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Book Review

Working Both (Positivist) Ends Toward a New (Pragmatist) Middle in Environmental Law

ECO-PRAGMATISM: MAKING SENSIBLE ENVIRONMENTAL DECISIONS IN AN
UNCERTAIN WORLD by *Daniel A. Farber*. University of Chicago Press
1999. Pp 224. \$23.00.

*J.B. Ruhl**

Introduction

Cosmologists believe that immediately after the Universe's inflationary epoch, roughly 10-35 seconds after the Big Bang, matter and anti-matter began to annihilate each other.¹ Fortunately, there was more matter than anti-matter and, as they say, the rest is history. The point, however, is that about three minutes into its existence, the Universe consisted entirely of the remnants of a war between two opposites. It has made what it could of itself since then, but by no means does the cosmological theory posit that the final "compromise" between matter and anti-matter derived from any *a priori* sense of how the middle ground should look.

* Professor, The Florida State University College of Law, Tallahassee, Florida. I am indebted to Professors Robert Glicksman and Sidney Shapiro not only for their helpful comments, but also for allowing me to review early drafts of parts of their work in progress book manuscript on pragmatic approaches to risk regulation, *REGULATION AT RISK: RESTORING A PRAGMATIC APPROACH*. Please direct comments to jruhl@law.fsu.edu.

¹ See Rick Gore, *The Once and Future Universe*, NAT'L GEOGRAPHIC, June 1983, at 704, 740; STEPHEN HAWKING, *A BRIEF HISTORY OF TIME* 117 (1988).

I feel the same way about environmental law. Since almost immediately after its statutory big bang in the early 1970s,² two extreme and opposing philosophies—one devoted to protecting the economy and the other to protecting the environment—have waged a war of annihilation that has left in its wake the mish-mash of laws, regulations, judicial opinions, and countless administrative decisions and policies that we today call environmental law. Any notion that the remnant heap of rules represents a reasoned “middle ground” of political deliberation is utterly naive. As one classic discussion of the origins of the National Environmental Policy Act illustrates,³ the “middle” in environmental law is simply whatever the annihilation process leaves behind, and environmental “moderates” are those who fall somewhere between moderately unhappy and moderately pleased with the outcome (the two extremes are always extremely unhappy, and no one is ever extremely happy). Hence, even though this process accounts for most of what we call environmental law, it does not result in a deliberate position. With few exceptions, the middle ground in environmental law has no agenda, no theme, no way of thinking. This is because “the middle” in environmental law lacks any coherent philosophy.

In *Eco-pragmatism*,⁴ Daniel Farber, a leading academic figure in environmental law⁵ and several other fields,⁶ offers his version of what the middle in environmental law has failed to define for itself—a philosophy of how it should look and act. To do so, Farber impliedly marries two emerging themes of the environment. The first theme is scientifically based and focuses on new understandings of the dynamic nature of ecological functions and how we should manage our human affairs to take full advantage of them over the long run. The other theme, philosophically oriented, extracts itself from the positivist foundations of the annihilation process to offer a new spe-

2 Described as the “explosion of environmental law,” from 1970 through 1976, in quick order Congress newly enacted or substantially amended ten major environmental regulation statutes covering air, water, land pollution, project planning, workplace safety, manufacturing, species protection, and public drinking water. See J. William Futrell, *The History of Environmental Law*, in ENVIRONMENTAL LAW INSTITUTE: ENVIRONMENTAL LAW FROM RESOURCES TO RECOVERY §1.2(I)(1)-(3), at 35-39 (1993) (collecting statutes); ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION 105-10 (3d ed. 2000) (same). Congress nearly duplicated that record during the same period in the field of natural resources protection. See Futrell, *supra*, § 1.2(I)(4), at 39-40, 48 (collecting statutes). The process continued into the 1980s, albeit at a slower pace. See PERCIVAL, *supra*, at 107-12 (collecting statutes). For an excellent history of how one field of environmental protection law transformed during this shift from common law to public law, see Arnold W. Reitze, Jr., *The Legislative History of U.S. Air Pollution Control*, 36 Hous. L. Rev. 679 (1999).

3 See E. Donald Elliott et al., *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. Econ. & Org. 313, 326-38 (1985) (describing in detail the “competitive credit claiming” behavior of opposing presidential aspirants as being the central force that opened the door to NEPA and the ensuing statutory revolution in environmental law).

4 Daniel A. Farber, *Eco-pragmatism* (1999).

5 For example, Farber is co-author of a leading and time-tested casebook on environmental law. See ROGER W. FINDLEY & DANIEL A. FARBER, CASES AND MATERIALS ON ENVIRONMENTAL LAW (5th ed. 1999).

6 Farber is also co-author of a leading casebook on constitutional law. See DANIEL A. FARBER ET AL., CASES AND MATERIALS ON CONSTITUTIONAL LAW: THEMES FOR THE CONSTITUTION’S THIRD CENTURY (2d ed. 1998).

cies of environmental philosophy, one based at its roots on classical American pragmatism. When fused, ecological dynamism and environmental pragmatism form “eco-pragmatism,”⁷ a new approach to making environmental decisions in an uncertain world.

I say Farber *impliedly* fuses these two themes because *Eco-pragmatism* supplies only his end-product prescriptions for eco-pragmatism. One disappointing quality of the book is the lack of any effort to build the theory up from the important work that has unfolded in ecosystem science and environmental pragmatism philosophy, a gap I attempt to shore up in this review only to show the solid grounding that Farber’s insightful approach has in these modern developments.

For example, consistent with those trends in ecosystem science and environmental philosophy, Farber sells eco-pragmatism as a new decision making philosophy for environmental law, not a new normative theory of correct outcomes. Indeed, he does not suggest that the political annihilation process landed environmental law in a radically different place than eco-pragmatism would have found. Of course, one might reasonably ask why all the philosophical fuss is worth the time if the outcomes are close to the same either way. To respond, I must rely on my cosmological metaphor once again. Recall that, as it turned out, there was more matter than anti-matter, so the annihilation process came to an end. I, for one, am not sure that the annihilation process in environmental law will ever come to an end as long as it is framed by two opposing philosophies and a vacuum in the middle and, frankly, I am sick of it. Even more so, if the environmental policy wars ever do come to an end, presumably because one side outlasts the other, I fear living under either extreme. Eco-pragmatism may not radically change the way environmental law looks; rather, I expect it will change the way we get there. That is enough for me to have found value in *Eco-pragmatism*. I believe, however, that there is more to be said on behalf of eco-pragmatism than is found in *Eco-pragmatism*, and I expect the extremists at both ends will soon be crawling all over it as anathema to their respective agendas.⁸ Thus, I offer these observations on both the book and the philosophy.

⁷ Ironically, although Farber tells us early in his book that he wrote it to “argue for a pragmatic approach to environmental law,” see ECO-PRAGMATISM, *supra* note 4, at 9, he does not use the term “eco-pragmatism” until the conclusion of the book, *see id.* at 201.

⁸ See, e.g., Richard A. Epstein, *Too Pragmatic By Half*, 109 YALE L. J. 1639, 1665-67 (2000) (assigning *Eco-pragmatism* a mixed review—it does not “fall prey to the excesses of environmentalism,” but also does not sufficiently take into account the strengths of free market environmentalism); Lisa Heinzerling, *Pragmatists and Environmentalists*, 113 HARV. L. REV. 1421 (2000) (concluding that Farber’s pragmatic environmentalism is not sufficiently transformative); David Roe, *Green Scholarship*, 3 GREEN BAG 2d 97 (1999) (offering a decidedly unfavorable review of *Eco-pragmatism* on a variety of bases); *see also* Paul Boudreaux, *Environmental Costs, Benefits, and Values: A Review of Daniel A. Farber’s Eco-pragmatism*, 13 TULANE ENVTL. L. J. 125 (1999) (faulting *Eco-pragmatism* for lack of detail but approving of its approach). It is not my purpose to respond to these reviews; Farber has done so in at least one instance. See Daniel A. Farber, *Green Scholarship—An Oxymoron?*, 3 GREEN BAG 2d 231 (2000) (responding to Roe, *supra*).

I. *Emerging Fronts in Environmental Science and Philosophy*

At the risk of being accused of judging a book by its cover, I will dwell for a moment on Farber's title and what lies behind it in terms of environmental science and philosophy. The title *Eco-pragmatism* suggests to me the fusion of two components, the *eco* and the *pragmatism*, into a unified approach to environmental decision making. Farber devotes few pages, however, to exploring the scientific and philosophical foundations to prepare these two parts for the marriage *Eco-pragmatism* performs. Indeed, it is only within the last decade that those foundations solidly appeared, in the form of a greater scientific understanding of how dynamically the environment functions and a more developed explication of how the philosophy of pragmatism responds to that scientific revelation. To fully evaluate Farber's message, therefore, it is useful to retrace the beginnings of these two disciplines. I cannot do full justice to either of these two streams of thought here. I can demonstrate, however, how their convergent paths lead to the kind of approach to environmental law that Farber describes in *Eco-pragmatism*.

