Id.* at 45–46. (“Watershed management should entail consideration of all resources and values of the federal lands and the relationships between them. . . . Many if not most federal land managers long have realized that the proper focus of multiple use, sustained yield management should not be on mineral claims, campgrounds, timber contracts, or other isolated management functions, but rather on the overall health of the land that generates such human benefits. Watershed should be viewed as the embodiment of that ‘health’ concept.”).

¹²⁵ Adler, *supra* note 6, at 991 (“It is difficult to imagine a political and institutional system as complicated and fragmented as that used for protecting and managing water resources in the United States—a system that has been described as ‘similar to a marbled cake, with several levels of government intermingled in an irregular pattern.’ . . . Thus, several institutional imperatives support the need for watershed-based approaches[,] . . . [including] political fragmentation—the overlapping and conflicting division of responsibilities among multiple levels of government and agencies.” (footnote omitted) (quoting William Whipple, Jr., *Future Direction for Water Resources*, in *WATER MANAGEMENT IN THE 21ST CENTURY* 9, 10 (A. Ivan Johnson & Warren Viessman, Jr. eds., 1989))).

¹²⁶ Robert J. Naiman, *New Perspectives for Watershed Management: Balancing Long-Term Sustainability with Cumulative Environmental Change*, in *WATERSHED MANAGEMENT*, *supra* note 99, at 3, 6 (“Watershed issues require coordination on a scale seldom achieved in human societies. . . . This level of concentration on a single goal demands that socioeconomic and political barriers be crossed efficiently and effectively.”).

¹²⁷ Stanford & Ward, *supra* note 99, at 114–15 (“Local and regional fragmentation of management authority is guaranteed to result in interference management. . . . If human disturbances are to be managed for the purpose of maintaining natural ecological connectivity at the catchment scale, management agencies must cooperate to minimize interferences.”).

One commentator has called for mandatory ecosystem and watershed management,¹²⁸ active local participation in watershed management projects,¹²⁹ and more effective implementation structures.¹³⁰ Another commentator has called for an embedded hierarchy of watershed management programs at various levels of “scale” in the hierarchy of a watershed (the way small streams feed into larger streams, or the way small governmental units such as counties are related to larger governmental units such as states),¹³¹ as well as for local authority trumping federal authority on watershed management requirements.¹³² The Committee on Watershed Management of the National Research Council has called for flexibility and responsiveness to local control¹³³ and “an era of flexible federalism” in which state and local governments would have substantial control over watershed management programs.¹³⁴ The Committee has also noted that coordination

¹²⁸ DOPPELT ET AL., *supra* note 101, at xxx–xxxii (calling for a range of federal activity—including consolidation of federal policy-making authority, “[e]cosystem and watershed-level planning by all federal agencies,” and “ecosystem-based watershed protection program[s] for all federal land-management agencies”—as necessary “[t]o implement the new protection and restoration approach”).

¹²⁹ *Id.* at 34 (calling for “the active participation of local communities in implementing” comprehensive watershed protection and restoration).

¹³⁰ *See id.* at 62–63 (“[S]uccessful watershed restoration programs require the active involvement and support of local communities and citizens. . . . Most of the daily decisions that affect riverine systems are made at the local level. It is the local communities that are most directly harmed by degraded riverine conditions . . . , and it is the local communities that will be asked to give up the most perceived economic gain to protect and restore a river. . . . Hence, local communities must be actively engaged in bottom-up efforts to restore riverine systems and biodiversity. . . . [F]or citizens to take charge of their own destiny and to be willing to forgo perceived economic gains requires something more than just desire. It requires empowerment, effective new incentives, the removal of disincentives, [and] effective implementation structures.”).

¹³¹ *See* Adler, *supra* note 6, at 1091 (“[T]he largest watershed units, probably at the basinwide scale, should address issues of regional planning, assessment, and coordination, to ensure that the program properly acknowledges and addresses regional impacts and connections, and to establish the broadest level of regional goals and objectives.” (footnote omitted)).

¹³² *Id.* at 1104 (“[T]here remains the question of *federal* consistency with state and regional watershed programs and requirements. . . . Yet many past consistency provisions have been weak or equivocal, giving discretion to federal agencies to avoid state or regional requirements. . . . [T]here is no reason why, once states and regions adopt watershed protection requirements designed to meet national as well as regional aquatic ecosystem restoration and protection goals, federal activities should not be subject to those requirements in full.” (footnote omitted)).

¹³³ COMM. ON WATERSHED MGMT., *supra* note 96, at 2 (“The environmental, social, and economic diversity of the United States dictates that one standard solution is unlikely to be useful in all parts of the country. . . . Any well-designed national policy for watershed management must maintain great flexibility to accommodate these natural and human variations and allow significant local control and input to decisions.”).

¹³⁴ *Id.* at 3–4 (“Organizations for watershed management are most likely to be effective if their structure matches the scale of the problem. . . . A major barrier to effective watershed management for large basins in the past has been limitations on the transfer of powers. The various levels of government in the United States developed historically with specific authorities and powers, and most governmental entities are unlikely to give up those powers to some larger all-encompassing organization. . . . Partnerships among levels of government and various agencies are required for effective watershed management. The era of a large, dominant

and cooperation will continue to be difficult to achieve unless real authority is vested in watershed management programs, and that in the meanwhile, the ad hoc arrangements that have characterized watershed management to this time may be the best arrangement possible.¹³⁵

d. Problems

As with ecosystem management, watershed management efforts have their share of problems. Mission definition—whether development, or preservation, or both—is a source of difficulties.¹³⁶ There are difficulties defining the “watershed” to be managed.¹³⁷ Questions of whether an effort should be watershed management or ecosystem management also arise.¹³⁸

Involvement on the part of the federal government brings problems as well. The “strong federal presence” required to enforce the management plan may not be appropriate and may act as a magnet for opposition, provoking “strong resistance.”¹³⁹ Finally, fragmented responsibility and dispute

federal government must give way to an era of flexible federalism where the federal government maintains a role but allows state and local governments to assume substantial rights and responsibilities for watershed management.”).

¹³⁵ *Id.* at 204 (“The historical development of governmental organizations in the United States dictates a certain distribution of powers among levels and among agencies within the same level. Watershed management through newly defined organizations will not succeed unless there is a transfer of powers from those established agencies, often an unlikely scenario. Therefore, watershed management in the United States is often best accomplished through partnerships of existing agencies that work together in ad hoc arrangements for particular watersheds.”).

¹³⁶ Coggins, *supra* note 95, at 10 (“The most basic definitional problem raised by the [watershed-related] statutes is whether the aim of watershed resource management should be production or protection, or both.”).

¹³⁷ Goldfarb, *supra* note 100, at 484–85 (“Regional solutions to water resources management problems are also frustrated by the difficulty of defining a water resources problem-shed in a way that will both promote holistic problem-solving and elicit political support. . . . The arduous political task of regional institution-building is further exacerbated by [the Environmental Protection Agency’s] strategy of adopting an ad hoc, esoteric definition of ‘watershed.’”).

¹³⁸ Adler, *supra* note 6, at 1093–94 (“[N]o agreement yet exists on a single framework for environmental boundaries. Hydrological purists continue to advocate programs based on watershed boundaries, while aquatic ecologists now suggest that watershed *ecosystems* reflect more accurate ecological boundaries. But ecological boundaries often cannot be identified with precision There is probably no single answer to this paradox, as is illustrated by the fact that no single ecosystem delineation is more ‘correct’ than others.” (footnote omitted)).

¹³⁹ *Id.* at 1095 (“When aquatic ecosystems cross so many state and international boundaries, a strong federal presence is essential to ensure that progress and goals are reasonably equal around the country. Yet uniform federal regulation of land use will continue attracting significant opposition, and is not appropriate in all cases.”); *id.* at 1102 (“Historical precedent, along with increasing opposition to *anything* federal in scope or origin, tends to suggest that watershed programs should be voluntary and flexible. Previous efforts to establish a nationwide system of watershed management failed, in part due to strong resistance to mandatory federal programs in the areas of land and water use and also to perceived federal control over these domains.”).

resolution methods in the event of interagency turf battles drag down watershed management programs.¹⁴⁰

Again, as with ecosystem management, the misalignment of political boundaries and watershed boundaries is a major problem. It appears to be a larger problem for watershed management than for ecosystem management. Perhaps the relatively more definable nature of watershed boundaries, and therefore the more concrete nature of watershed management programs, clarifies boundary misalignment problems. Watershed management efforts are “difficult to create and, when established, tend to lack political viability.”¹⁴¹ Perverse incentives may be inherent in the structure of some watershed management regions.¹⁴² Cross-boundary coordination and cooperation is hampered by “frequent disagreements . . . with regard to water resources issues.”¹⁴³ Larger regions may see greater institutional conflicts and political rivalries.¹⁴⁴ Lack of system-wide policy coordination reduces watershed management effectiveness, leading to potential endangerment of the watershed.¹⁴⁵ The lack of alignment between watershed

¹⁴⁰ COMM. ON WATERSHED MGMT., *supra* note 96, at 10–11 (noting that a recurrent theme appearing “throughout the committee’s deliberations” was that “fragmentation of responsibility and lack of clarity about how to resolve disputes caused by conflicting missions among federal agencies inhibits the success of the watershed approach”).

