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The Pardy-Ruhl Dialogue on Ecosystem Management Part V: Discretion, Complex-Adaptive Problem Solving and the Rule of Law

BRUCE PARDY*

[T]he very men who are most anxious to plan society [are] the most dangerous if they were allowed to do so – and the most intolerant of the planning of others. From the saintly and single-minded idealist to the fanatic is often but a step. Though it is the resentment of the frustrated specialist which gives the demand for planning its strongest impetus, there could hardly be a more unbearable – and more irrational – world than one in which the most eminent specialists in each field were allowed to proceed unchecked with the realization of their ideals.

F.A. Hayek, *The Road to Serfdom*[1]

I. INTRODUCTION

We are actually getting somewhere. This dialogue on ecosystem management (EM) in the Pace Environmental Law Review (PELR) began in 2003, when I challenged the widely held view that EM is the only environmental strategy now possible.[2] I argued that neither the ecological theory of nonequilibrium nor the widespread effects of humans on ecosystems demands a management approach to the environment.[3] In his *Response* to the article, Professor J.B. Ruhl objected to my objections and reasserted EM's status as the only feasible response to current environmental problems.[4] My *Reply* to Ruhl identified common ground and

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1. F. A. HAYEK, THE ROAD TO SERFDOM 55 (1944).

2. Bruce Pardy, *Changing Nature: The Myth of the Inevitability of Ecosystem Management*, 20 PACE ENVTL. L. REV. 675 (2003) [hereinafter *Changing Nature*].

3. *Id.*

4. J.B. Ruhl, *The Myth of What is Inevitable Under Ecosystem Management: A Response to Pardy*, 21 PACE ENVTL. L. REV. 315 (2004) [hereinafter Ruhl, *Response*].

diagnosed old and new differences.[5] We have identified things to agree about and to disagree about, and have whittled away to get to the heart of the "intractable gap between us."[6]

In my *Reply*, I proposed that as a discretionary process, EM facilitates utilitarian decision-making. Because utilitarian decisions are likely to place short-term human interests ahead of ecological priorities, they can have the effect of degrading ecosystems rather than protecting them. In *Part IV*, Ruhl picks up the theme of discretion.[7] He questions whether the discretion contained within EM is really all that different from the discretion found within traditional legal processes, and contends that discretion in the hands of managers is no worse than discretion in the hands of judges.[8] "I cannot agree," he writes in *Part IV*, "that an EM approach has 'more' discretion or a higher potential for arbitrary exercise of discretion."[9]

II. DISCRETION IN ECOSYSTEM MANAGEMENT

A. The meaning of the rule of law

The question of discretion in EM cuts to the core of the way one conceives environmental law. How much discretion is appropriate? What kind? In whose hands? We agree on the kinds of environmental outcomes to be sought.[10] We differ on how those

5. Bruce Pardy, *Ecosystem Management in Question: A Reply to Ruhl*, 23 PACE ENVTL. L. REV. 209 (2005-2006) [hereinafter Pardy, *Reply*].

6. *The Pardy-Ruhl Dialogue on Ecosystem Management, Part IV: Narrowing and Sharpening the Questions*, 24 PACE ENVTL. L. REV 25, 25 (2007) [hereinafter Ruhl, *Part IV*]. I share Professor Ruhl's enthusiasm for this exchange, which has been engaging and rewarding, and I am delighted to have come to know him inside and outside the pages of the PELR. The editors of the PELR have encouraged and facilitated this rare opportunity for direct scholarly dialogue, and I would like to thank them for their interest and editorial assistance.

7. Ruhl, *Part IV*, *supra* note 6, at 26, 31. This dialogue originally focused on whether EM is inevitable. In tackling the issue of discretion in EM, we are no longer debating whether EM is inevitable but instead are addressing whether EM is superior to other possibilities. Whether EM is the best option available is indeed the logical next question to consider in the EM debate. However, the question is relevant only if EM is not inevitable. (If EM is inevitable, then it does not matter whether it is superior or inferior because no other choice would be possible.)

8. *Id.* at 32-33.