A. *Ecosystem Science*

If we understand *eco* to mean "a combining form representing ecology in the formation of compounds,"⁹ and deferring for the moment what *pragmatism* means, one could reasonably expect that *Eco-pragmatism* would include some exposition on ecology to illuminate what *eco* brings to the marriage. It does not. Late in the book—the second to last page in fact—Farber tells us that, whereas traditional theories of the environment portrayed nature in a delicate balance, "the current teaching of ecologists is that this picture is all wrong. Nature is not in an equilibrium; it is in a constant state of change. The old picture of the 'balance of nature' simply does not correspond to reality."¹⁰ From that scientific position, which Farber simply expects us to take as a given, he offers a policy approach that represents the *eco* in eco-pragmatism:

There are two lessons here: we need to think of human society as firmly embedded in nature, and we need to think of nature as a flux rather than a balance. So environmentalism cannot take the form of a "Berlin wall" keeping humans out and the animals in. Instead, we must envision long-term connections between humans and nature, requiring continual change and adaptation on both sides.¹¹

Nothing Farber says in this passage would draw the ire of modern ecologists, but saving it for page 205 of a 206-page book and presenting only the bottom line does not strike me as putting *eco*'s best foot forward. There is so much more to say on this topic, and although it does not all need to be said in *Eco-pragmatism*, I for one would like to have seen more of it said, and sooner.

⁹ *Random House Dictionary of the English Language* 618 (2d ed. unabridged 1987).

¹⁰ *Eco-pragmatism*, *supra* note 4, at 205.

¹¹ *Id.*

Taking Farber's two end points in reverse order, "nature as flux" corresponds with the rapidly developing science of ecosystem dynamics, and "human society as firmly embedded in nature" corresponds with the emerging policy discipline of ecosystem management. The first has led to the second, as the new science trend increasingly has built a compelling case for new policy approaches. Both developments define today's use of *eco* so much in science and policy circles that a full appreciation of *Eco-pragmatism* is difficult without the background.

1. *Ecosystem Dynamics*

Charles Darwin focused the scientific community's attention on the importance of ecological contexts with the publication of his works on natural selection beginning in 1859,¹² though the term ecology did not surface until later¹³ and the science of ecology did not begin in earnest before 1890.¹⁴ The Oxford ecologist, Sir Alfred George Tansley, first introduced the term "ecosystem" in 1935 to describe the basic functional unit in the study of ecology.¹⁵ The idea stuck, and through the efforts of ecologists such as Eugene P. Odum in the 1950s, ecosystem theory evolved into the building block of modern ecological research.¹⁶

With ecosystems firmly embedded as the subject matter of ecology, our understanding and description of their functions and sustaining forces influences how we design policy and law to manage them. Odum subscribed to the "homeostasis" view of ecosystems, positing that much like the growth of individual organisms toward a homeostatic state,

equilibrium between organisms and environment may also be maintained by factors which resist change in the system as a whole. Much has been written about this 'balance of nature' but only with the recent development of good methods for measuring rates of function of whole systems has a beginning been made in the understanding of the mechanisms involved.¹⁷

As it turned out, however, the beginning to which Odum referred, propelled by the advent of the high-speed computer, led to research that surpasses the homeostasis thesis and forged the theory of nature as flux.¹⁸

¹² See CHARLES DARWIN, *THE ORIGIN OF SPECIES BY MEANS OF NATURAL SELECTION* (Hurst 1859). For an explanation of the importance of Darwin's work to the founding of the science of ecology, see JONATHAN WEINER, *THE BEAK OF THE FINCH* 225-27 (1994).

¹³ Ernst Haeckel, the German Darwinist, coined the term as a companion to his theories of ontogeny and phylogeny. See STEPHEN JAY GOULD, *EVER SINCE DARWIN* 119 (1977).

¹⁴ For an excellent lawyers' history of the discipline of ecology and the role of the concept of ecosystem has played in it, see Fred P. Bosselman & A. Dan Tarlock, *The Influence of the Ecological Science on American Law: An Introduction*, 69 *CHI.-KENT L. REV.* 847, 849-870 (1994). See also Jory Ruggiero, *Toward a Law of the Land: The Clean Water Act as a Federal Mandate for the Implementation of an Ecosystem Approach to Land Management*, 20 *PUB. LAND & RESOURCES L. REV.* 31, 31-41 (1999).

¹⁵ See Bosselman & Tarlock, *supra* note 14, at 861.

¹⁶ See *id.* at 861-63.

¹⁷ *Id.* at 866 (quoting EUGENE P. ODUM & HOWARD T. ODUM, *FUNDAMENTALS OF ECOLOGY* 25 (2d ed. 1959)).

¹⁸ See *id.* at 869-71.

According to this new view, the richness and diversity of ecological systems in the environment will forever defy our full grasp, as they are “continually in flux and exhibit a wondrous panoply of interactions such as mutualism, parasitism, biological arms races, and mimicry Matter, energy, and information are shunted around in complex cycles.”¹⁹ In other words, the environment operates in a state of highly complicated organized disorder. Indeed, scientists are beginning to understand that the disorder—the chaos that is inherent in the environment—is its means of sustainability.²⁰

This revelation explains both the appeal and the folly of the “nature in balance” thesis. As noted biologist Simon Levin stated, “[i]t may well be that natural systems are not so very fragile What is fragile, however, is the maintenance of the services on which humans depend.”²¹ Humans, in other words, want nature to stay in a stable state so that they can continue to derive what they want from it—food, water, wood, minerals, flood control, and so on. The “nature in balance” view simply imprints that human value on nature, portraying the inevitable change humans cause as disruptions to nature’s fragile balance and suggesting that if humans are really careful—if they treat nature gingerly—they can perpetually live off the services that nature’s stable-state ecosystems deliver. The “nature as flux” view reverses that model: nature will change, relentlessly, with or without humans. Humans might accelerate, decelerate, or otherwise alter the changes, but humans will be sorely disappointed if they depend on nature to stay still while they reap the benefits. This is Farber’s *eco* in theory.

2. *Ecosystem Management*

As hard as it was to learn the pointlessness of trying to prevent nature from changing, ecologists concur that it will be harder still to learn how to change with nature—to continue to adapt our ways of deriving value from nature while it changes, and to do this without undermining the sources of those values. As Levin explains, the “nature as flux” view counsels that:

[t]o manage the Earth’s systems and ensure our survival, we have to harness the natural forces that organize the biosphere rather than fruitlessly try to resist them. The biosphere is a complex adaptive system whose essential structure has emerged in large part from adaptive changes that were mediated at local levels rather than at the level of the whole system. Humanity’s program must therefore be to understand those changes, the forces that have shaped them, and their consequences at the larger level, and then to put that knowledge to work in determining where the pressure points are for effecting changes that will preserve critical ecosystem services.²²

¹⁹ JOHN H. HOLLAND, *HIDDEN ORDER: HOW ADAPTATION BUILDS COMPLEXITY* 3 (1995).

²⁰ *See id.* at 4, 27-29.

²¹ SIMON LEVIN, *FRAGILE DOMINION: COMPLEXITY AND THE COMMONS* 15 (1999). Levin’s book has already received high acclaim, having been described as a “lucid and compelling tour through the current intellectual landscape of ecology and environmental science.” Robert May, *How the Biosphere is Organized*, 286 *SCI.* 2091 (1999).

²² *FRAGILE DOMINION*, *supra* note 21, at 15.

The new take on ecosystem dynamics thus leads directly to the new policy of ecosystem management as an emerging force in environmental policy and law.²³

Threads of scientific research and commentary consistent with this ecosystem management theme extend back into the 1980s, but until the early 1990s, writers did not routinely use the phrase “ecosystem management” as a commonly accepted term of art. For example, the current scientific literature on ecosystem management rarely cites to books and articles published before 1990.²⁴ One of the formative scientific writings on the subject, cited in virtually every subsequently published treatment, is from 1994.²⁵ The flagship journal on the topic, *Conservation Biology*, is only in its fourteenth volume.

On the other hand, the number of writings focused on ecosystem management has exploded in this short amount of time. A recent article that attempts to synthesize many of the themes of ecosystem management commentary cites over 100 scientific books and articles with publication dates after 1990.²⁶ This volume of publications—more importantly, the variety of scientific journals willing to publish writings on the theme of ecosystem management—indicates that ecosystem management has become an important and widely discussed idea. Ecosystem management may be a relatively new idea, but it has arrived with a bang.

Although there is much flesh to be put on the bones of the ecosystem management idea, its normative thrust is unmistakably clear and nearly unanimously held²⁷ by those advocating ecosystem management principles in general—i.e., environmental and land management decision makers must center their decisions around the concept of constantly evolving ecosystem functions.²⁸ Ecosystem management has quickly become a coordinating habitat conservation policy for many federal, state, and local agencies as well as private conservation groups.²⁹ Indeed, broader policy agendas extend “systems management” thinking in environmental law well beyond habitat

²³ For a recent treatment of the relation between advancement of ecology research and its use in ecosystem management policy, see John M. Blair et al., *Ecosystems as Functional Units in Nature*, 14 NAT. RESOURCES & ENV'T 150 (2000).