¹⁴¹ Goldfarb, *supra* note 100, at 484 (“American political boundaries do not, for the most part, correspond to water resources problem-sheds. Most water resources problems are transboundary in nature, i.e., intermunicipal, interstate, or international. In the American political system, regional political institutions are difficult to create and, when established, tend to lack political viability. Thus, there is rarely a single competent institution with legal jurisdiction over a water resources problem of regional dimension.” (footnotes omitted)).

¹⁴² *Id.* (“In addition, water resources problems such as interbasin transfers of water transcend even recognized regional boundaries. This institutional situation creates the traditional incentive for one jurisdiction to solve its own development problems without regard to spillover water resources effects on neighboring jurisdictions In this process of cost externalization, tragedies of the commons are often overlooked.”).

¹⁴³ *Id.* at 485 (“Myriad governmental institutions at the international, federal, interstate, state, substate regional, and local levels of government play significant roles in managing water resources. Institutional rivalries, conflicting or overlapping jurisdictions, diverse constituencies, and other factors cause frequent disagreements among these institutions with regard to water resources issues.”).

¹⁴⁴ *Id.* at 498 (“Problem-based regions may be coterminous with the problems to be solved, but such regions themselves raise institutional difficulties: 1) the larger the region, the more institutions and interest groups must be included in problem-solving, thus intensifying institutional conflicts and political rivalries; and 2) the larger the region, the greater is the possibility that only the federal government, which may be far removed from the problem area and lack political credibility there, will be capable of devising and imposing a solution.”).

¹⁴⁵ See DOPPELT ET AL., *supra* note 101, at 59 (“Effective watershed restoration also requires greatly improved system-wide policy coordination and consistency. On many rivers, 30 to 40 public agencies have programs entrained that affect the watershed. Each agency has different legislatively established missions and goals. . . . These interests fail to communicate with one another, and their activities and policies are almost never coordinated so that the integrity of the riverine system is maintained. New mechanisms are needed to move beyond the piecemeal management pattern evident on every riverine system nationwide so that systemwide planning, coordination and consistency can be realized.”).

boundaries and political boundaries has negative political, institutional, and funding ramifications.¹⁴⁶

Various levels of government jealously guard their spheres of authority, which hinders watershed management efforts.¹⁴⁷ Policy-wise, watershed management can be most effective if it impacts an entire river basin; but for large river basins, watershed management efforts impact and involve more stakeholders, which can lead to decreased cooperation and turf battles.¹⁴⁸ Finally, watershed management efforts under no federal coordination or direction (of the sort seen to date) can lead to a bewildering mess of various management schemes.¹⁴⁹

C. A Different Bioregional Vision

When political jurisdictions and environmentally significant geographical partitions are not the same, environmental problems crop up. Initially, those problems are due to lack of coordination and cooperation among the various jurisdictions. It seems, however, that problems due to cross-jurisdictional governance exist even under modern ecosystem management and watershed management efforts. The bioregional vision of the 1980s is a nonstarter. In the search for a more widely palatable bioregional vision that could exploit *place* toward self-organizing environmental policy, is there anything left? Perhaps the bioregional vision can be retooled. What if bioregionalism were stripped down to an essential constituent part? Posit a different bioregional vision, in which it is arranged to redraw political boundaries such as state lines to align them with

¹⁴⁶ COMM. ON WATERSHED MGMT., *supra* note 96, at 5 (“Watersheds as geographic areas are optimal organizing units for dealing with the management of water and closely related resources, but the natural boundaries of watersheds rarely coincide with political jurisdictions and thus they are less useful for political, institutional, and funding purposes.”).

¹⁴⁷ Adler, *supra* note 6, at 991–92 (“[W]ater resource programs logically should be organized according to watershed boundaries. Politically, however, this has been difficult because each level of government guards its authority jealously. Instead, control over water resources is divided between federal, state, and local governments.” (footnote omitted)).

¹⁴⁸ *Id.* at 1088–89 (“[W]atershed programs should proceed at the scale of whole river basins or other broadly defined hydrological regions Watershed programs of broad regional scale, however, face significant political and institutional problems. Large watersheds usually cross more political boundaries (local, state, or national), resulting in greater need for intergovernmental coordination. . . . [E]ach new player complicates institutional and political problems and increases the possibility of turf battles, conflicting goals and values, and other parochial behavior. Problems range from the logistical challenge of coordinating a large number of governmental and nongovernmental entities, to the more fundamental difficulty of identifying and accommodating the needs of many regional interests, including diverse social, economic, and environmental interests.” (footnotes omitted)).

¹⁴⁹ *Id.* at 1103 (“[S]ome standardization would help avoid the very confusion, gaps, and conflicts that [voluntary] watershed programs are designed to address. Disparate watershed programs around the country likely would adopt divergent approaches to the issues of scale, boundary, mission, and control addressed above. Programs could overlap, conflict, or seek conflicting goals. Inefficiencies could occur due to overlapping jurisdictions, and individual programs would lose economies of scale. While flexibility is desirable to foster creative solutions appropriate to individual sites, management anarchy can be counterproductive.”).

environmentally significant partitions. Posit that this arrangement establishing bioregionally organized states is almost entirely structural and procedural in nature. In other words, the arrangement would purely concern itself with redrawing state boundaries, and would be utterly agnostic to specific, substantive matters of environmental policy. Such matters would include not only the many politically contentious facets of Sale's bioregional vision, but even the question of where policy lines should be drawn between "biocentric" and "anthropocentric" values. Instead, the authority to make decisions regarding substantive matters of environmental policy would simply be granted to bioregionally organized states. What could be said about such an arrangement?

First of all, lacking the hard and soft facets of the original bioregional vision, the arrangement would be more palatable outside of the original vision's narrow, sympathetic audience. There would be no radical reengineering of the fundamental nature of society, no quasi-religious aesthetic baggage—just the framing of the governing structure of society as squarely as possible with respect to the environment. (At the same time, although the bioregionally organized states would not be forced to adopt any of the hard or soft facets laid out by Sale, they would be free to do so under this different bioregional vision.)

Furthermore, the theories behind ecosystem management and watershed management suggest that even a relatively procedural change, such as establishing bioregionally organized states, could yield environmental benefits. Indeed, ecosystem management and watershed management are predicated on just such an outcome: Establishing bioregionally oriented states should have an inherent positive effect because the match between ecosystem and government jurisdiction, or between watershed and government jurisdiction, would be made more perfect, thus lowering potential barriers to entry to the establishment of environmentally protective policies.

In fact, a realignment of boundaries might address many of the problems observed under ecosystem management and watershed management programs. In bioregionally organized states, many vexing issues would become moot, or less pressing. There would be no need to repeatedly and artificially assemble interested parties, as must be done under ecosystem management and watershed management efforts. Rather, all interested parties in a jurisdiction would already have clear means of support for their involvement by virtue of the ordinary, usual, and traditional mechanisms for state governance. Accordingly, ad hoc management efforts would no longer need to depend upon the service—perhaps the altruistically rendered volunteer service—of interested parties since each bioregionally organized state would already have an infrastructure of representative government. There would be no need to coordinate and agree upon the "mission" of the management effort before the management effort could get underway, the continuously operative default mission being to choose between the range and mix of development and preservation uses available to the ecosystem or watershed. The question of funding would reduce to

how much funding is given for any internal land management purpose, as opposed to rounding up impromptu sums in order to implement externally driven management efforts. The system of government need not radically change to mitigate observed procedural problems with management efforts; only the boundaries of the government need be any different than what has come before.

