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THE ENDANGERED SPECIES ACT AND PRIVATE PROPERTY: A MATTER OF TIMING AND LOCATION

J.B. Ruhl†

For all the controversy surrounding the effect of the Endangered Species Act (“ESA”) on private property, precious little information has accompanied the heated calls for strengthening or weakening the law’s land use proscriptions. Preservationist groups and property rights groups alike depend on staking out higher moral ground and producing “poster child” stories of imperiled species or property owners. The Fish and Wildlife Service (“FWS”), which implements the ESA for most of the listed endangered and threatened species, has compiled reams of data on its administrative functions¹ in support of its recent efforts through administrative (in lieu of legislative) reform to achieve the elusive “balance” between too much and too little land use regulation.² Most of this debate takes for granted that landowners threaten species and that the ESA threatens landowners. By and large, however, not much is known in terms of hard, cold data about the effects of ESA regulation on land-

† Professor of Law, Southern Illinois University School of Law, and Visiting Associate Professor of Law (1998-99), George Washington University Law School. I am grateful to Professor Jeffrey J. Rachlinski for the opportunity to comment on his work, to the Cornell Journal of Law and Public Policy for the opportunity to participate in their Symposium, and to the other participants in the Symposium for their invaluable insights on the issue of endangered species and private property.

¹ In a prior article, Rachlinski summarizes and analyzes many of these data. See Jeffrey J. Rachlinski, *Noah By the Numbers: An Empirical Evaluation of the Endangered Species Act*, 82 CORNELL L. REV. 356 (1997). For other empirically-oriented studies of the FWS’s ESA implementation programs, see Oliver A. Houck, *The Endangered Species Act and Its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277 (1993); Albert C. Lin, *Participants’ Experiences with Habitat Conservation Plans and Suggestions for Streamlining the Process*, 23 ECOLOGY L.Q. 369 (1996); John Copeland Nagle, *Playing Noah*, 82 MINN. L. REV. 1171 (1998); Barton S. Thompson, Jr., *The Endangered Species Act: A Case Study in Takings and Incentives*, 49 STAN. L. REV. 305 (1997). FWS’s sister agency in administration of the ESA is the Department of Commerce’s National Marine Fisheries Service (“NMFS”), which has jurisdiction over marine and anadromous species. See Interagency Cooperation-Endangered Species Act of 1973, As Amended, 50 C.F.R. § 402.01(b) (1996). Because of the Symposium’s focus on the ESA and land regulation, my focus herein is exclusively on FWS programs.

² For a summary of the FWS’s reform initiatives, 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).

owner behavior, and scarcely more is known in that form about the effects of landowner behavior on imperiled species.³

Jeffrey Rachlinski should thus be applauded for undertaking his legal empirical study of the relationship between the level of land use regulation and the level of landowner participation in species protection.⁴ The approach he has taken—of using plants as the case study for learning how landowners might respond to reduced land use regulation on behalf of animal species—is truly creative. As he explains, the ESA protects listed animal species virtually everywhere, from any harmful act, by anyone.⁵ The ESA protects listed plants found on federal land broadly, and prohibits federal agencies from jeopardizing listed plants regardless of their location; however, plants on property not subject to federal control or to federal action are virtually unprotected under the ESA unless state law extends some measure of safe harbor.⁶ Since states vary in the

³ On a gross scale, the loss of habitat to real estate is unquestionably an important factor in species endangerment. One recent study has found that 85% of imperiled species included in one study were affected by habitat loss, with land conversion for commercial and residential uses being the leading contributor. See David S. Wilcove et al., *Quantifying Threats to Imperiled Species in the United States*, 48 *BIO SCIENCE* 607, 609-12 (1998). Moreover, the prevalence of a risk species on nonfederal lands increases the importance of policies toward private land development. One study estimates that over 90% of the species listed under the Endangered Species Act as endangered or threatened have some, or all, of their habitat on nonfederal lands—73% of those have over 60% of their habitat on nonfederal lands, and 37 percent are completely dependent on nonfederal lands. See U.S. GEN. ACCT. OFF., PUB. NO. GAO/RCED-95-16, *ENDANGERED SPECIES ACT: INFORMATION ON SPECIES PROTECTION ON NONFEDERAL LANDS* 4-5 (1994) [hereinafter U.S. GEN. ACCT. OFF.]. Another study demonstrates that a mere seven percent of the land area of the United States is home to fully 50% of plant and animal species listed under the Endangered Species Act, and that the “hot spots,” within which many different at-risk species appear in clusters, are often located near areas experiencing suburban expansion. See Amy Ando et al., *Species Distributions, Land Values, and Efficient Conservation*, 279 *SCI.* 2126 (1998); Curtis H. Flather et al., *Threatened and Endangered Species Geography*, 48 *BIO SCIENCE* 365 (1998); A.P. Dobson et al., *Geographic Distribution of Endangered Species in the United States*, 275 *SCI.* 550 (1997); T. Adler, *Mapping Out Endangered Species' Hot Spots*, 150 *SCI. NEWS* 101 (1996); Jon Paul Rodriguez et al., *Where are Endangered Species Found in the United States?*, *ENDANGERED SPECIES UPDATE*, Mar.-Apr. 1997, at 1. More precise, species-by-species analyses with which to evaluate landowner behaviors by type of landowner, type of land use, and magnitude of impact are not widely available.