²⁴ In searches of electronic databases, I turned up 61 scientific books with the term “ecosystem management” or something close to it in the title, the vast majority of which were published after 1990. Law follows suit: of 36 law journal articles with “ecosystem management” in the title, all were published after 1990.

²⁵ See R. Edward Grumbine, *What Is Ecosystem Management?*, 8 CONSERVATION BIOLOGY 27 (1994).

²⁶ See Steven L. Yaffee, *Three Faces of Ecosystem Management*, 13 CONSERVATION BIOLOGY 713 (1999).

²⁷ Despite this consensus, some authors contend that ecosystem management policy is a misguided exercise in nature worship and fuzzy science. See ALAN K. FITZSIMMONS, *DEFENDING ILLUSIONS: FEDERAL PROTECTION OF ECOSYSTEMS* 1-16 (1999).

²⁸ For an extended discussion of how ecosystem management principles can be applied in concrete legal settings, see Ruggiero, *supra* note 14, at 44-77 (discussing the use of ecosystem management in water quality protection laws).

²⁹ See STEVEN L. YAFFEE ET AL., *ECOSYSTEM MANAGEMENT IN THE UNITED STATES* (1996) (reviewing 105 ecosystem management projects and providing information on an additional 500).

conservation.³⁰ Environmental law scholarship has quickly embraced this new policy thrust and its underlying “nature as flux” view.³¹ It has worked its way into law school casebooks.³² It has recently, albeit very cautiously, even begun to find form in law to apply.³³ Although science started the ball rolling with the shift to the “nature as flux” model, the challenge now is to “pioneer the practical implementation of an ecosystem approach.”³⁴ This is Farber’s *eco* in action.

B. *Environmental Pragmatism*

Notwithstanding the top billing *eco* enjoys, Farber unmistakably intends *pragmatism* to be an equal partner in the union. By limiting his treatment to the end product, however, Farber provides little insight into *pragmatism*’s up-bringing and what it offers for *eco*. What do we know about the philosophical mate Farber has chosen for *eco*? How do we know it is good enough for our cherished *eco*?

Farber tells us that *pragmatism* is born of “a broader movement in legal scholarship, which is sometimes called practical reasoning or legal pragmatism.”³⁵ Farber, who has written extensively about legal pragmatism elsewhere,³⁶ gives us but a scattered bottom-line primer in *Eco-pragmatism*. It involves, he explains, “a rejection of the view that rules, in and of themselves, dictate outcomes,” relying instead on “the use of theories, but as tools, not as ends in themselves.”³⁷ Theories become “mediating principles to guide decision making” and part of a “framework that leaves us open to the unique attributes of each case, without losing track of our more general normative commitments.”³⁸ In this way, pragmatism takes advantage of “the usefulness of combining concrete examples with more abstract forms of reasoning.”³⁹ Hence, to conclude his tutorial, Farber assures us that, far from being “inter-

30 See, e.g., THINKING ECOLOGICALLY (Marian R. Chertow & Daniel C. Esty eds., 1997).

31 See, e.g., Symposium, *Beyond the Balance of Nature: Environmental Law Faces the New Ecology*, 7 DUKE ENVTL. L. & POL’Y F. 1 (1996); Symposium, *Ecology and the Law*, 69 CHI-KENT L. REV. 847 (1994).

32 See, e.g., FREDERICK R. ANDERSON ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 54-70 (3d ed. 1999).

33 See Oliver A. Houck, *On the Law of Biodiversity and Ecosystem Management*, 81 MINN. L. REV. 869 (1997) (surveying ecosystem management principles as applied under the Endangered Species Act, National Forest Management Act, and other resource protection statutes); Symposium, *Ecosystem Management*, 14 NAT. RESOURCES & ENV’T 147 (2000) (explaining current role of ecosystem management in a variety of legal settings).

34 Jamie Rappaport Clark, *The Ecosystem Approach from a Practical Point of View*, 13 CONSERVATION BIOLOGY 679, 679 (1999) (calling for, as Director of U.S. Fish and Wildlife Service, the union of ecosystem dynamics science and ecosystem management policy in the administration of the Endangered Species Act).

35 ECO-PRAGMATISM, *supra* note 4, at 9.

36 See *id.* at 9 n.22 (citing some of Farber’s other works). See also Daniel A. Farber, *Parody Lost/Pragmatism Regained: The Ironic History of the Coase Theorem*, 83 VA. L. REV. 397 (1997); Daniel A. Farber, *Reinventing Brandeis: Legal Pragmatism for the Twenty-First Century*, 1995 U. ILL. L. REV. 163; Daniel A. Farber, *Legal Pragmatism and the Constitution*, 72 MINN. L. REV. 1331 (1988).

37 ECO-PRAGMATISM, *supra* note 4, at 10.

38 *Id.* at 11.

39 *Id.* at 15.

changeable with ad hoc balancing,” legal pragmatism “weighs all the factors . . . and then tries to make a good decision in any given case.”⁴⁰

Is that it? Can we move from that quick summary immediately to questions as deep and overarching as how to discount the loss of future human lives or which species to allow to go extinct? I think that may be rushing the courtship a bit. My concern is that Farber is expecting too much of readers who are not well versed in legal pragmatist philosophy but whom Farber wishes to convince that his happy union between *eco* and *pragmatism* will last. His summary of the core values of legal pragmatism would make any pragmatist proud, but it fails to convey the richness of pragmatist philosophy, particularly that of the emerging stream of environmental pragmatist philosophy. It is this environmental pragmatism that demonstrates why those core values are the right starting point for modern environmental issues.

The foundation of Farber’s *pragmatism* begins with the patron saints of classical American pragmatism—figures such as Charles Pierce, William James, Josiah Royce, George Herbert Mead, John Dewey, and their contemporaries who began forging the theory in the late 1800s.⁴¹ These pragmatists did not write with what we think of today as environmental issues in mind because pragmatists grapple with real-world problems, and environmental issues were not paramount in that regard at the dawn of American pragmatism. Rather they focused generally on the connectivity of the environment—using that term in the broadest sense—with the human experience, and their work embedded a rich texture of environmental foundations into the pragmatist thesis. Today, some modern environmental philosophers, many of whose work can be found in Andrew Light’s and Eric Katz’s path-breaking book *Environmental Pragmatism*,⁴² have tapped into those foundations in ways remarkably consistent with Farber’s use of legal pragmatism to shape modern environmental law.

The principle common to this entire body of work and Farber’s brief summation is the rejection of positivist philosophies of the environment. Thus, where Farber rejects the view that rules in and of themselves dictate outcomes, he echoes American pragmatists’ conviction that “attempts to set down the ‘final word’ on what is right have a disturbing tendency to show up as incomplete, ambiguous or quaintly archaic in the next generation,”⁴³ and finds good company in those modern environmental pragmatists who are “highly critical of any notion of absolutes in either knowledge or metaphysics.”⁴⁴ Indeed, to the extent that battling positivist theories frame issues, as Farber says is the case in modern environmental policy, pragmatism often

⁴⁰ *Id.* at 93.

⁴¹ Farber elsewhere has drawn the connection between legal pragmatism and its roots in the work of these early American pragmatist philosophers. See Farber, *Legal Pragmatism and the Constitution*, *supra* note 36, at 1337 (“This term legal pragmatism . . . highlights the connection between the new turn in legal thought and the American pragmatist philosophers.”).

⁴² ANDREW LIGHT & ERIC KATZ, *ENVIRONMENTAL PRAGMATISM* (1996).

⁴³ Kelly A. Parker, *Pragmatism and Environmental Thought*, in *ENVIRONMENTAL PRAGMATISM*, *supra* note 42, at 21, 26.