To be certain, environmentally favorable outcomes under such an arrangement would not be specifically *guaranteed*. That is to say, when choosing between development and preservation, a bioregionally organized state could pick a mix of uses less than one hundred percent preservation, since there is no accounting for the will of the people. However, that is true even presently. It would seem that, if anything, the playing field would be tilted more in favor of environmentally sensitive results than the status quo. Cross-jurisdictional barriers to entry for more environmentally minded policy would be minimized, and instead of needing to fight a procedural headwind, environmentally minded policies would have the wind at their back.

In addition to the minimization of cross-jurisdictional barriers to entry, another force would likely affect environmental policy in each bioregionally organized state. Observation of the “NIMBY” (“Not In My Back Yard”) phenomenon suggests that jurisdictions resist development uses that may have environmental impacts within their borders.¹⁵⁰ In a bioregionally organized state, each decision of that state that could impact its associated parcel of the environment would result in the same bioregionally organized state living with the costs and benefits of that decision. A nationwide system of bioregionally organized states could result in an unbroken coast-to-coast patchwork quilt of backyards, each backyard encompassing an environmentally significant unit in which the NIMBY phenomenon would supply an inherent force toward environmentally protective policy. From the perspective of complexity theory, then, the redrawing of political boundaries in line with environmentally significant partitions could exploit forces related to *place*. Those forces—such as the NIMBY phenomenon, and reduced barriers to entry for environmentally minded policies—might create an invisible green thumb, by virtue of which solutions to environmental problems would be self-organizing; again, not in the sense that solutions would require no force of will, but rather in the sense that the top-level of the system need not specifically direct the shape and nature of those solutions to bring them to fruition. In so doing, the establishment of bioregionally organized states may provide a systemic mechanism to address

¹⁵⁰ Peter P. Swire, *The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition Among Jurisdictions in Environmental Law*, 14 YALE L. & POL’Y REV. (SYMPOSIUM ISSUE) 67, 80, 106 (1996) (“Understanding the Race to the Bottom and NIMBY in this way helps us understand important patterns in local environmental decisions, where people’s ‘back yards’ are especially noticeable. Either the Race to the Bottom or NIMBY, or both, might occur in a particular setting. Where the benefits of development are salient—with visible and concentrated benefits to industry and politicians—then public choice effects tend toward laxity. Where the costs of development are salient—with visible and concentrated costs on neighbors and consequent effects on politicians—then public choice effects tend toward strictness.”).

our complex, systemic environmental problem. Under such a system, environmental problems might be adequately policed as, or before, they arise. Most significantly, while shedding various politically disadvantageous traits of the original bioregional vision, the establishment of bioregionally organized states would retain at least one highly politically advantageous trait. The original bioregional vision encompasses a decentralization of authority from a federal government to more local levels. This is in harmony with the modern federalist argument: Local control is better control.¹⁵¹ Accordingly, not only might an arrangement of bioregionally organized states appeal to a wider segment of the left-hand end of the political spectrum, but adeptly presented, it could authentically appeal to a broad segment of the right-hand end, too; and an embrace wide enough to reach both ends of the spectrum might also encompass the vast swath in-between. A “grand bargain” marrying a bioregional arrangement so defined, and a federalist arrangement as modernly understood, could make this different bioregional vision—*Bioregional Federalism*—feasible, resulting in a system which is more sensitive to “the immediate specific *place* where we live.”¹⁵² In establishing self-organizing environmental policy, Bioregional Federalism could guide our society to inherently live in a more environmentally responsible manner in the “here” in which we find ourselves.

Well.

How do we get “here”?

IV. GETTING TO HERE

The redrawing of state boundary lines in an arrangement implementing Bioregional Federalism would constitute a change of extreme magnitude. How could such an arrangement be made maximally feasible?

As a preliminary matter, as discussed above, one fundamental problem of defining regions along environmental lines for any purpose is that such lines are inherently difficult to draw. Any bioregional boundary redrawing arrangement would therefore have to determine what should be the basis for defining the bioregions. Should they be defined by the range and mix of species found therein, for example? Alternatively, should they be defined by climate? Watersheds seem to be the most administrable method of defining bioregions. Therefore, the most feasible approach would probably be to define bioregions on the basis of watersheds.¹⁵³

¹⁵¹ Larry Kramer, *Understanding Federalism*, 47 VAND. L. REV. 1485, 1499 (1994) (“[S]tate regulation is sometimes justified on the ground that it encourages regulatory innovation, the idea being that state and local governments have incentives to experiment with regulatory policy to attract capital and taxpayers—acting, in Justice Brandeis’ famous phrase, as ‘laboratories’ of democracy.” (citing *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting))).

¹⁵² See SALE, *supra* note 19, at 42 (emphasis added).

¹⁵³ See *id.* at 57 (“A watershed—the flows and valleys of a major river system—is a particularly distinctive kind of georegion, more easily mapped than most . . .”).

What other factors might theoretically shape the feasibility of an arrangement to redraw political boundaries along bioregional lines?

A. General Factors Impacting Feasibility

1. Constitutionality

As a threshold matter, one fundamental factor impacting the feasibility of an arrangement implementing Bioregional Federalism would be arguments about under what conditions the arrangement is constitutional at all. Could such an arrangement be validly enacted merely by federal statute? The Constitution stipulates:

New States may be admitted by the Congress into this Union; but no new State shall be formed or erected within the Jurisdiction of any other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the Consent of the Legislatures of the States concerned as well as of the Congress.¹⁵⁴

Given the clear text of the Constitution, if a bioregional arrangement were statutorily based, state boundary lines could not be redrawn with respect to any states refusing to participate in the arrangement.

Moreover, even with respect to states agreeing to participate, a statutorily proposed arrangement to implement bioregionally oriented states might provoke counterarguments that the arrangement is inherently unconstitutional. A general formalistic counterargument could be phrased in a number of ways. It might be argued that in the course of modifying state boundaries, the House of Representatives would cease to “be composed of Members chosen every second Year by the People of the several States,”¹⁵⁵ because subsequent to implementing a bioregional arrangement, one or more of “the several States” to which the text refers would no longer exist. An analogous argument might be made with respect to senators.¹⁵⁶ Furthermore, if a bioregional boundary redrawing resulted in adjustment to the jurisdictional boundaries within the federal judiciary, it might also be argued that the judges in any jurisdictions so affected might not be “hold[ing] their Offices during good Behaviour,”¹⁵⁷ because the changes to the boundaries of their jurisdictions constitute a removal of office. Essentially, these general counterarguments would maintain that the nature and substance of either the states or the federal government is changing in some way that subtly calls into question whether the structure of the states or the federal government under the new arrangement is constitutional at all.

¹⁵⁴ U.S. CONST. art. IV, § 3, cl. 1.

¹⁵⁵ *Id.* art. I, § 2, cl. 1.

¹⁵⁶ *See id.* amend. XVII, cl. 1 (“The Senate of the United States shall be composed of two Senators from each State, elected by the people thereof . . .”).

¹⁵⁷ *Id.* art. III, § 1.

A specific version of the general counterargument would refer to the language at the end of Article V that limits the range of permissible constitutional amendment by providing, *inter alia*, that “no State, without its Consent, shall be deprived of its equal Suffrage in the Senate.”¹⁵⁸ If a new arrangement is seen to have deprived a state of its equal suffrage in the Senate, then the arrangement’s constitutionality may be questioned.

If judicial review of the arrangement were sought on such grounds, the judiciary would have recourse to interpretive approaches that would remove such obstacles. For example, in the case of the general counterargument, a court could simply decide that the House of Representatives is, in fact, composed of members chosen by the citizens of the several states, even if that set of states has changed. Similarly, in the case of the specific counterargument regarding Article V, a court could simply decide that while the states have changed, if each new state has equal suffrage in the Senate, then the mere change from one set of states to another does not violate Article V.

Even given the flexibility of judicial review, a constitutional amendment may make a boundary redrawing arrangement more feasible, as any problematic constitutional provisions could be cast as having been either explicitly or implicitly altered by the amendment process. Amendment could allow a bioregional arrangement to apply even to holdout states. In addition, amendment would lend strength to jurisprudential interpretations concluding that the arrangement merely and permissibly adjusts the states upon which constitutional provisions depend, rather than impermissibly dispossessing them. That additional support may help to overcome even the specific counterargument under Article V.

On the other hand, constitutional amendment requires overwhelming political will, which would reduce the feasibility of arrangements rooted in amendment. However, for purposes of clarity of discussion, it may be easiest to assume that the arrangement is established through constitutional amendment.