⁴ See Jeffrey Rachlinski, *Protecting Endangered Species Without Regulating Private Landowners: The Case of Endangered Plants*, 8 *CORNELL J. L. & PUB. POL'Y* 1 (1998). This is actually the second of Professor Rachlinski's probing empirical analyses of the ESA. See Rachlinski, *supra* note 1.

⁵ See 16 U.S.C. § 1538(a)(1)(B) (1994). For an overview of the take prohibition as implemented, see Albert Gidari, *The Endangered Species Act: Impact of Section 9 on Private Landowners*, 24 *ENVTL. L.* 419 (1994); Frederico Cheever, *An Introduction to the Prohibition Against Takings in Section 9 of the Endangered Species Act of 1973: Learning to Live With A Powerful Species Preservation Law*, 62 *U. COLO. L. REV.* 109 (1991).

⁶ See 16 U.S.C. § 1538(a)(2)(B). For an overview of the protection of plants under the ESA, see George Cameron Coggins & Anne Fleishel Harris, *The Greening of American Law?: The Recent Evolution of Federal Law for Preserving Floral Diversity*, 27 *NAT. RESOURCES J.* 247 (1987).

level of protection they afford plants, plants are left with a wide spectrum of possible levels of protection based on, among other things, the status of the property owner. By aiming his empirical analysis at the question of how species status and property owner status correlate under different regimes of regulatory protection, Rachlinski has provided a rare example of legal empiricism under the ESA that is focused on the important question of how landowners respond to ESA land use regulation.

This article's comments on Rachlinski's work fall into three categories. First, as any empirical analysis is only as good as the questions it seeks to answer, I focus on the question Rachlinski poses as his research issue. He draws from the rhetoric associated with the ESA debate in observing that "[c]ritics of the ESA also contend that many private landowners would voluntarily conserve species on their property but for the prospect of regulation by the federal government. The critics conclude from this analysis that this aspect of the ESA should be eliminated."⁷ Rachlinski puts these critics to the test using the endangered plants model to explore the question of whether eliminating land use regulation as a feature of the ESA would help or hinder animal species. While his work fairly silences the critics' broadside attack on the ESA, they represent an extreme and minority position with respect to ESA reform, notwithstanding how much attention they receive from the media and Congress.⁸

By contrast, the administrative reforms the FWS has implemented in recent years, with increasingly bipartisan support, represent the middle ground between eliminating land use restrictions and maintaining the status quo.⁹ These FWS reforms attempt to ameliorate the inherent unfairness that the ESA works on some landowners. To so much as suggest that the ESA is often unfair in application sends many environmentalists into distress, but Rachlinski's study offers an excellent opportunity to show that although the ESA often is unfair to landowners, we should not repeal its land use restrictions. Instead, the appropriate response would be to identify the conditions leading to the ESA's unfairness and attack them without diluting the overarching species conservation objective of the Act.

My second category of comments focuses on the importance of field testing empirical findings derived from statistical studies. As much as I applaud Rachlinski's foray into legal empirical analysis of the ESA, I am concerned by the casual treatment so-called anecdotal evidence receives

⁷ Rachlinski, *supra* note 4, at 2.

⁸ See Roger Platt, *Ships Passing in the Night: Current Prospects for Reauthorization of the Endangered Species Act*, ENDANGERED SPECIES UPDATE, Nov.-Dec. 1997, at 3, 5-6 (discussing the supporters and critics of a bipartisan Senate ESA reform bill).