⁴⁴ Andrew Light & Eric Katz, *Introduction: Environmental Pragmatism and Environmental Ethics as Contested Terrain*, in *ENVIRONMENTAL PRAGMATISM*, *supra* note 42, at 1, 7.

leads to a striving for “metatheoretical compatibilism between the opposing theories.”⁴⁵

Pragmatism thus rejects moral foundationalism and assumes moral pluralism, an important point for those interested in modern environmental policy. As Katz and Light observe, one of the troubling features of modern environmental ethics scholarship is the speed with which it reached the “narrow predisposition that only a small set of approaches in the field is worthwhile,” such that the only “adequate and workable environmental ethics must embrace non-anthropocentrism, holism, moral monism, and, perhaps, a commitment to some form of intrinsic value.”⁴⁶ Pragmatism, by contrast, “maintains that no set of ethical concepts can be the absolute foundation for evaluating the rightness of our actions.”⁴⁷

So where does environmental pragmatism philosophy, with its anathema to positivist, rule-driven decisions and moral monism, lead environmental policy? Here we turn to Farber’s notion of theories as guidelines tested by complex experiences. This approach is also well represented in classical pragmatist theory and the emerging environmental pragmatism philosophy. Central in the pragmatist method is a willingness to test and discard theory where it does not fit the experience, rather than try to shape outcomes to fit the theory. Thus, classical American pragmatism emphasized a “practice over theory” approach in which “attention to the specific context of action reveals a methodology explicitly pragmatic, in that practice preceded the development of theory.”⁴⁸ Extending that theme to the modern environmental policy context, one of the new environmental pragmatists summarizes the sharp distinction between positivist and pragmatist approaches to theory and experience: “[t]he positivists are thus deductive, moving from theory to the development of hypothesis in order to study a particular problem, while pragmatists are inductive, moving from a complex problem to a general theory of understanding in order to improve a given situation.”⁴⁹ From this, it is easy to appreciate the appeal of pragmatism to environmental philosophers, for “environmental topics are conducive to such applied goals, because natural resources management, environmental policy, and agricultural land use invite practical action.”⁵⁰

In that applied approach exists another core theme of pragmatism relevant to the modern environmental context: the absolute rejection of the Cartesian theory of dualistic mind-matter or human-environment domains. Dewey in particular hammered away at dualism’s spectator theory with his view that “nature, as a complex of objects of knowledge, is neither complete in itself apart from humans, nor the locus of extra-human deliberation.”⁵¹

⁴⁵ *Id.* at 11.

⁴⁶ *Id.* at 2.

⁴⁷ Parker, *supra* note 43, at 26.

⁴⁸ Light & Katz, *supra* note 44, at 10.

⁴⁹ Leslie Aileen Durham, *Taking a Pragmatic Behavioral Approach to Alternative Agriculture Research*, 13 AM. J. ALTERNATIVE AGRIC. 92, 93 (1998).

⁵⁰ *Id.*

⁵¹ Larry A. Hickman, *Nature as Culture: John Dewey’s Pragmatic Naturalism*, in ENVIRONMENTAL PRAGMATISM, *supra* note 42, at 50, 53.

This is the legacy the classical American pragmatists handed to the modern environmental pragmatists, for it rocks the anti-anthropomorphic view that dominates today's narrow-minded environmental ethics. Thus, environmental pragmatism is "anthropometric" in that all environmental values—or all the environmental values that count—are those that derive from the *human* experience, about which *humans* converse, and which only *humans* measure.⁵² This is why almost all pragmatists emphasize the importance of economic theory as the social science of human values but require that it be considered alongside the other natural and social sciences as one of many useful tools of analysis of the human-environment experience.⁵³

As explained above, the classical American pragmatists offered no concrete examples of how to carry out this approach in environmental contexts. That has been the work of Light, Katz, and fellow environmental pragmatism philosophers—to translate Dewey and his kind for today's environmental policy. Here we find out just how good a match *pragmatism* is for *eco*. In what could pass for the title of an ecosystem management manual, environmental pragmatists tell us that natural resource management policy must be "pluralistic, pragmatic and evolutionary."⁵⁴ To meet these goals, the policy must provide for economic and social change, recognize the interdependence of organisms and processes both within ecosystems and between humans and nature, consider intergenerational consequences of today's decisions, and use adaptive decision making processes.⁵⁵ Hence, contrary to the environmentalists' creed, economic consequences count, but, contrary to the economists' creed, they have their limitations in shaping policy.⁵⁶ Policy management under environmental pragmatism is, in other words, working both positivist ends toward a new pragmatist middle.

II. Bridging the Positivist Chasm in Environmental Law

The preceding excursion into the leading edges of environmental science and philosophy helps to illustrate the contribution Farber has made in staking out the new middle ground in environmental *law*. Ecosystem management (*eco*) and environmental pragmatism (*pragmatism*) stand on their own legs and seem to make a nice pair, but neither stream of thought has yet offered much insight into how to incorporate themselves into the legal system. As noted above, ecosystem management has only recently made inroads, small inroads, into legal text, and even devout environmental pragmatists bemoan that they "seem to have no real impact on the deliberations of environmental scientists, activists and policy-makers."⁵⁷ Someone has to take eco-pragmatism seriously in order to create a new definition of "the middle" in environmental law; a definition that does not merely accept the remains from the

⁵² See Parker, *supra* note 43, at 33.

⁵³ See Emery N. Castle, *A Pluralistic, Pragmatic and Evolutionary Approach to Natural Resource Management*, in ENVIRONMENTAL PRAGMATISM, *supra* note 42, at 246-48.

⁵⁴ *Id.* at 231, 247.

⁵⁵ See *id.* at 233-34.

⁵⁶ See *id.* at 248.

⁵⁷ Light & Katz, *supra* note 44, at 1.

battles between the ends, but rather defines itself through the pragmatist method.

A. *The Familiar Positivist Ends: Bean Counters vs. Tree Huggers*

Step one in the process of making eco-pragmatism legally relevant is exposing the positivist origins of our existing “political annihilation” approach to defining the middle ground in environmental law. True to spirit of the American pragmatists, albeit without drawing directly from their work, *Eco-pragmatism* does as good a job at this as can be found anywhere in environmental law literature. Indeed, perhaps eager for the fight, Farber starts the book by painting a vivid picture of two warring clans:

Some people seem to think these questions have simple answers. One approach that promises such answers is cost-benefit analysis At the other end of the spectrum from cost-benefit analysis are those who believe that public health and environmental quality are paramount, much like constitutional rights such as free speech.⁵⁸

Farber experiments with several ways of illustrating this dichotomy. He caricatures the division as one “between ‘tree huggers,’ who hold the environment sacred and reject economic values as profane, and ‘bean counters,’ who believe only in values that can be quantified in dollars and cents.”⁵⁹ At a deeper level, Farber explains, the tree huggers are really the environmental version of neo-republicanism, eschewing the individualistic tool of the market for pluralistic political institutions that integrate public values, such as the environment, into decision making.⁶⁰ Their ultimate metric for environmental policy is “willingness to vote.”⁶¹ The bean counters, by contrast, cling to the view that economic efficiency, as mediated by the market, is *the* measure of social welfare, requiring that we assess all environmental decisions according to relative cost and benefit.⁶² Their ultimate metric for environmental policy is “willingness to pay.”⁶³ Whatever the description of these the two camps, Farber’s point is undeniable: that “much of the environmental scholarship of the past twenty years has been dominated by the struggle between these opposing viewpoints.”⁶⁴ At rock bottom, the dispute is over the extent to which the market should decide environmental policy issues,⁶⁵ and the two sides share only “a belief that environmental policy can be based on a single overriding value, whether that value is economic or environmental.”⁶⁶

Environmental debates are not usually cast in terms of opposing positivist philosophies, but doing so reveals much about what lies behind the rhetoric. As Professor Dan Tarlock has observed, the rhetoric of environmentalism shares many traits with the post-modern, transformative

⁵⁸ ECO-PRAGMATISM, *supra* note 4, at 6-7.

⁵⁹ *Id.* at 39.

⁶⁰ *See id.* at 43.

⁶¹ *Id.* at 42.

⁶² *See id.* at 39-41.

⁶³ *Id.* at 42.

⁶⁴ *Id.* at 35.

⁶⁵ *See id.* at 41.

⁶⁶ *Id.* at 9.

theories of critical legal studies, as both seek to destabilize and redistribute the boundaries of property and power.⁶⁷ But environmentalism in *practice*—that is, the way environmentalism approaches environmental law—has taken all its cues from die-hard positivism.⁶⁸ True to the positivists' theory that rules are communication of pre-existing binding standards, environmentalists have stood on, not deconstructed, the rule of law as resolutely as would any stodgy captain of industry.⁶⁹ Their litigation record to uphold the law, not change it, is impressive.⁷⁰ As Tarlock puts it, they are “thinking Unger but pleading Hart.”⁷¹ Thus, contrary to what the respective rhetorical positions of the bean counters and tree huggers might suggest, much of the debate in environmental law is not between one conservative, positivist camp and one liberal, post-modernist camp, but between two positivist extremes.

Farber is bound to attract criticism for devoting so much of his work to drawing out this conflict, as if he is fabricating a war of values when in fact peaceful consensus is the rule in today's environmental policy.⁷² But anyone following the Headwaters Forest controversy,⁷³ for example, would have a hard time thinking of Environmental Protection Information Center, the environmental group advocating for the immediate, unequivocal preservation of the old growth redwoods, and Charles Hurwitz, whose company owns the redwoods and who makes no apologies for thinking of them purely as a crop commodity, as being on the same values page.

Repulsion to this narrow-minded, binary approach to environmental policy is growing; Farber is not alone. Despite the factions, some economists and environmentalists have been collaborating on elegant win-win ideas for decades.⁷⁴ More and more environmental law and policy scholars identify the chasm between the bean-counting, cost-benefit-calculating, market-wor-

⁶⁷ See A. Dan Tarlock, *The Future of Environmental “Rule of Law” Litigation*, 17 *PACE ENVTL. L. REV.* (forthcoming 2001) (manuscript at 26-27, on file with the *George Washington Law Review*).