9. Ruhl, *Part IV*, *supra* note 6, at 33.

10. We have both referred with approval to Edward Grumbine's description of five principal goals of EM: maintaining viable populations of all native species in situ; representing, within protected areas, all native ecosystem types across their natural range of variation; maintaining evolutionary and ecological processes; maintaining the evolutionary potential of species and ecosystems; and accommodating human use and occupancy within these constraints. (Ruhl, *Response*, *supra* note 4, at 316, citing

outcomes can be achieved. Ruhl has argued that only a system of EM, in which broad discretion is placed in the hands of managers to craft desirable environmental outcomes, is capable of achieving positive results.[11] I maintain that while EM may well be effective in certain specific circumstances, it is not the approach that will stem the tide of ecosystem degradation currently under way.

The legal enterprise is about controlling the actions of two groups of people: those who are governed, and those who govern. The state controls the first group with laws that impose upon behavior: prohibitions, positive obligations, civil and criminal liability, and so on. The rule of law controls the second group by placing limits on their powers: constitutional restrictions, separation of powers, precedent and *stare decisis*, the expectation for written reasons from adjudicative bodies, judicial review, the requirements of natural justice and procedural fairness, the availability of appeals, and so on. The classical liberal meaning of the rule of law is a system based upon generally applicable, abstract rules and limited state discretion, in which government entities are subject to the same law as ordinary citizens.[12] Separation of powers means that no single person or authority has the ability to determine the resolution of a conflict. Thus, every prosecution involves a statutory or regulatory prohibition (enacted by the legislative branch), an investigation and prosecution (performed by the executive branch) and a hearing (conducted by the judicial branch). Every civil action involves either a statutory cause of action (legislative) or common law cause of action (from the decisions of many previous courts) and a hearing (by the court seized with the case). In every judicial hearing the court is bound by statute or precedent or both, as well as a multitude of procedural and evidentiary rules that limit the court's ability to proceed idiosyncratically.

R. Edward Grumbine, *What Is Ecosystem Management?*, 8 CONSERVATION BIOLOGY 27, 31 (1994); Pardy, *Reply*, *supra* note 5, at 214-215.).

11. Ruhl, *Part IV*, *supra* note 6, at 33.

12. "Stripped of all technicalities, [the rule of law] means that government in all its activities is bound by rules fixed and announced before-hand – rules which make it possible to foresee with fair certainty how the authority will use its coercive powers in given circumstances and to plan one's individual affairs on the basis of his knowledge." HAYEK, *supra* note 1, at 80. According to Tamanaha, Hayek accepted that discretion can be exercised by government officials as long as the discretion is pursuant to legal rules that are general, equal and certain, and as long as their decisions are subject to judicial supervision. BRIAN TAMANAHA, ON THE RULE OF LAW: HISTORY, POLITICS, THEORY 67 (2004).

These norms limit discretion. They decrease flexibility in exchange for protection from arbitrary measures. They do not create absolute predictability; traditional legal processes are far from mechanistic. Decisions in difficult cases are hardly formulaic, and there is often ambiguity in the law and in the facts. Nevertheless, legal results would be more unpredictable and unprincipled without these limitations upon the powers of decision-makers.

B. Why the rule of law matters in environmental law

Rule of law norms prevent concentration of power and thus protect citizens from political tyranny. But that is not the only reason they are important. They also facilitate achievement of the law's objectives by limiting slippage between statutory objectives and results in particular cases.[13]

From the perspective of an administrative agency, this proposition may seem counter-intuitive. Rule of law norms limit discretion, and thus, can be perceived as obstacles to effectiveness. They restrict the ability of agencies to "do whatever it takes" to get the job done, whatever that job may be. From the perspective of government officials, those restrictions make the achievement of policy objectives seem more difficult because problems cannot be tackled directly and independently. Instead the agency must share the enterprise with other state organs—relying upon the legislature to formulate effective general rules; and upon courts or tribunals to interpret rules properly and produce sensible results in particular cases. But in spite of this perception, these limitations make the actions of state actors more effective, not less so.[14] They improve decisions by insulating decision-makers from com-

13. K. WEBB, POLLUTION CONTROL IN CANADA: THE REGULATORY APPROACH IN THE 1980S 17-18 (1988) (characterizing the divergence between statutory objectives and particular results as the "implementation gap").