⁹ See Ruhl, *supra* note 2, at 370-74.

in his work, for it is largely (perhaps only) through such evidence that we can identify unfairness issues in the ESA. Data without theory are just data, and theories without data are just theories. Rachlinski has done us the service of beginning to test an advocated theory (removing land use restrictions will improve landowner actions toward species) with hard data (showing mostly the opposite). But the job does not end there, as conclusions from that process must be confirmed in the field through serious case study research. In this sense, the difference between anecdotes and case studies is largely in the eyes of the beholder. Call them by either name, but real world experiences, provided they are accurately recorded, must not be ignored in the process of developing theories about cause and effect. As someone who has had extensive first-hand experience with landowner responses to ESA regulation,¹⁰ I feel well-qualified to relate some “anecdotes” demonstrating that the ESA, in some circumstances, is unfair to landowners and leads directly to landowner behavior counterproductive to the species conservation goal. My experience would confirm Rachlinski’s basic conclusion that landowners generally will not voluntarily engage in higher levels of species protection in a completely deregulated land use regime, but the exceptions must be recognized and, ideally, integrated into the theory.

My third category of comments collects and refutes some of the arguments extreme property rights advocates are likely to advance in criticism of Rachlinski’s work. The bane of all empirical research is the ease with which critics can nit-pick it to death. There are some obvious points Rachlinski’s critics might raise in that regard—e.g., plants are not animals, so conclusions about plants don’t apply to animals—but I will demonstrate that most of them are inconsequential to his basic conclusion and to the quality of his study. As a result, advocates of the wholesale “free market” version of species protection will have a difficult time dismissing the implications of his work.

My three categories of comments on Rachlinski’s empirical study are directed at my central operating thesis on the issue of the ESA and private property—that the unfairness the ESA causes to landowners is isolated rather than systemic, that it can be remedied through targeted solutions, and that it does not support wholesale repeal of the take prohibition. In the end, Rachlinski explodes the myth extreme property rights advocates have used to advocate gutting the ESA—that private, voluntary landowner initiative will more than fill the species protection vac-

¹⁰ While in private law practice in Austin, Texas during the 1980s and early 1990s, I represented many private and local government landowners and developers in connection with ESA compliance, permitting, and enforcement issues. For a summary of the ESA issues affecting Austin during that time period, see J.B. Ruhl, *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Nonfederal Lands: Time for Something Completely Different?*, 66 U. COLO. L. REV. 555, 635-42 (1995).

uum created once the ESA's land use regulations disappear.¹¹ But does his work support keeping the status quo intact, or strengthening the ESA's land use restrictions, as many preservationists advocate? A careful empirical analyst, Rachlinski does not suggest that the data point either way for those questions. However, I suggest that my "anecdotes" call the status quo and, even more so, the preservationists' vision of a supercharged ESA, into serious question. Perhaps in the long run Rachlinski and I are headed towards the same point from different perspectives, which is also where the FWS administrative reform agenda has been headed: keeping a strong component of land use regulation in the ESA, but providing the flexibility to tailor land use proscriptions to the timing and location of species and landowners. After all, timing and location are most important to both species and landowners.

I. DEFINING THE RIGHT RESEARCH QUESTION: ACKNOWLEDGING THE MIDDLE GROUND

Rachlinski develops his null hypothesis—the proposition that his empirical study is designed to test—based on positions taken by critics of the ESA's command and control framework. No one could reasonably argue that the ESA is not a classic example of the command and control approach to environmental regulation;¹² the question is whether that approach works as intended. Rachlinski observes that critics "argue that the restrictions are unfair to landowners and convert them from potential allies of endangered species into potential enemies. . . . The critics conclude . . . that this aspect of the ESA should be eliminated."¹³ From there, his research proposal proceeds to outline the two possible outcomes of following that proposed reform: removing the ESA's land use restrictions will either make harboring protected species less costly to landowners and "inspire them to preserve important habitat voluntarily [or] . . . such reform would free landowners to destroy habitat needed for the survival of endangered species."¹⁴ His study explores which is the most likely outcome, and handily seems to point in the direction of the latter.

¹¹ See, e.g., Endangered Species Recovery and Conservation Incentive Act of 1995, H.R. 2364, 104th Cong. (proposing to replace the existing ESA regulatory structure with an incentive-based voluntary conservation framework); David A. Ridenour, *To Save Wildlife, Scrap the Endangered Species Act*, WALL ST. J., July 18, 1995, at A12 ("true reform" would involve "scrapping the ESA altogether and replacing it with a voluntary, incentive-based system"); JOHN MERRIFIELD & DUGGAN FLANAKIN, *A MARKET APPROACH TO PROTECTING HABITAT FOR ENDANGERED SPECIES* (1995).