2. Degree of Change and Divisibility

Beyond constitutionality, other fundamental factors that would affect the feasibility of a bioregional arrangement would be, in a broad sense, the degree of change involved and the severability of the arrangement’s provisions. Generally speaking, in any political matter, the smaller the change involved, the less political will is required to make the change. This is the same perspective that would judge the enactment of Sale’s bioregional vision as

¹⁵⁸ *Id.* art. V (“The Congress . . . shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either Case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof, as the one or the other Mode of Ratification may be proposed by the Congress; Provided . . . that no State, without its Consent, shall be deprived of its equal Suffrage in the Senate.”).

stated to be inconceivable, whereas a stripped-down, re-tuned bioregionalism focused solely on changing boundaries may be judged more feasible. If the changes involved even in a bioregional arrangement could be made smaller, or parceled into smaller pieces, they may be made more feasible.

Divisibility of the arrangement would also impact its feasibility. To the extent that the changes involved can be applied piecemeal, the success of the enterprise as a whole may not be subject to the failure of any of its constituent elements. Additionally, if any portion of a bioregional arrangement could be enacted, at least some of the benefits of the arrangement may begin to accrue.

What other factors might shape the feasibility of a bioregional arrangement?

B. Specific Factors Impacting Feasibility

1. Changes to the Number of States

If those changes that are smallest are most easily accepted, a bioregional arrangement preserving the number of states would be more feasible. A geographical region exerts influence within the federal government in two places: 1) in each house of the Legislature, and 2) in the number of electors used to elect the President.¹⁵⁹ If the states in a particular geographical region were to dissolve and re-form as a different number of states, the influence of that region within the federal government would either increase or diminish. In either case, replacement with a different number of states would be a source of discontentment with the arrangement and would reduce the political will in support thereof.

Consider the case in which an arrangement would cause the states in a region to re-form as a larger number of states. First, the Representatives associated with that region would shift within the region, as each new state's share of the House of Representatives is settled. This consequence might be the least troublesome because, while the ratio of representatives to citizens might change for any subregion, the change to the region's proportion of the House would likely be marginal.

However, a second consequence would be likely to have significant impact: If the number of states were to increase within a region, that region would gain more seats in the Senate. Not only would this increase the region's influence in the Senate itself, but it would also result in increased influence in the presidential election process, as that region would have more electors than before. States outside the region would have their influence diluted, and would therefore be less likely to accept an arrangement which could include such a consequence.

¹⁵⁹ See *id.* art. I, § 2, cl. 1; *id.* art. I, § 3, cl. 1; *id.* art. II, § 1, cl. 2 (delegating representatives, senators, and electors on a state-by-state basis).

There is a related difficulty in the case in which an arrangement would cause the states in a region to re-form as a smaller number of states. Again, representatives would shift within the region, but the change to the region's proportion of the House would likely be marginal. However, the region itself would be faced with diminished influence in the Senate and the presidential election. States in that region would therefore be less likely to accept an arrangement that could include such a consequence.

An arrangement increasing or decreasing the total number of states might preserve the proportion of federal influence exerted by each region over the Senate, if the increase or decrease were uniformly applied, such as a proportional increase or decrease applied nationwide. For example, if each existing state were replaced by two new states in a bioregional arrangement, the resulting doubling of the number of states, and thus the doubling of the number of senators, would not change the proportion of any region's influence over the Senate.

However, such a change may still encounter second-order problems. First of all, if an arrangement changed the number of senators (or, for that matter, the number of representatives), then the way in which business proceeds in the legislature would change. Procedures that have evolved and developed to accommodate the current number of members might need to change to accommodate a new number of members. Furthermore, the part played by each congressperson in "the life of the nation" would change if the size of the house in which he or she sits were to increase or decrease, which might provoke resistance to the arrangement. For example, each senator, currently in a position of high federal influence, would be less influential if there were twice as many as there are currently.

Finally, if the number of representatives did not change but the number of senators did (or if the two numbers changed by different ratios), the balance of power between relatively more populous regions and relatively less populous regions in determining the outcome of presidential elections would change, and could provoke resistance. For example, if the number of states increased, then the total proportion of the electoral college vote related to the number of senators would increase, increasing in turn the influence in the electoral college of regions whose fraction of federal political influence is governed more by the number of states therein than upon by the population therein.

2. Piecemeal Adoption Among the States

Allowing some regions to electively redraw their associated state boundaries without all regions doing so would increase the divisibility, and therefore the feasibility, of a bioregional arrangement. Boundary redrawing within any one region would not have to wait on the completion of a holistic boundary redrawing scheme in all regions. Delay might arise in a holistic arrangement where a contentious boundary redrawing in one region is held up by political interests. Delay might also arise where political interests in one region hold up boundary redrawing in another region. At any rate, the

proliferation in the number of parties interested in the shape of the entire arrangement would increase the opportunity for contention.

3. Changes in Legal Authority and Changes in Law

Presuming that the boundaries of a state had been redrawn, what would be impacted? State legislatures pass statutes, state administrative agencies promulgate rules, and a state's judiciary digests and interprets those statutes and rules.¹⁶⁰ However, the principle of least change would counsel that minimum change coincide with a new boundary arrangement. To force each new state to absorb massive changes of law over broad regions contained therein would represent precisely the sort of large change that should be avoided for the sake of feasibility.

Indeed, maintaining existing law upon changing boundaries would be consistent with the intent of the arrangement. An arrangement implementing Bioregional Federalism need not seek to establish environmentally infallible policies at the outset; rather, it would be forward looking, being designed to make future policies in a bioregionally arranged government more environmentally sound. It would be sufficient for boundary redrawing activities to merely establish new governmental authorities to create new policies, while retaining old policies until those new policies could be developed. Thus, if each subpart of a new state were to maintain the statutory, regulatory, and judicial law from whichever state previously contained that subpart, and if changes to the law of the new state as a whole were only incorporated incrementally as time moved forward, an undesirable extent of change could be mitigated.

4. Regions of Federal Legal Effect

Policies with environmental impact are not solely determined at the state level. At the federal level, the legislative branch makes laws, the executive branch promulgates rules, and the judicial branch creates precedent,¹⁶¹ any of which could amount to or contribute to policies having environmental impact. In the bioregional vision, policies set at the federal level should also respect bioregional boundaries. For example, a constitutional amendment to establish a bioregional structure in federal policy-making bodies could be severed from any activities to reconstitute states along bioregional lines.

Even so, it is conceivable that bioregionally oriented boundaries that might be used to set policy at the federal level might not be the same as those used to set policy at the state level. Some current states contain many watersheds, and states subsequent to a bioregional arrangement may well also contain multiple watersheds or "lengths" of watershed; and there may

¹⁶⁰ See, e.g., Or. State Archive, Oregon State Bluebook: State Government, <http://bluebook.state.or.us/state/index.htm> (last visited Apr. 18, 2010) (explaining the branches of the Oregon state government, as well as their functions and powers).

¹⁶¹ See generally U.S. CONST. arts. I–III.

be no reason that watershed-based boundaries of federal policy would necessarily be arranged to contain the same watersheds.

However, allowing watershed-based boundaries of federal policy to differ from watershed-based boundaries of state policy would run counter to the intent of the bioregional arrangement. If different federal policy-making agencies defined regions of federal legal effect with no thought to state boundaries or even regions defined by other agencies, the citizens of any given bioregionally oriented state might be forced to split their attention between multiple regions defined by, for example, the United States Environmental Protection Agency, the United States Army Corps of Engineers, the United States Bureau of Land Management, and the United States Fish and Wildlife Service, in order to competently interact with those various federal agencies in pursuit of sound environmental policy on behalf of their state.

It would be in greater harmony with the bioregional arrangement if the citizens of a single state would not have to divide their attention to policy matters between multiple regions of federal legal effect. Thus, any redrawing of boundaries of federal legal effect in a national bioregional arrangement ought to respect bioregionally oriented state boundaries.

5. *Intrastate Bioregionalist Structure*

Even if legal boundaries at the state level and federal level were aligned with respect to watersheds, there are other legal boundaries that would not be—namely, county and city boundaries, and also administrative boundaries within states. An amendment severable from the broader bioregional arrangement could address this, with reference to Article IV, Section 4 of the Constitution, by requiring that a “Republican Form of Government” mandates bioregionally oriented county boundaries as well (such as county boundaries determined with respect to watersheds).

There would be a potential problem with judicial enforcement of intrastate bioregional boundaries so determined: The Supreme Court held in *Baker v. Carr*¹⁶² that claims related to the Guaranty Clause present nonjusticiable political questions.¹⁶³ In doing so, the Court relied on a couple of earlier cases. In the first case, *Luther v. Borden*,¹⁶⁴ the Court reasoned that since Congress must determine whether or not a state has a republican form of government before the state may enter the union, the responsibility for enforcing the Guaranty Clause rests with Congress.¹⁶⁵ In the second case,

¹⁶² 369 U.S. 186 (1962).