14. *See* Howard Latin, *Regulatory Failure, Administrative Incentives, and the New Clean Air Act*, 21 ENVTL. L. 1647 (1991) (describing eight "laws" of administrative behavior: (1) In conflicts between political considerations and technocratic requirements, politics usually prevails; (2) Agencies avoid making regulatory decisions that would create severe social or economic dislocation; (3) Agencies avoid resolving disputed issues unless they can render scientifically credible judgments; (4) Agencies will not meet statutory deadlines if budget appropriations, personnel, information, or other resources are inadequate; (5) Regulators are influenced by disciplinary norms that may conflict with statutory mandates; (6) Bureaucrats are conditioned by criticism or other forms of negative feedback; (7) Agency behavior is partly conditioned by manipulative tactics of regulated parties; and (8) Administrators of multiple-purpose statutes usually "simplify" the decisional process to emphasize only one or two statutory goals).

promise,[15] politics,[16] and their conviction that they alone know what is best.

If EM was preventing ecosystem deterioration using questionable means, then one could validly query whether the ends justified the means. But that is not what is happening. Instead, the size of the human footprint on the planet continues to grow, and as it does, it pushes out or corrupts natural (that is, non-human) characteristics of ecosystems. Neither EM nor any other approach yet developed has managed to stem this inexorable tide. "Ecosystem creep" is the gradual changing of ecosystems from evolving native systems of interactions between organisms to systems shaped by human activity. With or without EM, the proportion of systems' natural characteristics—those that have not been produced or changed by people—diminishes.

A discretionary, ad hoc administrative process is not the mechanism that will halt an incremental slide into a completely human-made environment. The case against discretionary EM is not that legal traditions are more valuable than ecosystem integrity, but that limits on discretion are more likely, not less, to protect such integrity.

C. The present state of the rule of law: managers v. judges

In *Part IV*, Ruhl seeks to equate the discretion of managers and judges. He maintains that like EM, rule-based statutory regimes and precedent-based common law call upon judges to exer-

15. "[W]hen there is less law and more discretion, there is more room for compromise. In the absence of a bright line rule, decision-makers have room to seek a middle ground. Compromise is often a good way to resolve disputes. However, it is less frequently so in environmental matters. The past half-century has seen many conflicts between dire environmental consequences of allowing an activity to proceed and apparently dire economic consequences of preventing an activity from occurring. Such conflicts are apt to be resolved by finding a compromise - by scaling back or limiting the activity in some way to reap economic benefits and reduce environmental impacts. It is often possible to characterize minor environmental impacts as inconsequential, but significant long term environmental changes can be caused by the accumulation of small impacts. Compromise allows environmental death from a thousand inconsequential cuts." Bruce Pardy, *Abstraction, Precedent, and Articulate Consistency: Making Environmental Decisions*, 34 CAL. W. L. R. 427, 429 (1998).

16. *See, e.g.*, Zygmunt J.B. Plater, *Environmental Law in the Political Ecosystem—Coping with the Reality of Politics*, 19 PACE ENVTL. L. REV. 423 (2003) (discussing the implications of political pressures in the arena of environmental law); D. BOYD, UNNATURAL LAW: RETHINKING CANADIAN ENVIRONMENTAL LAW AND POLICY 231 (2003) (discussing the implications of excessive political discretion on environmental law norms).

cise broad discretion in isolated situations in order to craft results that fit specific facts.[17] He asserts that this process is not different from EM in any important respect.

I agree with Ruhl that discretion-based decision-making is not limited to EM, or indeed to environmental law. It has become a feature of administrative action in modern welfare states.[18] Statutes grant wide powers to agencies to craft regulation and policy, with minimal direction and supervision from the legislative branch.[19] Courts have become increasingly indeterminate, partly because vague statutory language requires them to fill in large gaps left by legislatures, and partly because of increased reliance upon policy grounds to justify decisions, sometimes in an overtly ideological manner. Especially, but not only in environmental law, one strains to find coherence from case to case. But even when courts do badly at being consistent and principled, there are important differences between the judicial process and the unsupervised administrative powers that characterize EM.

Judges are constrained by the content of the statute, by the non-legislative nature of their judicial role, by the decisions of courts interpreting the same statute in previous cases, by the principles of statutory interpretation, by the expectation that they will articulate reasons for the result that they have reached, and by the availability of appeal to a higher court. Separation of powers still applies. Courts remain limited to their judicial function, and have the opportunity to fill in gaps only to the extent that the other two branches leave them gaps to fill. Even when judges rely on policy grounds or disrupt the theoretical consistency of precedent-based decision-making, they are still subject to inescapable restrictions on their power.