¹² The ESA has been described by environmentalists and property rights advocates alike as the "pit bull" of environmental laws. See, e.g., Steven P. Quarles, *The Pitbull Goes to School*, ENVTL. F., Sept.-Oct. 1998, at 55.

¹³ Rachlinski, *supra* note 4, at 2.

¹⁴ *Id.*

My concern at this point is not with Rachlinski's dismantling of the theory that eliminating the ESA will increase landowner actions on behalf of species. Indeed, in Part II of my comments I use what I believe are the narrow exceptions to his conclusion to demonstrate that, in general, he correctly assesses the likely landowner response to total ESA deregulation. Rather, at this point I want to be sure that it is clear exactly which criticism of the ESA is under study, for "the critics" of the ESA are a diverse crowd. Those who argue that the ESA is often unfair to landowners include many, such as me, who would not go to the next quantum level to say that the elimination of the ESA's land use restrictions will result generally in more landowner protection of endangered species.¹⁵ Rachlinski's work should silence the latter group of critics, but I don't believe that he has done enough to undermine the former group. The ESA *is* often unfair to landowners.

The ESA's unfairness surfaces in many ways, usually concerning the inherent unfairness possible whenever landowners' fate depends on timing and location. For example, when land development is a major contributing cause of a species' endangerment, those landowners lucky enough to have developed before the species is listed, and whose land uses thus led to the listing, escape all regulation. However, the poor souls that intentionally or inadvertently left the species' habitat on their lands shoulder the post-listing regulatory burden.¹⁶ Moreover, to the extent we justify the ESA on the ground of the collective benefits species offer to humans (medicines, aesthetic pleasure, ecosystem functions, etc.), the costs of species protection tends to fall on a much narrower subgroup of society than those who derive the benefits.¹⁷

I can label these features of the ESA unfair without having to advocate the complete elimination of the ESA's land use restrictions. But many environmentalists, passionately convinced that the ESA is morally good, have a hard time conceiving that it can also be unfair. Others simply won't admit the unfairness, believing it would concede too much to the property rights advocates. Yet clearly the Act does work in the way I have just outlined. So, we get pages and pages in law reviews devoted to articulating elegant theories of the evolution of property

¹⁵ See, e.g., Ruhl, *supra* note 2, at 388-400 (describing the FWS's efforts, generally supported in the regulated community, to ameliorate unfairness to landowners under the ESA without altering the basic regulatory framework); Platt, *supra* note 8, at 5-6 (discussing the broad support a recent Senate bipartisan ESA reform bill has received among the regulated community notwithstanding that it retains the take prohibition and other ESA regulatory programs).

¹⁶ This perverse pre-listing conservation disincentive is what prompted the FWS to adopt a new policy to promote and reward landowners' pre-listing conservation efforts. See Ruhl, *supra* note 2, at 384-86.

¹⁷ The ESA prohibits species listing decisions based on economic impacts. See 16 U.S.C. § 1533(b)(1)(A) (1994).

rights, the ethical duties of landowners to the land, and so on—much of it with the purpose of convincing audiences that the ESA is not unfair, or at least that its unfairness should be overlooked.¹⁸ These arguments are not convincing. The fact that the ESA is morally *good* does not mean we cannot make it morally *better*, and we can do so by focusing on its inherent unfairness to landowners. If we can figure out a way to ameliorate the ESA's unfairness to landowners and still retain or improve its protective value for species, why not do so?

Returning the focus to Rachlinski's work, I do not want to give the impression that I believe he is trying to push the unfairness issue under the table. His study very carefully targets the "eliminate the ESA" hypothesis and does not purport to say that the ESA is fair in all its applications. My concern is simply with the way he has developed the study's null hypothesis—lumping the "unfairness" criticism in with the "eliminate the ESA" criticism as if one has to believe both if one believes either. More to the point, my concern is that others will use his study to deflect the unfairness criticism, when I believe the only fair interpretation of the study is that it deflates the broad deregulation position. In short, he has shown us that we have a pretty good mousetrap in the ESA, but that leaves open the question of how to build a better one.