¹⁶³ *Id.* at 218–25 (“We shall discover that Guaranty Clause claims involve those elements which define a ‘political question,’ and for that reason and no other, they are nonjusticiable. In particular, we shall discover that the nonjusticiability of such claims has nothing to do with their touching upon matters of state governmental organization.”).

¹⁶⁴ 48 U.S. (7 How.) 1 (1849).

¹⁶⁵ *See Baker*, 369 U.S. at 220 (“Under this article of the Constitution it rests with Congress to decide what government is the established one in a State. For as the United States guarantee to each State a republican government, Congress must necessarily decide what government is established in the State before it can determine whether it is republican or not. And when the

Minor v. Happersett,¹⁶⁶ the Court reasoned that since the Guaranty Clause does not spell out what it means by “Republican Form of Government,” it has to look elsewhere to find out what that means, and concluded that the states have a duty to understand what that means in order to be able to supply it.¹⁶⁷

These nonjusticiability concerns may disappear in the case of the aforementioned amendment to adjust the Guaranty Clause. First, under the amendment, new states could be admitted to the union not in the Article IV sense, but rather in the sense of being either “formed or erected within the Jurisdiction of any other State,” “formed by the Junction of two or more States,” or some combination of the two.¹⁶⁸ There is no addition of territory as implied by being “admitted,” merely a shifting.¹⁶⁹ Beyond that, the amendment itself could elaborate on what is meant by “Republican Form of Government,” in particular as it would apply to parties seeking judicial review with respect to bioregionally determined intrastate boundaries. Therefore, the amendment may be valid and sufficient grounds for the Court to adjust its Guaranty Clause doctrine.

6. Federalism: The Grand Bargain

Decentralization of governmental power is a strong theme of bioregionalism.¹⁷⁰ The basic idea is that local communities are best able to implement policies to look after the health of their own environmental regions.¹⁷¹ This notion is cousin to current sentiments regarding centralized government power on the other end of the political spectrum. If a bioregional constitutional arrangement were looking for allies among a

senators and representatives of a State are admitted into the councils of the Union, the authority of the government under which they are appointed, as well as its republican character, is recognized by the proper constitutional authority. And its decision is binding on every other department of the government, and could not be questioned in a judicial tribunal.” (internal quotation marks omitted) (quoting *Luther*, 48 U.S. at 42)).

¹⁶⁶ 88 U.S. (21 Wall.) 162 (1874).

¹⁶⁷ See *Baker*, 369 U.S. at 222–23 n.48 (“The guaranty is of a republican form of government. No particular government is designated as republican, neither is the exact form to be guaranteed, in any manner especially designated. Here, as in other parts of the instrument, we are compelled to resort elsewhere to ascertain what was intended. The guaranty necessarily implies a duty on the part of the States themselves to provide such a government. All the States had governments when the Constitution was adopted. In all the people participated to some extent, through their representatives elected in the manner specially provided. These governments the Constitution did not change. They were accepted precisely as they were, and it is, therefore, to be presumed that they were such as it was the duty of the States to provide. Thus we have unmistakable evidence of what was republican in form, within the meaning of that term as employed in the Constitution.” (internal quotation marks omitted) (quoting *Minor*, 88 U.S. at 175–76)).

¹⁶⁸ See U.S. CONST. art. IV, § 3, cl. 1.

¹⁶⁹ See *id.*

¹⁷⁰ See SALE, *supra* note 19, at 91 (“The ecological law with which bioregional politics would logically begin is decentralism, centrifugal force, the spreading of power to small and widely dispersed units.”).

¹⁷¹ See *id.* at 94–95.

broader range of voters, a constitutional amendment to strengthen the decision-making authority of state governments in matters traditionally left to the federal government could be the key to establishing feasibility. An amendment increasing state control of matters impacting environmental policy might increase support for the broader arrangement.

C. A Thought Experiment: Iterative Two-State Boundary Redrawing

1. Hypothesis

An arrangement that seeks to impose a specific bioregional structure from on high would be politically difficult, requiring as it would the sort of widespread agreement that has proven procedurally problematic in ecosystem management and watershed management. On the other hand, what may be a difficult question for a nation of states to resolve—how to determine bioregional boundaries over a vast geographical expanse—may be far easier for small sets of individual states to resolve in consultation and negotiation amongst themselves. If such negotiations could be carried out iteratively, for example, by dealing with boundaries between small sets of states independently, with the aim of growing a bioregional arrangement from the bottom up instead of imposing one from the top down, a bioregional arrangement might become more feasible.

a. State Representation in the Boundary-Redrawing Process

Assuming an iterative boundary-redrawing process, who should be involved in the consultations and negotiations? A fitting answer would be to have the existing states, or representatives of them, negotiate. Tying the decision-making process to states would have an added advantage of providing additional legitimacy at the level at which legitimacy would be needed, and therefore improving feasibility; to the extent that control over the actual process would be retained close to the people, support for the process would likely increase.

Presuming that negotiators representing the states were to direct the decision-making process, who ought those negotiators be? If they are left to be chosen by the governments of the states, those already holding positions in the government may be high on the list of candidates. However, the participation of such people in the decision-making process may be tainted by a desire to safeguard their own fortunes in government.

Article I, Section 6, of the Constitution contains a provision to prevent legislators from being positioned to exert unseemly influence:

No Senator or Representative shall, during the Time for which he was elected, be appointed to any civil Office under the Authority of the United

States . . . ; and no Person holding any Office under the United States, shall be a Member of either House during his Continuance in Office.¹⁷²

A similar provision to prevent negotiators acting on behalf of states in the decision-making process from being entangled in government (at either the state or the federal level) would help to ensure that those negotiators would be of, by, and for the people of the state.

b. A Two-State Method for Boundary Redrawing

Assuming that states are to be involved in the negotiations, and presuming that it would be advantageous to preserve the number of states, how should the negotiations proceed? Of the myriad ways to determine bioregions, watersheds have advantages due to their concreteness, but a watershed-based scheme is not without challenges.

First, at what regional scale should watersheds serve as guidance, and what sort of guidance should they provide? The continental United States does not contain an intuitively obvious set of forty-eight watersheds to be used as the basis for forty-eight bioregionally oriented states. Furthermore, consider the most prominent watershed in the United States: the Mississippi River. The Mississippi defines borders of nine states, and its tributaries, such as the Missouri River and the Ohio River, define borders of more.¹⁷³ To both contain the entire Mississippi River watershed in one state and preserve fifty states would not only imply a state with a far greater share of federal political power than any current state, but would require a process by which a large number of states would need to be allocated to other regions in order to preserve their existence.

Such conditions might be less problematic if there were some way to split a watershed among more than one state. On the other hand, preventing the division of environmental boundaries is the general motivation behind an arrangement implementing Bioregional Federalism in the first place. Could watersheds be split in a way that would not make a hash of the broader goals of the arrangement?

The general problem of allowing a water feature, such as a river, to serve as a political boundary is that all states sharing the river must coordinate to obtain effective environmental policy regarding the same stretch of river. This may be distinguishable from a scenario in which a single river flows through more than one state. In the latter scenario, “upstream” and “downstream” portions of a watershed could be spread between two different states, and one state acting alone would at least have sole discretion to set and enforce environmental policy with respect to the portions of the watershed draining from both sides into the associated portion of the river’s length. The resulting state boundaries would at least be

¹⁷² U.S. CONST. art. I, § 6, cl. 2.

¹⁷³ U.S. GEOLOGICAL SURVEY, U.S. DEP’T OF THE INTERIOR, NATIONAL ATLAS OF THE UNITED STATES OF AMERICA: RIVERS AND LAKES (2003), *available at* http://www-atlas.usgs.gov/printable/images/pdf/outline/rivers_lakes.pdf.

more in line with the broader goals of the arrangement than current state boundaries. Interestingly, since the Constitution provides for extending judicial review to “Controversies between two or more States,”¹⁷⁴ if responsibility for the watersheds feeding into discrete lengths of a river were clearly apportioned, it may be easier to conceptualize addressing environmental controversies between states—for example, over water quality—through existing judicial mechanisms.¹⁷⁵

Therefore, states might be preserved in a way that would not moot the larger bioregional arrangement if, in the course of arriving at the arrangement, the states were allowed to segment a watershed if required in order to “partition” lengths of a river. For example, for a given length of river bordered by any two states, a negotiation among those two states could establish an “upstream” portion of the river and a “downstream” portion of the river such that, for each portion, all land draining into that portion of the river (i.e., the watershed associated with that portion of the river) would reside in one state. Such a provision would accommodate bisection of a river in a manner aligned with watershed flow, allowing even large rivers, such as the Mississippi, to be split among multiple states.