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17. Ruhl, *Part IV, supra* note 6, at 26-27.

18. Over ten years ago, Bill Scheuerman described this state of affairs: "In every capitalist welfare state law takes an increasingly amorphous and indeterminate form as legal standards like 'in the public interest' or 'in good faith' incompatible with classical liberal conceptions of the legal norm proliferate. Everywhere a troublesome conflation of traditional parliamentary rulemaking with situation-specific administrative decrees results; everywhere bureaucratic and judicial discretion grows. If a minimal demand of the rule-of-law ideal was always that state action should take a predictable form, contemporary democracies do poorly living up to this standard." Bill Scheuerman, *The Rule of Law and the Welfare State: Towards a New Synthesis*, 22 POLITICS & SOC'Y 195, 195 (1994).

19. "What was once generally justified only in time of war or other emergencies has become increasingly common: the enactment of legislation with very little opportunity for parliamentary debate and with both the principles and the detail left initially for the executive to work out and also subject to change at the executive's whim." D. MULLAN, ADMINISTRATIVE LAW 135 (2001).

Ecosystem managers do not share these limits. Except in those instances where a statute prescribes a specific, narrow and well-defined mandate, ecosystem managers typically have broad discretion to decide what is best—as legislators, administrators, and judges all rolled into one. They are not accountable in the same manner as judges. They do not give written reasons. They do not pretend or attempt to be consistent; indeed, they claim not to be. They cannot be appealed. There are limited grounds for judicial review from the exercise of a broad discretionary mandate. Managers do not share judicial burdens.

D. Rules of law v. rules of science

Discretion is particularly troublesome when there are no generally applicable, abstract rules. As I argued in my *Reply*, "It is not possible to know what priority or emphasis any particular decision maker doing EM will bring to the task precisely for the reason that EM is not governed by general rules. . . . EM is a process, not a substantive set of directives."[20] In *Part IV*, Ruhl takes issue with this statement. EM does have general rules, he says, but they are rules of science, not of law:

> EM is almost universally embraced [by scientists and resource management professionals] and I get the impression that these professionals believe they are following "general rules." Their general rules, of course, are the rules of science—the scientific method and its protocols of hypothesis generation, experimentation, data analysis, peer review, publication and verification. To the extent that EM finds the scientific method at its core, therefore, it follows general rules.[21]

Ruhl says that there is no important distinction between technocrats applying scientific rules and judges applying legal rules. At the risk of sounding pedantic, I suggest that in the realm of democratic government and the rule of law, these two processes are as different as night and day. Legal rules are produced under a system of government subject to structural checks and balances that provide democratic accountability. Scientific rules are formulated by small peer groups of specialized experts who grant each other legitimacy. In measuring the power of scientific elites, yes Professor Ruhl, only legal rules count. The polity has no control over the "rules" to be followed within a discipline, or worse, by any

20. Pardy, *Reply*, *supra* note 5, at 216.
21. Ruhl, *Part IV*, *supra* note 6, at 27 (citations omitted).

gang of agency scientists. Science's claim to have an exclusive path to truth should be resisted. Science, after all, is simply one more way of interpreting the world. It makes an excellent servant and a poor master.

Moreover, the decisions taken within EM are neither fundamentally nor solely scientific. They often do not lie within the expertise that such professionals possess. Ruhl correctly points out that within EM, ecosystem-based decisions frequently involve incomplete scientific information and trade-offs, such as between ecological and economic interests. Such trade-offs are not 'scientific.' Reconciling social costs and benefits is not a scientific process, but a political, economic, and philosophical inquiry. It is difficult to understand the claim that scientists have exclusive expertise and authority to make value judgments.

III. COMPLEX-ADAPTIVE PROBLEM SOLVING

Ruhl says that EM is comparable to traditional legal processes in the kind or degree of discretion that it contains. Yet he and other advocates of EM regard it as a superior form of environmental governance precisely because they claim that it embodies a different kind of decision-making. Ruhl is favorably disposed towards EM because of its "complex adaptive" problem-solving characteristics.[22] EM is a dynamic process that consists of a continual series of actions and measurements that adjusts solutions to changing conditions, rather than a one-time decision about relative rights and responsibilities like a judicial decision. In these respects, and from the perspective of the managers, EM does have features that resemble a complex adaptive approach. But in legal terms, EM is not a complex-adaptive problem-solving process.