⁶⁸ See *id.* (manuscript at 23).

⁶⁹ See *id.*

⁷⁰ See, e.g., Nicholas Lemann, *No People Allowed*, *THE NEW YORKER*, Nov. 23, 1999, at 97 (discussing accounts of a radical environmental advocacy group that uses litigation extensively to advance its self-described anti-social goals). While writing this review, I received a “Dear Friend” letter from Greenpeace asking for money to help the organization's battle with “the bad guys in black hats,” whom they promised me they would “hit . . . with injunctions, expert testimony, sound scientific research, detailed reports, on-target legislation, shareholder stratagems, and more.” See Letter from Greenpeace to Friend (undated, received by author Feb. 2, 2000) (on file with author).

⁷¹ Tarlock, *supra* note 67 (manuscript at 8-9).

⁷² See Roe, *supra* note 8, at 98-99. Roe's evidence that the values war is over comes from the declaration of a political columnist in 1990 who stated that the war was over. See *id.* at 99. I have a hard time squaring the assault on environmental regulation waged by the 104th Congress—five years after the columnist's declared peace—with the idea that the values war is over in environmental policy. See Richard J. Lazarus, *Fairness in Environmental Law*, 27 *ENVTL. L.* 705, 708-10 (1997) (suggesting that fundamental normative issues remain unresolved in environmental law).

⁷³ See David J. Hayes, *Saving the Headwaters Forest: A Jewel that Nearly Slipped Away*, 30 *ENVTL. L. REP.* (Envtl. L. Inst.) 10131 (2000).

⁷⁴ Some recent examples are the Environmental Defense Fund's program to pay Texas ranchers to trap cowbirds that invade nests of endangered songbirds, and the Nature Conser-

shipping economists and the tree-hugging, neo-republican, market-hating environmentalists as one of the most pernicious impediments to sound decision-making.⁷⁵ More importantly, concrete developments in environmental law and policy reflect a growing intolerance for the artificial distinction between the two extreme positions. The Department of the Interior, for example, has forged significant administrative reforms in order to implement the Endangered Species Act in practical ways that advance both economic and environmental interests.⁷⁶ Similarly, the emerging “sustainable development” movement, now the official policy of the United States and many other nations, explicitly fuses environment and economy, along with social equity, to form an indivisible triad of policy goals.⁷⁷ None of these or similar policy developments, however, has avoided potshots from the extremists,⁷⁸ and it is naive to think that the bean counters and tree huggers have called it quits.⁷⁹ For the people advocating the middle, therefore, the challenge is in defining a way to get there that does not rely on more political annihilation. Enter eco-pragmatism.

B. *The New Pragmatic Middle*

The extremists just will not seem to fade away; if anything, they continue to drown out and define the middle. Hence, in the style of classical American pragmatists—always seeking the metatheoretical compatibilism between the opposing theories—Farber methodically works through the respective pros and cons of the two positivist ends in environmental law to find what may become the core of a pragmatist middle, as well as what the middle should discard. I expect that it will be this portion of the book that receives

vancy’s program to supply farmers the funds to purchase low tillage equipment. See Traci Watson, *Environmental Groups Wielding Power of the Purse*, USA TODAY, Feb. 3, 2000, at 5A.

⁷⁵ See, e.g., J. Baird Callicott & Karen Mumford, *Ecological Sustainability as a Conservation Concept*, 11 CONSERVATION BIOLOGY 32, 34 (1997) (identifying “resourcism” and “preservationism” as the two opposing philosophies that dominated environmental policy for the first three quarters of the twentieth century); Marc R. Poirier, *Property, Environment, Community*, 12 J. ENVTL. L. & LITIG. 43 (1997) (describing the debate as one between the “property rights encomium” and the “environmental jeremiad”); J.B. Ruhl, *Sustainable Development: A Five-Dimensional Algorithm for Environmental Law*, 18 STAN. ENVTL. L.J. 31, 31-35 (1999) (discussing the debate between “environmentalists” and “resourcists”).

⁷⁶ See J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 367 (1998).

⁷⁷ See Ruhl, *supra* note 75, at 38-41 (providing an overview of sustainable development policy and literature on this issue).

⁷⁸ See Ruhl, *supra* note 76, at 386-87, 397-98 (discussing several of the Endangered Species Act reforms and the stiff opposition they met from some environmental groups, often in the form of litigation); Bill Willers, *Sustainable Development: A New World Deception*, 8 CONSERVATION BIOLOGY 1146 (1994) (objecting to sustainable development because it includes economic criteria).

⁷⁹ The issue *du jour* has been the impact of environmental regulation on property rights. Anyone suggesting that the bean counter/tree hugger metaphor is inappropriate simply has not been following the vitriolic debates on that topic. Compare LAND RIGHTS: THE 1990S PROPERTY RIGHTS REBELLION (Bruce Yandel ed., 1995) (property rights attack on environmental regulation), with LET THE PEOPLE JUDGE: WISE USE AND THE PRIVATE PROPERTY RIGHTS MOVEMENT (John D. Echeverria & Raymond Booth Eby eds., 1995) (environmentalists’ counter-attack).

the most attention from other environmental law scholars and policy advocates. The committed positivists belonging to one camp or the other will evaluate Farber's work based on how closely it aligns with their ideology. Where Farber praises their pet idea, they will say, "See, Farber agrees with us!" Where Farber criticizes their idols, they will ignore him or call him names. Farber can not win in this game with either end, because, like a good pragmatist, he eventually finds pros and cons in both extremes. With the bean counters and tree huggers, however, it is all or nothing; you are either with them 100 percent or you are with the enemy.

I am not interested in regurgitating their debates. A wealth of literature already exists in which one end espouses its agenda and trashes the other's. I could spend weeks matching law review articles, in endless *see* and *but see* cites, to passages in this part of Farber's book. This would simply be the literary version of the political annihilation process that eco-pragmatism intends to replace. Which side wins, the one with more cites?⁸⁰

Rather, what distinguishes *Eco-pragmatism* is that Farber actually comes up with something that makes sense, is pragmatic, and could work. It involves three parts, two of which fulfill the combinatorial goal of pragmatism, with the third representing what we have learned from the convergence of ecosystem science and environmental pragmatism. Farber designed the package as a whole to address what he describes as the five fundamental challenges to environmental law.⁸¹ First, all decisions in environmental law involve some trade-off between costs and benefits in terms of resource allocation and social welfare. How do we know when the costs are too much to bear relative to the benefits? Second, all decisions in environmental law address issues to which some degree of scientific uncertainty attaches. How do we know what to do when we do not know what will happen? Third, even if our policy is purely economics driven, we need to establish some minimum level of environmental protection in order to sustain the economics, and probably more if our policy reflects additional public values. What is that minimum level of protection? Fourth, all environmental law decisions have consequences in the present and in the future. How should we structure our decision process today so as to fulfill whatever goals we have for the future? Finally, the environment, as a constantly evolving system, will not wait for us to be perfectly happy with our answers to all the preceding questions. How do we know when to promulgate a decision versus when to wait for more information, input, and deliberation before deciding? Farber outlines a decision making process—a philosophy, to be more precise—that addresses these questions in a way that would make the classical American pragmatists proud.

⁸⁰ For an account of this "my theory is better than your theory" trait of environmental law scholarship, see Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 *YALE L.J.* 677, 679-80 (1999) ("Contests to crown the best regulatory instrument have been the ceaseless sport of environmental law.").

⁸¹ See *ECO-PRAGMATISM*, *supra* note 4, at 4-6, 13.

1. *Concession to Politics—The Environmental Baseline*

Farber begins building his eco-pragmatic approach from the bottom up by establishing the baseline from which all regulatory policy flows. The regulatory baseline can be neutral, in that it favors neither regulated entities nor the beneficiaries of regulation, or it can favor either of those two interests.⁸² Although most environmental law scholarship casts this choice in normative, outcome-driven terms, Farber's pragmatic flavor add a process dimension to the question—i.e., it is a question of how we adopt a baseline that “leaves us satisfied with the process of reaching the result.”⁸³

Farber demonstrates that pragmatism is not synonymous with neutrality by adopting a baseline that is decidedly on the tree hugger side of the divide. The starting point, he posits, should be the feasibility analysis currently used throughout much of environmental law, under which we presume that environmental risk is impermissible except when considerations of feasibility require it.⁸⁴ Stated another way, environmental law pushes regulated entities toward environmental protection until doing so further is technologically or financially infeasible.