II. AFTER THEORY AND DATA MERGE: ACCOUNTING FOR REAL WORLD EXPERIENCES

Confronting the unfairness inherent in the ESA, and the challenge of weeding it out without diluting the ESA's salutary species conservation goal, leads directly to my next category of comments on Rachlinski's work. In addition to moral goodness, one of the rallying points of passionate ESA supporters is the theme of a "diversity of life" which must be maintained in order for healthy, functional ecosystems to continue to support species, including *homo sapiens*.¹⁹ As a devotee of com-

¹⁸ See, e.g., James P. Karp, *A Private Property Duty of Stewardship: Changing Our Land Ethic*, 23 ENVTL. L. 735 (1993). I do not mean to suggest that questions of evolving property rights and land ethic are not important, or that all or even most treatments of them are guilty of trying to cover up the unfairness issue, but few deal with the unfairness issue for what it is—an inherent outcome of changing property rights rules. Further, many lump the unfairness criticism of command and control style land use regulation in with the wild-eyed, Libertarian, property rights assault on the ESA and its kin. Indeed, a number of prominent "environmentalist" legal commentators are beginning to confront the unfairness issue in environmental law honestly, directly, and with a sobering message to all environmentalists that continuing to ignore or write around the unfairness issue risks allowing environmental laws like the ESA to lose *all* their moral force. See, e.g., Richard J. Lazarus, *Fairness in Environmental Law*, 27 ENVTL. L. 705 (1997).

¹⁹ See Holly Doremus, *Patching the Ark: Improving Legal Protection of Biological Diversity*, 18 ECOLOGY L.Q. 265, 265-68 (1991); James Drodzdowski, *Saving an Endangered Act: The Case for a Biodiversity Approach to ESA Conservation Efforts*, 45 CASE W. RES. L. REV. 553, 556 (1995); Oliver A. Houck, *On the Law of Biodiversity and Ecosystem Manage-*

plex adaptive systems theory, I couldn't agree more, and I have contended elsewhere that land use practices often undercut the diversity of ecosystems with effects we cannot fully predict or understand precisely because ecosystems are themselves complex adaptive systems.²⁰ But equally true is the reality that the law must recognize the diversity that is out there and be ready to adapt and evolve simultaneously. The ESA is an apt illustration of the difficulties in that regard, for there is simply no one recipe for how to manage all endangered species, or all imperiled ecosystems, or all different assemblages of the "diversity of life."

Thus, the very diversity of life poses a problem for Rachlinski and anyone else who hopes to divine truth about the ESA through empirical analysis. Every species *is* different, and we run a risk when we attempt to generalize from macro-data analyses, even when using the subcategories of landowner status and regulatory protection levels as Rachlinski does. In short, we cannot hope to provide universal answers about the ESA's effect on species or landowners from studies that lump the universe of species and landowners into one empirical database. Rachlinski's work generally supports the view that less land use regulation will not lead to more landowner protection of species, and perhaps goes so far as to support the preservationists' view that more land use regulation could prompt (i.e., force) more landowner protection of endangered spe-

ment, 81 MINN. L. REV. 869, 959 (1997); Ruhl, *supra* note 10, at 570-72. For a summary of the ecosystem management and biodiversity conservation policy formulation initiatives of eighteen federal agencies, see CONGRESSIONAL RESEARCH SERVICE, ECOSYSTEM MANAGEMENT: FEDERAL AGENCY ACTIVITIES, CRS REP. NO. 94-339 (1994). Ecosystem management and biodiversity conservation are now standard fare of environmental groups' policy proposals. See, e.g., BIODIVERSITY AND THE LAW (William Snape III et al. eds., 1996) ("The assumption in this book is that biodiversity, and lots of it, should be conserved and preserved by law."); THE KEYSTONE CENTER, THE KEYSTONE NATIONAL POLICY DIALOGUE ON ECOSYSTEM MANAGEMENT: FINAL REPORT (1996); STEVEN YAFFEE ET AL., THE WILDERNESS SOCIETY, ECOSYSTEM MANAGEMENT IN THE UNITED STATES: AN ASSESSMENT OF CURRENT EXPERIENCE (1996). For differing views on this new paradigm of conservation policy, compare R. Edward Grumbine, *What Is Ecosystem Management?*, 8 CONSERVATION BIOLOGY 27, 35 (1994) (advocating movement towards this approach), and R. Edward Grumbine, *Reflections on "What is Ecosystem Management?"* 11 CONSERVATION BIOLOGY 41, 47 (1997) (same), with Rebecca W. Thomson, "Ecosystem Management" Great Idea, But What Is It, Will It Work, and Who Will Pay?, 9 NAT. RESOURCES & ENV'T, Winter 1995, at 42 (pointing out difficulties of the approach).