A. Two problem-solving paradigms

Conventional problem solving is authoritarian, expert driven, and coercive. It tells people what to do. According to Professor Thomas Homer-Dixon, who compares the characteristics of conventional and complex-adaptive problem solving,[23] conventional

22. *See, e.g.*, J.B. Ruhl, *Regulation by Adaptive Management—Is It Possible?*, 7 MINN. J. L. SCI. & TECH. 21, 22-28 (2005) [hereinafter *Regulation by Adaptive Management*]; 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 HOUSTON L. REV. 933, 943-65 (1997).

23. T. Homer-Dixon, Professor, Univ. of Toronto, Presentation of Local Food Systems & Social Resilience at the "Food Down the Road Summit" in Kingston, Ontario

problem solving is based upon a mechanistic ontology; has a centralized and hierarchical social organization; relies on technocratic, expert, explicit knowledge; concentrates power in policy communities and management elites, located at the top of the social structure; and is organized around the goal of utility optimization.[24]

Complex-adaptive problem solving is different in each of these respects. People have autonomy to work out local solutions to local problems, using local knowledge and experience rather than being dependent upon the expertise of distant elites. Complex-adaptive governance is decentralized, particularized, and diverse.[25] It embraces systems that are resilient—ecological and human—because of the autonomy of their constituent parts to seek out their own interests and survival. A complex-adaptive approach is based upon a complex ontology; a decentralized social organization; knowledge that is based upon mixed, experiential and tacit experience; power contained in democratic action and the operation of markets, located at the bottom and middle of the social strata; and operates to satisfy multiple, often conflicting, and sometimes incommensurable values.[26]

B. EM is not complex-adaptive problem solving

The mandate of EM, Ruhl says, is adaptive management—to provide dynamic responses to ever changing conditions.[27] It is light on its feet, able to adjust as problems emerge, not wedded to a single vision, and able to seek the most productive action given local circumstances. However, EM is, in fact, a conventional decision-making system that pretends to be enlightened. Its legal power comes from the centre; its authority is vested in a scientific elite; managers have the power to compel a plan of action. It is a conventional decision-making system not because of the method managers use to solve problems, but because it is coercive.

(Nov. 2, 2007) (on file with author) [hereinafter *Local Food*]; *see generally* T. HOMER-DIXON, THE UPSIDE OF DOWN: CATASTROPHE, CREATIVITY, AND THE RENEWAL OF CIVILIZATION (2007) (postulating that because of the diversity of stresses existing in modern society, conventional management, with its highly compartmentalized approach to problem-solving, is not adequate to solve the world's complex issues).

24. *Local Food*, *supra* note 23.

25. *Id.*

26. *Id.*

27. In Ruhl's words, adaptive management is "a methodology that relies on building models of ecosystem dynamics and then using rigorous testing, monitoring and evaluation of policy implementations to provide the feedback necessary to promote long-term ecosystem integrity." Ruhl, *Part IV*, *supra* note 6, at 28-29.

EM is not a process whereby individual citizens or organizations develop local, innovative solutions to local ecosystem problems. It does not describe entrepreneurial, voluntary, creative "abundant small scale experimentation."[28] EM may be complex-adaptive from the perspective of the manager who experiments, but from the perspective of ordinary citizens, EM is a prescriptive phenomenon. It tells them what to do. It consists of an authority giving orders—and not even in a manner in which the authority can be held to democratic account or legal appeal. It reflects the voice of specialized expertise. It is top down, expert-driven technocracy unleashed—in which trained specialists have carte blanche to express the single-minded inclinations of their discipline.

Ruhl criticizes command-and-control environmental governance, and so he should.[29] But EM is simply a variation of command-and-control environmental law. In EM, managers command and managers control. Giving power to scientific elites does not cure the flaws of centralized decision-making. I do not deny the difficulties (inconsistency, unpredictability, the role of politics) that have come to dominate the various forms of environmental law. What I challenge is the notion that EM is not worse in these respects. From the perspective of the governed, the only meaningful distinction between traditional command-and-control and EM is that at least command-and-control regulation purports to be somewhat consistent (even if it largely falls short). EM not only fails to be consistent, but claims not to be.