Farber's environmental baseline thus fulfills the concept of the “safe minimum standard,” previously forged in environmental pragmatism philosophy, positing that the law should protect a natural resource unless the costs of doing so violate a floating standard of being “immoderately high.”⁸⁵ This concept, like Farber's baseline, is less rigorous than full-fledged cost-benefit analysis in terms of the presumption in favor of the environmental protection criterion. It is also anthropometric in that decision makers explicitly weigh the opportunity costs of foregone alternatives in the final balance.⁸⁶ Eco-pragmatism thus is neither zero tolerance on questions of public health risk nor total preservation on questions of the environment.

Farber concurs in the environmental pragmatists' demand for a baseline that starts with the presumption in favor of the environment. What Farber adds, however, is a package of legal principles to implement the calculation of baseline. The baseline is not an outcome, but rather the result of a process. The legal process he outlines has two important components that operate to give life to the feasibility standard. First, courts should adopt a “green” canon of statutory construction, in which courts give statutes their most environmentally friendly reading wherever ambiguity of text and legislative intent permits.⁸⁷ Second, a guiding principle for resolving questions of doubt on all applications of the feasibility baseline should be the so-called precautionary principle—when in doubt, exercise caution. Farber would apply this principle not based on worst-case scenarios but rather as a burden of proof on regulated entities to demonstrate that their activities will do no

⁸² See *id.* at 98-114.

⁸³ *Id.* at 113.

⁸⁴ See *id.* at 108-14.

⁸⁵ See Erwin Bulte and G.C. Van Kooten, *Economic Science, Endangered Species, and Biodiversity Loss*, 14 CONSERVATION BIOLOGY 113 (2000) (arguing on behalf of using the safe minimum standard principle instead of cost-benefit analysis); Castle, *supra* note 53, at 246.

⁸⁶ See *id.*

⁸⁷ See ECO-PRAGMATISM, *supra* note 4, at 123-27.

harm.⁸⁸ Although Farber acknowledges that strands of these two principles have surfaced occasionally in environmental law,⁸⁹ he calls for their explicit and widespread adoption as central principles of environmental law and its eco-pragmatist baseline.

2. *Concession to the Market—The Cost-Benefit Backstop*

As much as he defends his package of environmental baseline measures as of primary importance to the eco-pragmatism approach, Farber joins in others' concerns that the appeal of environmental baseline rhetoric can obscure the need to keep instrumental values in sight.⁹⁰ How, in other words, do we keep the tree huggers from running the baseline up through the roof? For this purpose, Farber turns to cost-benefit analysis "to ensure we do not allow our commitment to environmental ideals to turn into fanaticism."⁹¹ He describes a two-tiered implementation policy in which the baseline feasibility analysis establishes environmental protection levels at large scales, such as industries and regions, while cost-benefit analysis opens the door to using efficient market-oriented instruments to implement those protections at the local scale. In this manner, cost-benefit analysis will "assist rather than control regulatory decisions" by serving as a "critical resource to prevent misguided decisions."⁹² This hybridized approach pragmatically ensures that our willingness to vote does not lose sight of our willingness and ability to pay.

After demonstrating why some level of cost-benefit analysis is needed as a backstop to runaway politics, Farber devotes most of his attention to what has long been the Holy Grail of environmental ethics scholarship—determining the appropriate discount rate to apply when decision makers consider future costs and benefits in making present environmental decisions, particularly when measured in the loss of or injury to future human lives.⁹³ The issue pits the two warring clans at extreme ends, as it goes to the heart of their opposing positivist foundations.⁹⁴ Farber, who has covered the topic extensively elsewhere,⁹⁵ deftly walks the ethical fence in *Eco-pragmatism*.⁹⁶

⁸⁸ See *id.* at 170-74.

⁸⁹ See, e.g., PROTECTING PUBLIC HEALTH & THE ENVIRONMENT: IMPLEMENTING THE PRECAUTIONARY PRINCIPLE (Carolyn Raffensperger & Joel Tickner eds., 1999) (providing an overview of the precautionary principle as applied in national and international law contexts).

⁹⁰ See ECO-PRAGMATISM, *supra* note 4, at 116-23.

⁹¹ *Id.* at 119.

⁹² *Id.* at 122-23.

⁹³ See *id.* at 133-62. The literature on this question is legion, much of it summarized in *Eco-pragmatism*. For recent influential entries, see Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 YALE L.J. 1981 (1998); Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941 (1999).

⁹⁴ See Jeffrey M. Gaba, *Environmental Ethics and Our Moral Relationship to Future Generations: Future Rights and Present Virtue*, 24 COLUM. J. ENVTL. L. 249, 251 (1999) ("Few issues of environmental ethics are of greater significance than an assessment of this 'moral relationship' between the present and the future."); A. Dan Tarlock, *Now, Think Again About Adaptation*, 9 ARIZ. J. INT'L & COMP. L. 169, 173 (1992) ("Speculation about discount rates becomes a disguised debate about our ethical duties toward future generations.").

⁹⁵ See Daniel A. Farber and Paul A. Hemmersbaugh, *The Shadow of the Future: Discount Rates, Later Generations, and the Environment*, 46 VAND. L. REV. 267 (1993).

⁹⁶ Farber also completely sidesteps the other looming issue in environmental cost-benefit

He favors the side of using a low discount rate not because of any grand ethical revelation, but for the practical (of course) reason that “because our society seems to be too present-oriented in some regards, we ought to use a relatively low discount rate so that government can take a longer view.”⁹⁷ Other advocates of the pragmatist tradition in environmental policy have reached much the same conclusion, calling for low discounts rates to use as part of a cost-benefit tool that informs, but does not dominate, environmental decisions with long term impacts.⁹⁸ Naturally, advocating any positive discount rate will attract the ire of the tree huggers, and keeping it low runs afoul of the bean counters’ agenda. Eco-pragmatism strikes again!

3. *Fusion Through Pragmatism—Dynamical Regulation*

Farber’s hybridization of feasibility analysis and cost-benefit balancing calls for something other than business as usual in environmental law. A central point in Farber’s thesis is that although the hybrid approach directs us to regulate today for a given issue, we have to be ready to revisit the question in the future as our knowledge base improves and environmental and economic conditions change. The costs and benefits today, as well as the what is feasible today, will not necessarily be the case tomorrow. We will only be able to take advantage of new knowledge that can make environmental law sustainable if we design environmental law around a “centrality of learning to the enterprise of environmental protection.”⁹⁹ Unfortunately, environmental law has not evolved in its short lifetime to be a particularly adept, nimble, and inquisitive student. As Farber puts it, we are in the position of having to raise our “regulatory IQ” and “teach the elephant how to waltz.”¹⁰⁰

Farber’s lesson plan for doing so conjoins a number of reform proposals that a handful of federal and state environmental agencies are currently testing. First, he finds much promise in the decentralization of decision making from federal bureaucracies to more localized authorities and, ultimately, to nonregulatory mechanisms such as the market.¹⁰¹ Farber recognizes that themes of federalism and the markets play out in the bean counter/tree hugger debate as surrogates for arguments about deregulation. In his hybrid model for eco-pragmatism, however, neither form of decentralization is intended to weaken regulation. Rather, decentralization could yield rapid adjustments to the feasibility baseline level as new knowledge flows into local and market institutions, as well as increase rapid recalculations of costs and benefits for the backstop. This new, nimbler form of regulation, however,

analysis—how the costs and benefits are distributed among members and groups of society. See ECO-PRAGMATISM, *supra* note 4, at 14 (acknowledging that he is “putting to the side . . . the distributional issues”). Known as the “environmental justice” issue, this topic rivals the discount rate for volume of environmental law scholarship and its controversy in practical legal applications. See KENNETH A. MANASTER, ENVIRONMENTAL PROTECTION AND JUSTICE (1995) (anthology of scholarly writings); THE LAW OF ENVIRONMENTAL JUSTICE (Michael B. Gerrard ed., 1999) (survey of legal developments).

⁹⁷ ECO-PRAGMATISM, *supra* note 4, at 162.

⁹⁸ See Castle, *supra* note 53, at 234-48.

⁹⁹ ECO-PRAGMATISM, *supra* note 4, at 179.