²⁰ 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, 935-36 (1997); see also Fred Bosselman & A. Dan Tarlock, *The Influence of Ecological Science on American Law: An Introduction*, 69 CHI.-KENT L. REV. 847, 869-73 (1994); William H. Rodgers, Jr., *Adaptation of Environmental Law to the Ecologists' Discovery of Disequilibria*, 69 CHI.-KENT L. REV. 887, 891 (1994); A. Dan Tarlock, *The Nonequilibrium Paradigm in Ecology and the Partial Unraveling of Environmental Law*, 27 LOY. L.A. L. REV. 1121, 1128-44 (1994); Jonathan B. Wiener, *Law and the New Ecology: Evolution, Categories, and Consequences*, 22 ECOLOGY L.Q. 325, 355-56 (1995).

cies. Neither proposition, however, will be true for *all* species or for *all* landowners.

I do not have an elaborate empirical study to support my assertions in this article. Rather, I have only the much-maligned "anecdote," except that, unlike many anecdotes which involve more lore than fact, these anecdotes are taken directly from my experiences. These are anecdotes that have been repeated, albeit with different species and landowners as the players, on sufficiently numerous occasions and in sufficiently numerous congressional districts to capture the attention of politicians and, more importantly, the current FWS administration.²¹ The anecdotes come in three varieties, each exposing a perverse potential for the ESA to work counterproductively to its goals by imposing more, rather than less, regulation of land use.

My three anecdotes involve the black-capped vireo, a 4.5-inch insect-eating migratory songbird whose habitat territory during nesting season ranged from Kansas to Mexico, but it now nests mainly in Texas.²² Vireos typically nest in shrub lands with vegetation extending from the ground to about six feet and covering about thirty to sixty percent of the total area, with nesting territories ranging in size from one to sixteen acres.²³ Fire was the vireo's friend, for it ensured a steady supply of new shrub land as former nesting territory gradually converted into mature woodlands suitable for another endangered songbird, the golden-cheeked warbler.²⁴ Brush clearing, fire suppression, and browsing by deer and livestock slowly diminished the vireo's available habitat, leading to its listing as an endangered species in 1987.²⁵ To the list of causes of the species' decline, however, I would add the ESA itself.

First, in the months leading up to the listing of the vireo—as the possibility of listing was announced and the listing was proposed—some landowners approached me because they were concerned that the listing could impede their land use plans. Even if they had no particularly well-defined plans, and even before any concrete ESA restrictions were defined, they were smart enough to sense that life as a landowner without vireo habitat would be easier than life with vireo habitat. I was asked on

²¹ See Michael J. Bean, *The Endangered Species Act and Private Land: Four Lessons Learned from the Past Quarter Century*, 28 ENVTL. L. REP. 10,701, 10,706-07 (1998) (recounting several such anecdotes as having provided support for administrative reforms). There is no evidence that the FWS relied on quantitative statistical analyses to develop the support for and framework of the various programs the agency has designed to ameliorate the unfairness that the ESA poses to landowners. See Ruhl, *supra* note 2, at 372-73, 388-89.

²² See LINDA CAMPBELL, *ENDANGERED AND THREATENED ANIMALS OF TEXAS: THEIR LIFE, HISTORY AND MANAGEMENT* 29 (1995).

²³ See *id.*

²⁴ See *id.* at 30.

²⁵ See *id.*

several occasions whether the ESA restricts clearing of vireo habitat or, more radically, killing of vireos *before* the species is listed. It does not.²⁶

Second, during the years following listing of the species, as the FWS disseminated information about the species, the whereabouts of its habitat, and the natural progression of vegetation into and out of habitat suitable for vireos, owners of land that had traditionally been grazed or otherwise managed in a regime that was pre-emergent to suitable vireo habitat learned that they would preserve more land use options by keeping their land in that condition—something that could be done simply through periodic clearing or running a few goats on their property. Likewise, owners of land with suitable vireo habitat learned that in a few years it would magically grow out of that suitability and could be cleared without impact to vireos. On many occasions I was asked whether the ESA prevents private landowners from engaging in either practice. It does not.²⁷

Third, owners of land containing occupied or suitable vireo habitat and whose plans involve immediate development face an ambiguous regulatory framework. Vireos winter in Central America, and it is often difficult to know what effects a specific development in or near suitable habitat will have on particular members of the species.²⁸ If development is timed during the winter, or is designed to avoid intrusion into clearly occupied areas, it may be difficult for the FWS or anyone else to prove an illegal “take” has occurred.²⁹ On the other hand, some landowners observed the way that other landowners who “did the right thing” and sought FWS authorization for developments in or near vireo habitat fared under the ESA’s permit regime.³⁰ The permit process experience for many was long and expensive, often substantially altering the develop-

²⁶ The “take” prohibition applies only to animal species listed as endangered, or as threatened if FWS also extends the take protection to the species, but offers no protection prior to either such listing. See 16 U.S.C. § 1538(a)(1)(B) (1994); 16 U.S.C. § 1533(d) (1994).