C. Prerequisites for ecosystem-based complex-adaptive problem solving

Ecosystem-based complex-adaptive problem solving requires generally applicable environmental limits. Such limits do not impose particularized directives from government authorities. Instead, they create the space within which adaptive problem solving can occur. They identify the goal, but not the means by which the goal is to be achieved.

It is appropriate for government to determine generally applicable environmental limits, for without them common environmental resources are threatened by the pursuit of individual self-interest. But it is for citizens and communities to decide how they

28. *Local Food*, *supra* note 23.
29. *See, e.g.*, *Regulation by Adaptive Management*, *supra* note 22, at 54.

are to adapt to those limits. In other words, government's legitimate role is to decide *what* the limits are to be; and for the governed, individually and in groups, to decide *how* those limits are to be observed. The first is the role of law; the second is autonomous adaptation. The first is the role of government; the second is the right of the citizen. Without general limits, citizens do not have circumstances within which local, independent, adaptive innovation can take place.

Ecosystem managers do not like the idea of generally applicable environmental limits. They want to decide limits case-by-case. They also want to be the ones to decide how those limits will be achieved. In other words, they want to control all of it: the objectives, the value judgments, the social trade-offs, and the particular means to an end. In challenging the legitimacy of EM, I do not seek to challenge the notion of complex-adaptive problem solving, but to question the legitimacy of coercive, authoritarian, technocratic management. The problem with EM is not that it is discretionary and adaptable, but that it is discretionary, adaptable *and* coercive.

An ecosystem is a complex adaptive system. One of the most important characteristics of complex adaptive systems is that they are unplanned. As such, they cannot be managed (and by managed, I mean controlled by a central authority in order to achieve particular goals and social outcomes). The act of managing an ecosystem makes the ecosystem different from what it was and from what it would have been. I said in my *Reply* that management is anathema to the rule of the law.[30] It is also inconsistent with an ecosystem approach.

IV. GENERAL LIMITS: NATURAL V. DESIRABLE

As I have stated in previous installments, EM's mandate is to fashion a desirable environment in human terms. In *Changing Nature*, I quoted Daniel Botkin's proclamation that "[n]ature in the twenty-first century will be a nature that we make; the question is the degree to which this molding will be intentional or unintentional, desirable or undesirable."[31]

I have argued that this process is utilitarian and allows ecosystem degradation if it happens to conflict with other inter-

30. Pardy, *Reply*, *supra* note 5, at 212.

31. Pardy, *Changing Nature*, *supra* note 2, at 677 (quoting DANIEL BOTKIN, DISCORDANT HARMONIES: A NEW ECOLOGY FOR THE TWENTY-FIRST CENTURY 193 (1990)).

ests deemed important. I have also argued that a preferable mandate is to substitute "natural" for "desirable" because it would reduce the ability of environmental decision-makers to apply their own value judgments.

Ruhl complains that distinguishing between natural and unnatural is also a value judgment.[32] He is right. It values native characteristics of ecosystems above other interests that might threaten those characteristics. I could attempt to argue why that is a proper judgment to make, but that is not the point. The most important distinction between a natural/unnatural dichotomy and EM's desirable/undesirable binary choice is not the rightness of the value judgment but who makes it. The decision to adopt "natural" as the goal would be made by the legislature, while the "desirable/undesirable" decision is one that each manager is invited to make—and make differently for every situation.

To see that this is so, consider different circumstances. Instead of an ecosystem manager, imagine an officer at a driver licensing bureau. Instead of "natural" as the criterion for the decision, assume that the officer who issues driver licenses must consider the criterion of "16 years of age or older." The legislature has made the judgment that 16 years of age is a suitable age for a license. The officer's function is simply to assess whether the facts satisfy the test. There is little discretion in this decision.

Now consider the effect if, instead of "16 years of age or older," the criterion is "a suitable age."[33] The officer is now empowered not merely to assess evidence of the applicant's age, but also to apply his or her own judgment about how old an applicant ought to be. The officer is no longer simply applying the test to the facts, but making her own value judgment about the nature of the test. Under this test, different applicants will be granted licenses at different ages.