¹⁰⁰ *Id.*

¹⁰¹ See *id.* at 180-83.

will only happen if we also motivate regulatory institutions toward greater learning through as incentives for innovation, larger budgets for research and data gathering, and other reforms that focus on how to allow regulation to act dynamically.¹⁰² Finally, Farber wants environmental regulation agencies to have more discretion to use these learning tools to adapt without having to obtain legislative and judicial approval at every turn.¹⁰³ The power to tinker implies the freedom to experiment and to make mistakes, to make choices. Indeed, sometimes the tinkering will lead to deregulation, or relaxation of the baseline. Such measures are politically difficult to implement in today's rigid, static world of environmental policy even when the evidence supports them, but we must be willing and able to implement them in order to be eco-pragmatic. Farber's recipe for making environmental law more dynamic thus conforms seamlessly with the literature in ecosystem management science and environmental pragmatism philosophy that frequently demands that "policies . . . be evaluated on the basis of their capacity to take new information into account and thereby provide for adaptation and change."¹⁰⁴

III. Applying Eco-Pragmatism in "Eco" Cases

Thus far, this book review of *Eco-pragmatism* has avoided mention of one of the major features and, for me, disappointments, of the book. A healthy portion of Farber's critique of the positivist ends and exposition on his pragmatist middle relies on a single case for reference and elaboration. The case, *Reserve Mining Co. v. United States*,¹⁰⁵ involved the application of common law and the Clean Water Act to a significant industrial source of air and water pollution that injured a sizeable human population. It is famous for setting the stage for questions of scientific uncertainty, public health risk regulation, burdens of proof, and remedies in environmental law. Farber has written extensively about it elsewhere,¹⁰⁶ and it appears as a principal case in many environmental law case books.¹⁰⁷ As an important real-world experience in environmental law, moreover, it is within the pragmatist tradition to point to cases such as *Reserve Mining* for the lessons they hold. Nevertheless, as instructive as it may be for appreciating the origins of environmental law and the thicket of issues surrounding pollution and public health questions, relying so heavily on *Reserve Mining* to convey the eco-pragmatism message strikes me as having sold short the promise eco-pragmatism holds for environmental law issues.

¹⁰² See *id.* at 183-90.

¹⁰³ See *id.* at 190-98.

¹⁰⁴ Castle, *supra* note 53, at 247.

¹⁰⁵ 514 F.2d 492 (8th Cir. 1975).

¹⁰⁶ See Daniel A. Farber, *Risk Regulation in Perspective: Reserve Mining Revisited*, 21 ENVTL. L. 1321 (1991).

¹⁰⁷ See, e.g., PETER S. MENELL & RICHARD B. STEWART, ENVIRONMENTAL LAW AND POLICY 207 (1994); ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY 476 (2d ed. 1996); JOHN-MARK STVENSVAAG, MATERIALS ON ENVIRONMENTAL LAW 188 (1999).

These issues include questions that environmental law has heretofore largely ignored, such as regulation of the agricultural,¹⁰⁸ consumer,¹⁰⁹ and services industries,¹¹⁰ or questions that changing social trends have refined, such as the transforming role of public lands¹¹¹ and the increasingly global component of environmental issues.¹¹² These are questions for which public health is not the be-all and end-all of how to frame and resolve the issue. The issues go well beyond anything considered in *Reserve Mining* and present the questions that Farber used to begin his inquiry. Although the distinction exists between the public health and resource protection contexts, we must not take for granted that what works in one arena will work in the other as well. As Professor Lisa Heinzerling has put it, many environmental law debates are cast “as if the sole goal of environmental law were to protect human health,” whereas “one important purpose of environmental law is to protect natural resources.”¹¹³

Oddly—remember that the title starts with *eco*—Farber buries that purpose in *Eco-pragmatism*. To be fair, Farber does not purport to resolve every question of environmental law, but rather to offer an approach for resolving them. It is tempting to fault *Eco-pragmatism* for not telling us exactly how many tons of greenhouse gas a paper mill in the United States can emit,¹¹⁴ but Farber is rightly unapologetic for going no further than describing a decision making approach. He chose to ground the approach for illustration purposes in the pollution and public health setting, and does an excellent job of demonstrating how it could apply there. But how transportable is it, really, to the resource protection issues—habitat, endangered species, agriculture, global warming, and the like? It is far more important to me to know how well Farber’s eco-pragmatism addresses the issues that will dominate the future of environmental law than to know how well it explains the twenty-five year old decision in *Reserve Mining*.

¹⁰⁸ See J. B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 *ECOLOGICAL L.Q.* 263 (2000) (examining the environmental harms that farms cause and their exemption from environmental regulation, and proposing a framework for affirmative environmental regulation of farms).

¹⁰⁹ See James Salzman, *Sustainable Consumption and the Law*, 24 *ENVTL. L.* 1243, 1248-49 (1997) (examining the historic, economic, and policy issues linking sustainable consumption and environmental law).

¹¹⁰ See James Salzman, *Beyond the Smokestack: Environmental Protection in the Service Economy*, 47 *UCLA L. REV.* 411, 416-17 (1999) (exploring the environmental law implications of deindustrialization and an ascendant service sector).

¹¹¹ See Jan G. Laitos & Thomas A. Carr, *The Transformation on Public Lands*, 26 *ECOLOGICAL L.Q.* 140 (1999).

¹¹² See Jonathan Baert Wiener, *On the Political Economy of Global Environmental Regulation*, 87 *GEO. L.J.* 749 (1999) (discussing the content and political origins of the international public law of environmental regulation); William L. Andreen, *Environmental Law and International Assistance: The Challenge of Strengthening Environmental Law in the Developing World*, 25 *COLUM. J. ENVTL. L.* 17 (2000) (discussing the design of domestic environmental law in developing nations).

¹¹³ Lisa Heinzerling, *Reductionist Regulatory Reform*, 8 *FORDHAM ENVTL. L.J.* 459, 461 (1997).

¹¹⁴ See, e.g., Roe, *supra* note 8, at 99.

This review closes, therefore, by demonstrating that Farber's blueprint for eco-pragmatism is indeed an appropriate and useful approach for those questions of the future, as it synthesizes many leading edge developments in law and science in a way that may forge a true philosophy of the middle for environmental law. As *Eco-pragmatism* draws from developments in ecosystem science and environmental philosophy to join *eco* with *pragmatism* in theory, Farber's three-part implementation scheme provides the foundation for integrating three emerging themes of environmental policy that have the environment foremost in mind. The first, "biodiversity," fits snugly into Farber's baseline component. The second, "ecosystem services," provides the currency for cost-benefit analysis at the environmental scale. The third, "adaptive management," puts Farber's call for dynamical regulation in motion for the complex environmental issues of the future.

A. Biodiversity as the Baseline

One unavoidable distinction between the public health context and the environmental protection context is the metrics each one uses to establish the feasibility baseline. Although economic and technological feasibility are the same anthropometric scales in both contexts, environmental protection is inherently a biocentric matter. Public health risk measures, such as increased cancer risk, do not work if the goal is protection of the environment. So, when the goal is protection of the environment, what is society trying to protect?

Environmental law, for the most part, has taken a reductionist approach to that question, identifying discrete indicia of the environment and establishing protective regimes for them. The Endangered Species Act, for example, protects only species identified as facing a significant risk of extinction; only incidental to that central purpose might their ecosystems benefit.¹¹⁵ Surely it is feasible, however, for us to offer protection to species and their ecosystems that are not yet in peril; indeed, it would not be eco-pragmatic to do otherwise. The movement toward ecosystem management as the foundation for resource protection demands a more holistic measure of environmental health, one more like the public health risk metrics that are applicable to a variety of conditions and locations.

Scientific research suggests that the concept of biological diversity, or biodiversity, is the key metric of ecosystem health. Biodiversity's leading proponent, the renowned biologist Edward O. Wilson, describes it as "the variety of organisms considered at all levels, from genetic variants belonging to the same species through arrays of species to arrays of genera, families, and still higher taxonomic levels."¹¹⁶ Biodiversity measures the diversity of species in an ecosystem as an index of its health.¹¹⁷ Although the relationship between biodiversity and ecosystem processes is complex, researchers

¹¹⁵ See J. B. Ruhl, *Thinking of Environmental Law as a Complex Adaptive System: How to Clean Up the Environment by Making a Mess of Environmental Law*, 34 Hous. L. Rev. 933, 969-75 (1997) (describing the Endangered Species Act as a reductionist, linear, positivist approach to species protection).

¹¹⁶ EDWARD O. WILSON, *THE DIVERSITY OF LIFE* 393 (1992)

¹¹⁷ For an excellent introduction, see Special Issue, *Biodiversity: The Fragile Web*, NAT'L.

are repeatedly finding that diversity of species assemblages is tied directly to ecosystem productivity, resilience, and sustainability.¹¹⁸ Increasingly, therefore, advocates of the ecosystem management approach to environmental policy are converging on biodiversity as the measure of policy success.¹¹⁹ Biodiversity thus supplies a fitting measure for eco-pragmatism's feasibility baseline—protect biodiversity to the maximum degree feasible.

B. *Using Nature's Services in Cost-Benefit Analysis*

Measuring biodiversity involves intensive scientific research, but it can be done and projected through objective indicia of species diversity.¹²⁰ At some point, however, eco-pragmatism concedes that the costs of protecting biodiversity may outrun the benefits by too large a factor. But how do we assign values to the environment so that we can crunch those numbers? Farber describes the difficulty that conventional environmental policy has had in applying such cost-benefit analyses to the environmental protection context.¹²¹ Although we can argue over the value of a life and the discount rate applied to future lives, we ultimately express these indicia of public health risks in dollar terms. Valuation exercises in the environmental context have proven more difficult, as the tree huggers will not concede that we can monetize the environment and the bean counters concede their methods for doing so remain clumsy.¹²²

Once again, we find the ecosystem management movement leading to new ways of thinking about old questions. Expressing the value of an endangered blind beetle in dollar terms is an impossible and ultimately pointless exercise, but expressing the value of the beetle's *ecosystem* in anthropometric terms is not. The beetle is simply part of the ecosystem's species diversity; it is the ecosystem we ought to be trying to protect. Additionally, ecosystems indisputably confer value to humans through the services they provide. This value goes well beyond the direct commodity value of ecosystem components such as water and timber.