²⁷ Actions that promote recovery of a species—i.e., conservation actions—are required of federal agencies, but not of state, local, and private entities unless their actions are either funded or authorized by a federal agency or would result in taking of a listed species and thus require a permit under ESA section 10(a)(1)(B). See J.B. Ruhl, *Section 7(a)(1) of the “New” Endangered Species Act: Rediscovering and Redefining the Untapped Power of Federal Agencies’ Duty to Conserve Species*, 25 ENVTL. L. 1107, 1121-25 (1995).

²⁸ The general threats to the species appear to be sufficiently defined, but “[r]esearch is underway to better understand the . . . land management practices affecting the black-capped vireo.” CAMPBELL, *supra* note 22, at 31.

²⁹ To prove “take” as a result of habitat destruction or modification, a person would have to provide evidence that the action proximately and foreseeably led to the death or injury of identifiable species members. See *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 696-97 n.9 (1995).

³⁰ For a discussion of the so-called habitat conservation plan (“HCP”) permitting program, which is administered under section 10(a)(1)(B) of the ESA, 16 U.S.C. § 1539(a)(1)(B) (1994), see Lin, *supra* note 1.

ment design.³¹ Thus, I was asked whether landowners have a duty to consult with the FWS before engaging in development, and whether a particular development plan designed to avoid significant destruction of vireo habitat could withstand allegations of an illegal take. The answers, respectively, are no³² and usually yes.³³ Therefore, the ESA can be unfair to species too. Once again, it's a matter of timing and location.

I expect many ESA supporters will point to the landowners I describe above (and their lawyers) as the problem for the vireo. Indeed, the FWS claims that "[l]andowners can help [the vireo] by . . . incorporating management practices which create or maintain habitat for these birds."³⁴ Sure they can, but why should we expect them to and then deride them when they do not do so? Landowners in the three scenarios I have described did not voluntarily protect the vireo because to have done so would have been contrary to their economic self-interest. The ESA is a powerful regulatory tool to coerce landowner protection of endangered species, but it has its loopholes that landowners are quite adept at finding, as my experience illustrates. Furthermore, the three scenarios I describe above will not easily be rectified through increased regulatory clout: there will always be some point before which the regulation does not apply and thus when landowners will be free to destroy a species' habitat. No regulatory regime can force all landowners to allow their land to evolve or devolve into habitat for a species, and no regulation can be drafted so airtightly that it captures all activities that may transgress the regulation's species protection goal. But if the solution to the problems posed by these scenarios is not *more* regulation, what is it? Enter the FWS's reform agenda.

The FWS has realized that the breadth of the ESA's proscriptive approach is not matched by any proactive component to deal with the scenarios that fall through the command and control cracks. Section 7(a)(1) of the ESA imposes an affirmative duty only on federal agencies to conserve species,³⁵ whereas the biological reality is that most endangered species rely heavily on state and private lands for their essential habitat.³⁶ Nonfederal entities are obligated to employ conservation ef-

³¹ See *id.* at 402.

³² See Ruhl, *supra* note 27.

³³ The burden of proof established in the *Sweet Home* case, while not insurmountable, is difficult to prove for many species, such as migratory songbirds. See 515 U.S. at 696-97 n.9. For example, the FWS has never commenced formal administrative, civil, or criminal enforcement proceedings alleging illegal destruction of vireo habitat.

³⁴ CAMPBELL, *supra* note 22, at 31.

³⁵ See 16 U.S.C. § 1536(a)(1)(1994); see also *supra* note 27.

³⁶ One study estimates that over 90% of the species listed under the ESA as endangered or threatened have some or all of their habitat on nonfederal lands. See U.S. GEN. ACCT. OFF., *supra* note 3, at 4. Of those species, 73% have over 60% of their habitat on nonfederal lands and 37% are completely dependent on nonfederal lands. See *id.* at 5. Another study demon-

forts only when they seek authorization to take endangered species, which is provided through the permitting procedures of section 10(a).³⁷ It has become increasingly apparent, therefore, that some mechanism to bring about broader and more proactive nonfederal conservation efforts is needed. Moreover, the glaring deficiency of the ESA is in its absence of any measure, proscriptive or proactive, on behalf of species *before* they become endangered. Until a species is listed as endangered or threatened under section 4, none of the ESA's land use restrictions and conservation benefits are available.³⁸