The story with EM is similar. The pursuit of "desirable" outcomes gives managers the mandate to make their own value judgments (again, an odd proposition given that they claim scientific expertise rather than ethical wisdom). The pursuit of "natural" outcomes significantly narrows the scope of the discretion that they may exercise, because the value judgment has been made by the legislature before any manager gets hold of an individual case.

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32. Ruhl, *Part IV*, *supra* note 6, at 30.

33. *See* RICHARD EPSTEIN, SIMPLE RULES FOR A COMPLEX WORLD 25-26 (1995).

Ruhl, I gather, has two complaints about pursuing "natural" outcomes. The first is the difficulty in defining what "natural" means. We have covered some of this ground in earlier parts, so I will not address it again here. The second, which he raises in *Part IV*, is that the very idea of "natural" is anthropomorphic—and therefore, if I understand the objection, is self-contradictory. [34] It conceives of the idea of not-human from a human point of view. This claim is obviously true if one wants to be literal and say everything we do is anthropomorphic. Taken to an extreme, every idea in the human brain is anthropomorphic—but this sort of objection gets us nowhere. It implies that we should not attempt to consider anything beyond ourselves, or to imagine that non-human elements of the world are definable, even for the purpose of speaking to each other.

If Ruhl does not approve of "natural" as the criterion to be used for environmental decisions, then I invite him to propose another. We can use any label he likes—as long as we are told ahead of time what it is going to mean, and leaves value judgments to the legislature. Citizens are entitled to know what judgment has been made, and to know that the same priorities and value judgments will apply to all similar decisions.

V. CONCLUSION

EM makes two problems worse. The first is environmental creep: the incremental transformation of ecosystems by human impact. The second is the growth of arbitrariness in environmental law and policy.

I have argued elsewhere that these two problems are directly related:

> The first is the justification for the second, and the second is one of the causes of the first. Each particular instance of environmental decline caused by human activity creates a call for intervention; and each particularized intervention contributes to a system of debilitating indeterminacy that is incapable of stemming the tide of ecosystem degradation.[35]

To defend the achievements of EM, Ruhl suggests in the conclusion to *Part IV* that the fact that EM is criticized from both

34. Ruhl, *Part IV*, *supra* note 6, at 30.

35. Bruce Pardy, *Environmental Law and the Paradox of Ecological Citizenship: The Case for Environmental Libertarianism*, 33 ENV'TS 25, 26 (2005).

sides of the fence means that it must be doing something right. Ruhl refers to EM critic Allan Fitzsimmons who, Ruhl says, condemns EM as an idea "formulated by a power-hungry scientific elite aligned with dark political interests in order to serve their purely *environmental* goals without any measure of accountability."[36] EM must be hitting the right balance, Ruhl says, if it attracts condemnation from both Fitzsimmons and me, because we must be located at opposite ends of the spectrum.[37]

But my criticisms and those of Fitzsimmons are not opposite. We may not agree about the priority that should be given to ecosystem protection, but we share concerns about process. Fitzsimmons and I both question EM because it lacks accountability.[38] Fitzsimmons is right to be concerned about the discretionary pursuit of environmental politics running roughshod over citizen's interests that get in the way.[39] I am concerned about that eventuality too. I am also concerned about the discretionary promotion of politically powerful economic interests running roughshod over native ecosystems. But what is most objectionable is a system that produces each of these results on different occasions, as EM does. When there is utilitarian discretion, who knows how things will turn out in any particular case?

Ruhl wishes to place environmental destinies in the hands of experts. He believes that they are competent professionals with the best of intentions—and I believe so too. But the rule of law is not based upon faith in good intentions. It is achieved by limits to discretion and structural checks and balances. EM infringes upon liberties, breaches legal norms, gives control to unaccountable authorities and yet still fails to stem the tide of ecosystem decline. EM is the best form of environmental protection only if there is no other choice—which brings us full circle to where we began, to the myth of the inevitability of EM. The onus is on the managers to show that EM is now the only possible approach to ecosystem governance. Until then, we should look for something better.

36. Ruhl, *Part IV, supra* note 6, at 34 (emphasis in original) (referring to ALLAN K. FITZSIMMONS, DEFENDING ILLUSIONS: FEDERAL PROTECTION OF ECOSYSTEMS (1999)).

37. *Id.* at 26.

38. *Id.* at 33.

39. *Id.*