Second, what specific procedures could constitute a reasonable process for determining new boundaries? This a question of fair division: How could all states in a region come up with a plan to fairly divide that region among themselves using watersheds as a guide? Consider the Mississippi River as an example again, and the nine states whose borders are, in some portion, defined by it. Should negotiators for all nine states gather together to discuss a new arrangement of boundaries? How would consensus be reached among nine parties? Any given length will be of little interest to most parties and of fierce interest to a few. Given that, who should propose the new set of boundaries? In determining a proposed new set of boundaries, what would ensure that the proposing party be both sufficiently interested in lengths of remote consequence and sufficiently disinterested in lengths of immediate consequence to make neutral and fair proposals regarding the full length of the watershed? Unless one state’s negotiators are given some special status, wouldn’t negotiators from each

¹⁷⁴ U.S. CONST. art. III, § 2, cl. 1.

¹⁷⁵ See Charles W. Watson, Recent Cases, *Environmental Law—Cause of Action Under Federal Common Law for Pollution of Interstate Waters*, 77 DICK. L. REV. 451, 454–56 (1972) (“Mr. Justice Douglas . . . held [in *Illinois v. City of Milwaukee*, 406 U.S. 91 (1972),] that federal common law controls the pollution of interstate waters. . . . Mr. Justice Douglas held that the legislative efforts [to] reduce the pollution of interstate waters and the express declaration of the federal policy of protecting the rights of the states to control pollution had established a right in an aggrieved state to abate a public environmental nuisance under the federal common law. . . . The federal common law as fashioned by the federal district courts will replace the various state laws in the area of interstate water pollution. Although the federal judges are to act largely on their own ‘informed judgments,’ uniformity is established in the sense that all actions brought in the district courts will be resolved according to the same body of federal common law. . . . The Supreme Court has long recognized that it possessed the jurisdiction to adjudicate the equitable rights of states in common waters. In addition, a state may enjoin another state from using common waters so as to create a nuisance to the citizens of the aggrieved state.” (footnotes omitted)).

state be likely to make their own proposal, resulting in up to nine distinct proposals? How could states adequately evaluate a large number of likely divergent proposals and come to a well-grounded consensus on any one of them? If these questions are then extended to include the many states that don't directly border the Mississippi River, but drain into its tributaries, the difficulties explode.

The assumption that each state would be primarily concerned with those lengths of rivers most immediately tied to its boundaries suggests a solution. Assuming that a river defines a boundary between states, there will be a length of that river sufficiently small that it defines the boundary of only two states. At that granularity, if those two states could come up with some way to avoid splitting that watershed—unless to bisect it in a manner aligned with watershed flow—other states in the watershed may well not care. Additionally, if only two states are involved in a discussion to redraw a shared boundary, an easy answer to the fair division problem is available: one state divides, and the other state chooses.

Therefore, if the redrawing of political boundaries is broken down into a series of two-state fair-division problems, a complicated multistate fair-division problem—one that may not be feasibly surmountable—could be sidestepped.

c. A Method for General Boundary Redrawing

Assuming a two-state boundary-redrawing arrangement, how could it be incorporated into a continent-wide boundary-redrawing arrangement? What if iterations of the two-state fair-division arrangement are not sufficient to handle all cases? Congressional involvement in a continent-wide arrangement could help to smooth things out. First, Congress could enumerate the sets of boundaries between states that currently are not guided by watersheds. The list of boundaries not so guided is likely to include almost all existing boundaries, since it would include any boundaries described in part by a river or the shore of a lake, and any boundaries described in part by a straight line running latitudinally or longitudinally. This could define the range of redrawing activities to occur. Next, Congress could select the sets of boundaries to redraw, and the order of redrawing them, such that the related two-state negotiations could proceed simultaneously, and Congress could direct the whole process in order to conclude it on a certain timeline.

It could be important for the process to have a timeline—if the national will demands that the nation move in a bioregional direction, it would be unsatisfying if the process unfolded so slowly that its ultimate completion is called into question. However, some interstate negotiations may be complex enough, or the negotiators may be intransigent enough, that specific boundary negotiations may not be completed in a timely manner.

In order to handle cases in which states cannot come to agreement because of intransigence, but also to handle any case in which the redrawing activities are stalled (perhaps due to unforeseen conditions that may prohibit fair division), it could be beneficial to include a catch-all

“escape clause” giving Congress the ability to redraw a state boundary if the bordering states themselves are not able to do so. This might occur if two states were to realize that their existing watersheds would only result in a lopsided “fair division,” at which point the states might signal to Congress their resignation in the effort. Alternatively, if each two-state negotiation were allotted a set amount of time, the inability of two states to arrive at a “fair division” solution within that time might trigger the “escape clause” and cause responsibility for that specific redrawing activity to be handed over to Congress—which could be a powerful motivator to the states involved to complete the negotiation on their own. In such ways, an “escape clause” provision could provide for timely resolution, through one mechanism or another, of all redrawing activities.

In a similar vein, it could be beneficial for Congress to take time to study the broader arrangement before setting individual two-state arrangements into motion. It may be that ordering the two-state arrangements in one way would lead to more tractable boundary resolution than ordering them in another way. However, random selection of two-state arrangements would be the means least amenable to “gaming the system,” or exerting undue influence over the proceedings to any one state’s advantage. Therefore, if Congress were allowed to order the proceedings, it might be prudent to limit its ability to do so to such ordering that would minimize nontractable two-state arrangements.

d. Timeline

There is no reason that the mere close of negotiations in any particular two-state arrangement should imply that the new bioregionally oriented states thereby determined are ready to pick up their respective mantles of governance. Even if a newly created state government did not need to absorb changes in law over some portion of its regions, the new state may not have the legislative, executive, and judicial structure in place to promulgate any new policy. Therefore, some time ought to be allotted after creation of new boundaries for provisions and institutions of new governments to be created and prepare for governance.

e. Potential Amendments

Following are a set of hypothetical Amendments drafted with the above matters in mind, in which existing States choose representatives to negotiate, as “States-in-Waiting,” in the establishment of new watershed-based States.

AMENDMENT 1¹⁷⁶

Section 1. When two States seek to redraw their boundaries in the manner provided for by this Amendment, said States sharing a boundary that splits a watershed in a manner described by this Amendment, the Legislatures of each State must Consent to the redrawing and report that Consent to the Congress; but no Consent of Congress shall be required to form or erect either new State resulting therefrom, and those new States shall be deemed admitted by the Congress into this Union in the time and manner described by this Amendment.

Section 2. Before beginning the redrawing activities, the two States involved shall specify a date by which the redrawing activities will be concluded; but in no event will the amount of time from the Consent of the States to the end of the redrawing activities exceed four years.

Section 3. The citizens of each State involved shall choose, by apportioned vote, five persons to negotiate on behalf of that State, as a State-in-Waiting. All such negotiators shall meet the qualifications for service in the Senate of the United States; shall not occupy any civil Office which shall have been created under the Authority of either the United States or the patron State; and shall not be a Member of the House of Representatives of the United States, the Senate of the United States, or any legislative body of the patron State.

Section 4. Each State-in-Waiting involved will begin the redrawing activities with partial custody of the existing boundaries of its patron State. The two States-in-Waiting involved shall negotiate with each other with respect to the boundaries over which they each have partial custody in order to arrive at two redrawn sets of State boundaries, including a new boundary dividing the States; but no redrawn State boundary shall in any part split a watershed, unless to bisect it in a manner aligned with watershed flow. After reasonable negotiation, one State-in-Waiting, identified by chance, shall propose two new sets of redrawn State boundaries; and the other State-in-Waiting shall assign partial custody of the two sets of redrawn State boundaries to each of the two States-in-Waiting involved as it so chooses.

Section 5. No change in boundary should imply a change of legal authority at any geographical point until ten years after the resolution of State boundaries along watershed lines, at which point new boundaries shall attain legal effect.

¹⁷⁶ Amendment 1 describes a two-state method for boundary redrawing as severed from any general boundary-redrawing method and includes time limits for the redrawing process, restrictions on the negotiating parties to prevent conflicts of interest, the drawing of bioregionally oriented state boundaries on the basis of watersheds or bisected watersheds, the fair-division mechanism presented to the two states, and periods of time before the results of the negotiation are given effect.