In the recent trail blazing book on this topic, *Nature's Services*, biologist Gretchen Dailey and a host of others outline the innumerable indirect ser-

GEOGRAPHIC, February 1999. The National Geographic Society recently identified the loss of biodiversity as one of "six subjects shaping our destiny." *Id.* at 5.

¹¹⁸ See FRAGILE DOMINION, *supra* note 21, at 157-67.

¹¹⁹ See, e.g., Laitos & Carr, *supra* note 111, at 195-98 (using biodiversity as the metric for public land management); J.B. Ruhl, *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Private Lands*, 66 U. COLO. L. REV. 555, 557-78 (1995) (using biodiversity as the metric for regulation of private lands). For an excellent overview of the use of biodiversity as a protection criterion in existing law and its potential for shaping new environmental laws, see BIODIVERSITY AND THE LAW (William J. Snape III ed., 1996).

¹²⁰ The National Biological Inventory, an arm of the U.S. Geological Survey, is assisting states in doing so through the Gap Analysis Program—a combination of field survey and computer projection technology to map major indices of biodiversity over the landscape. See A. Ross Kiestler et al., *Conservation Prioritization Using GAP Data*, 10 CONSERVATION BIOLOGY 1332, 1333 (1996). Almost any issue of *Conservation Biology* includes several articles reporting the findings of biodiversity index studies.

¹²¹ See ECO-FRAGMATISM, *supra* note 4, at 47-51.

¹²² See *id.* at 49-51 (discussing the "contingent valuation" method).

vices ecosystems provide to humans, including purification of air and water, mitigation of floods and droughts, detoxification and decomposition of wastes, soil renewal, crop pollination, pest control, climate stabilization, and a long list of other deliverables.¹²³ These are not fanciful hypotheses. Environmental science and policy advocates have pointed to this emerging body of work as a bridge between the environment/economy divide.¹²⁴ If the bean counters insist on making environmental decisions by way of dollars laid out on spreadsheets, let them consider the replacement costs of these services.¹²⁵ By the same token, if the tree huggers want to preserve every last patch of ground, let them demonstrate that the service values justify the social costs. Eco-pragmatism thus counsels that we at least consider these ecosystem services for their anthropometric, if not fully monetized, value when making the cost-benefit backstop calculation.¹²⁶

C. *Adaptive Management As Dynamical Regulation*

I do not mean to suggest in my thumbnail sketches of biodiversity and ecosystem services that implementing eco-pragmatic policies around these two concepts will be easy. Rather, I would emphasize, as does Farber, that implementing the baseline/backstop approach permits no simple, prefabricated answers. The whole point is to feed information on biodiversity and ecosystem services into a decision making process that is dynamic, not static.

Neither Farber nor I invented the notion of using dynamical regulation in environmental policy. Once we appreciate ecosystem dynamics, dynamical regulation becomes an inevitable necessity and is the essence of ecosystem management policy. Known within that policy discipline as adaptive management, most of its advocates trace its origins to C.S. "Buzz" Holling's influential book from the late 1970s, *Adaptive Environmental Assessment and Management*.¹²⁷ Holling, an ecologist, probably never heard of eco-pragmatism, but he wrote the book on it nonetheless. Fortunately, the political scientist Kai Lee later translated Holling's work for the ecosystem management

¹²³ See NATURE'S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEM'S (Gretchen C. Daily ed., 1997).

¹²⁴ See FRAGILE DOMINION, *supra* note 21, at 6-7 (using NATURE'S SERVICES to introduce the purpose of his ecosystem management theory); James Salzman, *Valuing Ecosystem Services*, 24 ECOLOGY L.Q. 887 (1997) (reviewing NATURE'S SERVICES and describing potential applications in environmental law).

¹²⁵ See R. Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253 (1997) (conducting replacement cost estimates).

¹²⁶ See Salzman, *supra* note 124, at 898-900 (suggesting that monetizing the values may be too difficult but that other objective indicia of value could be used as surrogates in policy decisions).

¹²⁷ ADAPTIVE ENVIRONMENTAL ASSESSMENT AND MANAGEMENT (Crawford S. Holling ed., 1978). See, e.g., Kai N. Lee and Jody Lawrence, *Adaptive Management: Learning from the Columbia River Basin Fish and Wildlife Program*, 16 ENVTL. L. 431, 442 n.45 (1986) (tracing the term to Holling's book). Holling, a University of Florida ecology professor, has continued to advance the field of adaptive management as editor of the online ecology research magazine, *Conservation Ecology*, which recently published a two-part special feature on the current state of adaptive management theory and practice. See Special Feature on Adaptive Management, 3 CONSERVATION ECOLOGY (forthcoming June 1999 (Part I), Dec. 1999 (Part II)), available at <<http://www.consecol.org/Journal>>.

policy wonks,¹²⁸ and the biologist Simon Levin recently updated its message for the biodiversity and ecosystem services devotees.¹²⁹ Levin defines it concisely as “maintaining flexibility in management structures and adjusting rules and regimes on the basis of monitoring and other sources of new data.”¹³⁰ It is learning by doing and doing by learning. Like Farber’s dynamical regulation, it puts a premium on collecting information, establishing measurements of success, monitoring outcomes, using new information to adjust existing approaches, and a willingness to change. It has evolved well beyond an idea. The Department of the Interior recently announced that it will henceforth administer permits under the Endangered Species Act, where gaps in information run high, using adaptive management to “examine alternative strategies for meeting measurable biological goals and objectives through research and/or monitoring, and then, if necessary, to adjust future conservation management actions according to what is learned.”¹³¹ Although the lay person might reasonably have assumed that was how things ran already, sadly that has not been the case. This is new ground for environmental law.

A broader commitment to adaptive management throughout resource protection institutions would allow greater collection and use of biodiversity and economic system services information to guide adaptive dynamical decisionmaking in law. All the ingredients are bubbling up in research, theory, and application. Farber has helped synthesize and translate the policy for law, albeit without making the explicit connections I have drawn in this review. If we are faulted for being light on the details, my excuse again is that we are advocating an approach, not answers. The approach, eco-pragmatism, strikes me as having more promise of integrating the biodiversity, ecosystem services, and adaptive management themes for resource protection than any other out there.

IV. *Conclusion: Pragmatism in Need of Passion*

I am a fan of eco-pragmatism, and of *Eco-pragmatism*. I fault Farber only for omissions. He could have done more to link his framework with the burgeoning literature in ecosystem management and environmental pragmatism. He could have done more to exhibit eco-pragmatism’s bond with the emerging themes in resource protection policy of biodiversity, ecosystem services, and adaptive management. It is hard to say, however, that he could have done more to describe the philosophical divide that has dominated envi-

¹²⁸ See KAI N. LEE, *COMPASS AND GYROSCOPE* (1993). See also Kai N. Lee, *Appraising Adaptive Management*, 3 *CONSERVATION ECOLOGY* (Dec. 1999), available at <<http://www.consecol.org/Journal/vol3/iss2/art3>>.

¹²⁹ See *FRAGILE DOMINION*, *supra* note 21, at 198-206. See also Simon A. Levin, *Towards a Science of Ecological Management*, 3 *CONSERVATION ECOLOGY* (Dec. 1999), available at <http://www.consecol.org/Journal/vol3/iss2/art6>.

¹³⁰ *FRAGILE DOMINION*, *supra* note 21, at 200.

¹³¹ Notice of Availability of a Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, 64 Fed. Reg. 11485, 11486 (Mar. 9, 1999).

ronmental policy for decades, or to suggest how pragmatism can build a new philosophy of the middle.

If I would fault Farber for anything else, it would be for a lack of passion. This applies to all those in the middle, including me. Having a philosophy does not alone make one passionate. Not once does Farber raise his literary voice or pound a figurative fist on the table. His big risk is calling some people bean counters or tree huggers. He threatens no one, issues no ultimatums, and files no lawsuits. Nor does *anyone* in the middle. We press on, stay at the negotiating table, and look for common ground. We do not sue, we get sued. One has to hand it to the bean counters and tree huggers, for at least they are passionate. Maybe pragmatism does not lend itself well to being passionate. Maybe passion itself is not a pragmatic virtue. But why is that—why is no one willing to lie down in the road in the name of being pragmatic?

A political satirist, I can not remember which, once quipped that he was so committed to being in the middle that he ordered his shirts in size extra-medium. If there is such a size for environmental policy, *Eco-pragmatism* is a good start at cutting the cloth of its philosophical underpinnings. If the middle now has a philosophy in the form of eco-pragmatism, it is also time for the middle to get religion.