Section 6. No change in boundary or legal authority should imply a change of law at any geographical point unless a newly constituted legal authority so deems, except that a State Constitution shall pass from each State to its associated State-in-Waiting. At that point, any legal authority whose sphere of authority contains law from more than one previous State may have free initial choice of law from any such previous source, in a manner consistent with the degree of discretion given to it in its institutional role.

AMENDMENT 2¹⁷⁷

Section 1. Congress shall identify any State boundary that in any part splits a watershed, unless to bisect it in a manner aligned with watershed flow, as a State boundary to be redrawn.

Section 2. Within one year of passage of this Amendment, Congress shall determine the complete list of State boundaries to be redrawn, and shall determine therefrom an amount of time allowed for each phase of the general redrawing activities sufficient to permit all State boundaries to be redrawn, reserving sufficient time for itself to redraw any intractable boundaries; but the entire time from passage of this Amendment to completion of the redrawing of all State boundaries shall not exceed ten years.

Section 3. Congress shall study the general redrawing activities, and shall identify any boundaries that cannot tractably be redrawn through two-state negotiation unless some portion of the general redrawing activities proceed in an identifiably constrained order. In no event shall Congress take more than one year to determine the set of such boundaries and the ordering required to make them tractably redrawable by the States.

Section 4. Congress and the States-in-Waiting shall undertake the general redrawing activities in a series of phases, each phase comprising the activities in Section 5, until all State boundaries have been redrawn, or until the only remaining boundaries are not tractably redrawable by negotiation between States-in-Waiting.

Section 5. Subject to modification where required based on identifiable ordering constraints described in Section 3, Congress shall select through chance a State boundary to be redrawn, and in that manner continue selecting State boundaries to be redrawn subject to the following limits and constraints: Congress shall accommodate redrawing activities initiated by any set of two States but still in progress by including those boundaries among the first selection; No

¹⁷⁷ Amendment 2 describes a general boundary-redrawing method as coordinating an iterated series of two-state, boundary-redrawing negotiations as described in Amendment 1 and includes congressional ordering of boundary redrawing and setting of boundary-redrawing timelines, as well as provisions for boundaries not tractably redrawable by negotiation between States-in-Waiting.

State-in-Waiting shall be involved in the redrawing of more than one of its boundaries in any one phase of the general redrawing activities; If a boundary chosen through chance is not tractably redrawable, that boundary shall be passed over until a subsequent phase; and Selection of boundaries in any one phase shall end when no State-in-Waiting with a tractably redrawable boundary remains. Once a set of boundaries to be redrawn has been selected, the redrawing activities will proceed as described in Amendment 1.

Section 6. If a negotiation does not end by the time allotted within the phase as set by Congress, the boundary in question will be deemed wholly intractable by the States, and will be removed from consideration in the general redrawing activities, to be reserved for resolution by Congress.

Section 7. At the end of the general redrawing activities, Congress shall redraw boundaries that were not tractably redrawable by the States in whatever manner it so chooses, taking care that the new boundaries do not in any part split a watershed, unless to bisect it in a manner aligned with watershed flow

Section 8. Once all State boundaries have been redrawn, custody of the final boundaries of each State-in-Waiting will be turned over to its patron State.

AMENDMENT 3¹⁷⁸

Section 1. Congress shall not establish or suffer any boundary of federal legal effect—legislative, executive, or judicial—that divides a State; nor shall Congress establish or suffer any boundary of federal legal effect that in any part splits a watershed, unless to bisect it in a manner aligned with watershed flow, or unless that would prevent a boundary from being properly determined on the basis of population.

Section 2. Congress shall have ten years after the resolution of State boundaries along watershed lines to modify existing boundaries of federal legal effect in accordance with this Amendment.

AMENDMENT 4¹⁷⁹

Section 1. In the United States, with respect to the several States, a Republican Form of Government shall be a form of government in which no boundary between counties, nor any boundary of State legal

¹⁷⁸ Amendment 3 describes the formation of bioregionally oriented boundaries of federal legal effect subsequent to a general boundary-redrawing method, and harmonizing bioregionally oriented federal boundaries with the bioregionally oriented state boundaries resulting from the general boundary-redrawing method.

¹⁷⁹ Amendment 4 describes the clarification of “Republican Form of Government” to require that boundaries within bioregionally oriented states, such as county boundaries, be themselves bioregionally oriented.

effect—legislative, executive, or judicial—shall in any part split a watershed, unless to bisect it in a manner aligned with watershed flow, or unless that would prevent a boundary from being properly determined on the basis of population.

Section 2. Each State shall have ten years after the determination of county boundaries along watershed lines to ensure a Republican Form of Government within that State.

AMENDMENT 5¹⁸⁰

No policy that may affect the environment in a given region will have legal effect unless it is established both by the State government associated with that region and the federal government.

2. *Experiment*

How might a boundary-redrawing arrangement unfold under these rules? Following are two test cases of specific iterations of two-state boundary redrawing according to the arrangement established by the amendments above.

a. *Negotiating States: Oregon and Washington*

Figure 1: Oregon and Washington



¹⁸⁰ Amendment 5 describes a grand bargain by which federal environmental policy must agree with environmental policy established by related bioregionally oriented states.

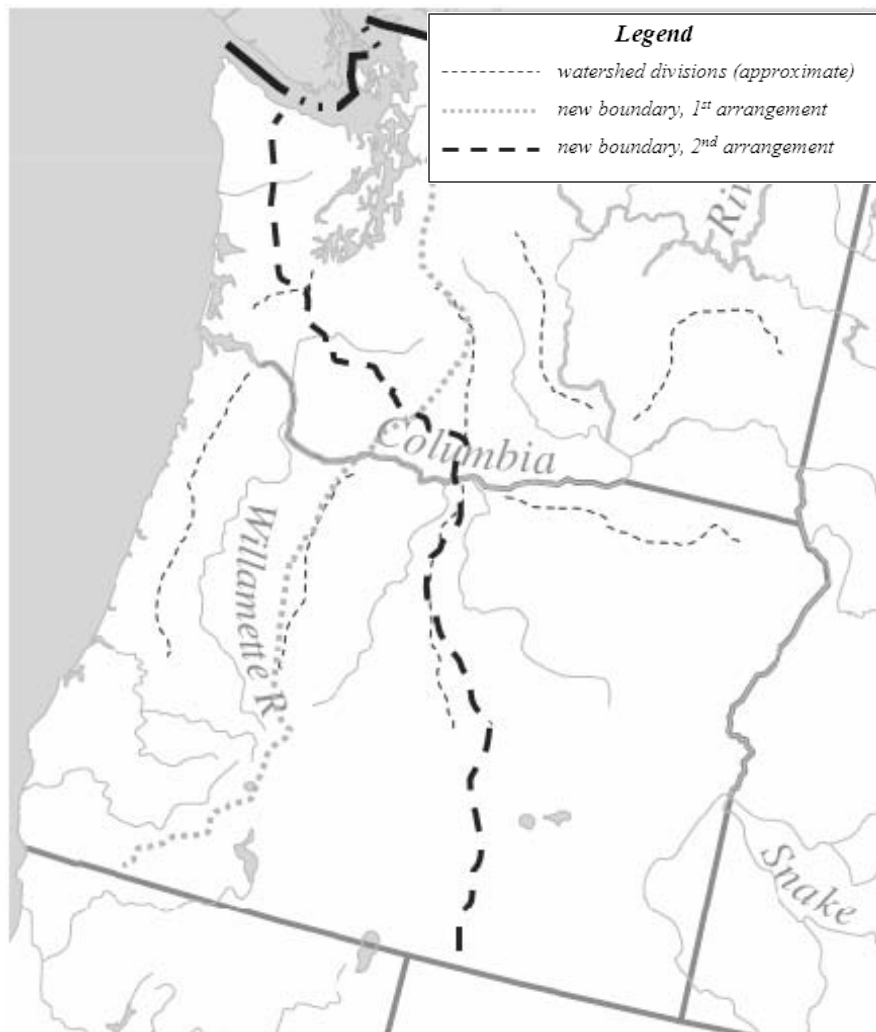
As seen in Figure 1, the border between Oregon and Washington is prominently defined by the Columbia River. The starting point would be to examine the region in terms of its watersheds. To a rough approximation, where two water features are separated on this map, some geographic feature divides them such that one side of the divide drains through a watershed into one water feature, and the other side of the divide drains through another watershed into the other water feature.

**Figure 2: Oregon and Washington, with
Approximated Watershed Divisions**



In Figure 2, approximated watershed divisions in the region of the Columbia River have been added (see the light dashed lines). Under the “one state divides, and the other state chooses” mechanism described in the Amendments, if one state-in-waiting proposed a new set of state boundaries establishing a northern state encompassing all of the Columbia River (although perhaps not all its watersheds), the other state-in-waiting would likely seek to claim that northern state, since it would not merely contain all the Columbia, but would include politically, socially, and economically key territory, such as the areas around the northern Willamette River (including Portland) and the greater Seattle-Tacoma metropolitan area.

Figure 3: Oregon and Washington, with Approximated Watershed Divisions and Proposed New Boundaries



Therefore, self-interested proposals would likely look to establish a boundary that bisects the Columbia in a manner aligned with watershed flow. In that event, a couple of different arrangements might be considered: a first arrangement including a redrawn state encompassing both the Willamette River watershed and the watershed containing the Seattle-Tacoma area, but consciously attempting to limit the geographic area of that state in order to make the remaining state as large as possible (see the heavy dotted line in Figure 3); and a second arrangement including a redrawn state encompassing the Willamette River watershed, but not the Seattle-Tacoma watershed, and dividing up the remainder of the states as fairly as possible in that context (said fair division being likely to allocate more land to the Willamette River region, given the size in population and financial terms of the Seattle-Tacoma area with respect to the Portland area) (see the heavy dashed line in Figure 3). The second arrangement might be more likely, since each set of negotiators would likely prefer at least one area of high population, given that two are available.

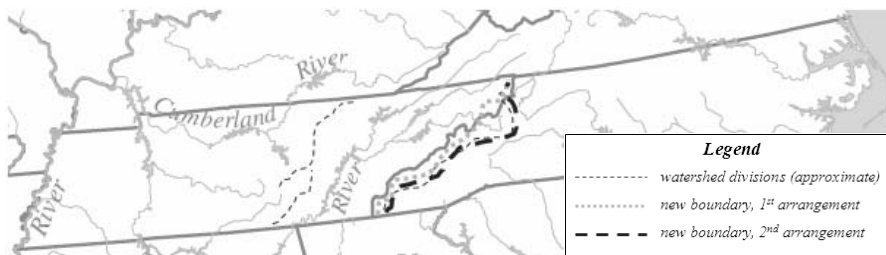
b. Negotiating States: Tennessee and North Carolina

Figure 4: Tennessee and North Carolina



As seen in Figure 4, the border between Tennessee and North Carolina is not defined by a prominent river. Instead, it is a case where the existing border largely appears to already exist between watersheds. In this case, an adjustment of the border to not split watersheds except in a manner aligned with watershed flow might merely amount to shifting the existing border (see the heavy dotted line and heavy and dashed line in Figure 5).

Figure 5: Tennessee and North Carolina, with Approximated Watershed Divisions and Proposed New Boundaries



Precisely which new boundary line would be agreeable to both states would depend upon how closely the existing boundary line hews to a watershed division. If the watershed division is such that it is primarily to the east of the existing boundary line, a first arrangement compensating on the northern end of the new boundary for land “lost” by North Carolina on the southern end of the new boundary might be more likely. On the other hand, if the watershed division is primarily to the west of the existing boundary line, a second arrangement compensating on the northern end of the new boundary for land “lost” by Tennessee on the southern end of the new boundary might be more likely.

3. Conclusions

The largest drawback of an iterative two-state arrangement implementing Bioregional Federalism is that it may not satisfy what might be called a “bioregionalist aesthetic.” The states that result from this process will have boundaries that have shifted; but under the constraints of both preserving fifty states and centrally involving the states in the redrawing exercises, each state may be related to more than one watershed, and include some portion of, but perhaps not all of, any one of those watersheds. This is not as theoretically pleasing as a clean, one-to-one mapping of watershed to unit of political control would be. Not only that, but once the process is complete, the boundaries will have changed, but the vertices in the “network” of boundaries—the corners between the states—will be the same; and if there was no reason to trust that borders defined by water features or by latitude or longitude lines would lead to a harmonization between politics and environmental concerns, there may similarly be no reason to trust that the vertices between them would, without more, be harmonious themselves. Finally, the range of watersheds (and perhaps portions of watersheds) in a new state might not have a clean relationship to some of the other potential measures of a bioregion, such as climate conditions or species mix and distribution.

One possible partial cure would be to initiate a process in which more than two states would negotiate a new arrangement at once. This would have the advantage of potential flexibility even at the vertices. However, as discussed above with respect to the example of states in the Mississippi River watershed, the fair division problem becomes much more complicated once it involves more than two parties, especially when (as would be the case here) it is not a mere matter of divvying up an area, but rather divvying it up into geographically intact parts.

Another possible partial cure would be to wipe the slate clean and not worry about preserving fifty states. An arrangement so based would involve much more significant change, and would therefore require more social agreement before it could become feasible. A middle ground might be for Congress to wipe the slate clean but commit itself to finding fifty regions, which would preserve the number of states while allowing for more direct conformance to a “bioregionalist aesthetic.” However, either case would hand Congress a massive political and logistical problem and demand that

Congress solve it, which would require a great deal of trust in its institutional competence, and which may reduce the feasibility of an arrangement.

On the other hand, even if the amendments above led to an arrangement on the “warty” side of the “bioregionalist aesthetic,” it would still be less “warty” than what exists now. Given the multiple ways in which bioregions might be drawn, it is already certain that there is no such thing as a perfect set of bioregional political boundaries. Perhaps the arrangement would be only a step, but it may be a step in the right direction—although the question would remain of whether the step is significant enough to justify the pain involved in taking it.

V. REFLECTIONS

In exploring the establishment of bioregionally oriented states as a means of establishing self-organizing environmental policy, this Comment makes no claims of infallibility. With luck, it points out some of the major forces that would shape such an arrangement and some features that might make the arrangement more feasible in light of those forces. Even lacking the hard and soft aspects of the original bioregional vision, Bioregional Federalism alone would seem to involve changes of such extreme magnitude as to make even a maximally-feasible bioregional arrangement seem implausible. Hopefully, this Comment may serve to suggest by way of example (albeit perhaps by poor example) that such things are thinkable.

Whatever the strengths of Bioregional Federalism may be, the prospect of addressing our complex, systemic environmental problem is appealing. If a system could be established in which environmentally protective policies were self-organizing, environmental problems might seem to solve themselves. At the same time, absent some mechanism in support of self-organizing environmental policy, a command-and-control system for establishing environmental policy may be inadequate to deal with the environmental impacts that are the byproducts of a complex system—meaning, the byproducts of our market economy. This may in turn force unhealthy political reactions to environmental problems.

As tends to be true for political matters in general, environmental policy to correct environmental impacts will be, to the extent left to political solution, defined by partisanship, and will not be strongly related to rational, broadly undertaken discourse.¹⁸¹ Under such conditions, environmental

¹⁸¹ See THE FEDERALIST NO. 10, at 73–74 (James Madison) (Clinton Rossiter ed., 1961) (“The latent causes of faction are thus sown in the nature of man; and we see them everywhere brought into different degrees of activity A zeal for different opinions concerning religion, concerning government, and many other points, as well of speculation as of practice; an attachment to different leaders ambitiously contending for pre-eminence and power; or to persons of other descriptions whose fortunes have been interesting to the human passions, have, in turn, divided mankind into parties, inflamed them with mutual animosity, and rendered them much more disposed to vex and oppress each other than to co-operate for their common good. So strong is this propensity of mankind to fall into mutual animosities, that where no

impacts may beget environmentally sensitive yet partisan responses, needlessly increasing political animosity in the process. Ugly thought and word may build upon ugly deed to the detriment of potentially more harmonious solutions, until the environmental situation becomes dire enough that shocking and extreme measures are imposed. Perhaps the most important aspect of self-organizing environmental policy would be its service as a bulwark securing freedom from its own potential excesses.

There may be real environmental value to Bioregional Federalism in achieving self-organizing environmental policy, but any realistic proposal would require much further thought. There would certainly be legal effects and consequences, some no doubt profound, that this Comment has not suspected. No course of action that is ill-thought-out can claim the auspices of wisdom. Accordingly, to any who may be intrigued by the potential of self-organizing environmental policy in general, or by the potential of this different bioregional vision in particular, this Comment issues a call to armchairs.

substantial occasion presents itself, the most frivolous and fanciful distinctions have been sufficient to kindle their unfriendly passions and excite their most violent conflicts."").