Through a series of recently announced policy proposals, the FWS has made significant strides toward filling in the loopholes in the statutory scheme, and has done so in ways uncharacteristic of the heavy-handed approach of the core ESA programs. The three policies, known as Candidate Conservation Agreements ("CCAs"), Safe Harbors, and No Surprises, have the potential to create a seamless spectrum of mechanisms available to the agency and landowners. These mechanisms are intended to address species conservation beginning long before a species is listed and continuing long thereafter.³⁹

The CCA policy, still in draft form as of this writing, creates "voluntary programs that encourage non-federal landowners to implement proactive conservation measures for these declining species."⁴⁰ The agencies will enter into a CCA with a nonfederal landowner if they conclude that the conservation measures, if adopted by similarly situated property owners in the covered species' range, will avoid the need for listing. In return, the agencies will provide the landowner with assurances (through a section 10(a) permit) that the landowner may implement planned land uses in the future should the species become listed notwithstanding the CCA.⁴¹ Whereas the landowner previously might have "managed" the property in such a way as to avoid the emergence of habitat and other conditions beneficial to unlisted species, CCAs create a very real incentive to do just the opposite.

strates that a mere seven percent of the land area of the United States is home to fully 50% of plant and animal species listed under the ESA, and that the "hot spots," which contain clusters of at risk species, are often located near areas experiencing suburban expansion. See A.P. Dobson et al., *supra* note 3; T. Adler, *supra* note 3; Jon Paul Rodriguez et al., *supra* note 3, at 1.

³⁷ See 16 U.S.C. § 1539(a)(1)(B) (1994); see also *supra* note 27.

³⁸ See *supra* note 26. This toggle-switch approach is responsible for the pre-listing species conservation disincentives that the ESA causes, and that the FWS has sought to reverse through several of its administrative reform policies. See Ruhl, *supra* note 2, at 384.

³⁹ For a more detailed summary of these three reform initiatives, see Ruhl, *supra* note 2, at 384-87, 392-94, 397-400.

⁴⁰ Announcement of Draft Policy for Candidate Conservation Agreements, 62 Fed. Reg. 32,183,32,183-84 (1997) (proposed June 12, 1997).

⁴¹ See Safe Harbor Agreements and Candidate Conservation Agreements, 62 Fed. Reg. 32,189, 32,192-93 (1997) (amending 50 C.F.R. § 17.22) (proposed June 12, 1997).

Applying the same reasoning to listed species, the Safe Harbor policy, also still in draft form, removes the interest landowners have in preventing their land from becoming home to listed species. Under the Safe Harbor policy, the FWS and the NMFS are "providing an incentive to property owners to restore, enhance, or maintain habitats resulting in net conservation benefit to endangered and threatened species."⁴² Landowners who improve conditions for listed species under a Safe Harbor Agreement will receive a permit under section 10(a). These permits provide assurance that the landowners may implement land uses in the future so long as those uses do not degrade a species' population and habitat below baseline levels in existence on the property before the Safe Harbor Agreement was adopted.⁴³

Sometimes a land use requires the taking of listed species that are not the subject of a CCA or a Safe Harbor Agreement. Section 10(a) requires that the FWS authorize such takes if they are incidental to lawful activities and if the landowner adopts a habitat conservation plan ("HCP") outlining efforts to avoid, minimize, and mitigate adverse effects on the species.⁴⁴ Recognizing that HCPs offer viable conservation opportunities, notwithstanding the authorization of take inherent in the permitting function, the FWS and the NMFS recently adopted regulatory amendments using an assurances approach similar to that adopted under the CCAs and Safe Harbor policies.⁴⁵ According to the agencies' rules, HCP permittees will receive assurances that no increased financial burden will be placed on the permittee should unforeseen circumstances with regard to the covered species require increased conservation efforts after the HCP is issued.⁴⁶ In other words, the FWS or the NMFS will assume that burden.

⁴² Announcement of Draft Safe Harbor Policy, 62 Fed. Reg. 32,178, 32,178-79 (1979) (proposed June 12, 1997).

⁴³ See Safe Harbor Agreements and Candidate Conservation Agreements, at 32,191-92 (1997) (amending 50 C.F.R. § 17.22) (proposed June 12, 1997).

⁴⁴ See 16 U.S.C. § 1539(a)(1)(B) (1994). For policy discussions of an HCP permit program written when it was emerging, see Robert D. Thornton, *Searching for Consensus and Predictability: Habitat Conservation Planning Under the Endangered Species Act of 1973*, 21 ENVTL. L. 605 (1991); J.B. Ruhl, *Regional Habitat Conservation Planning Under the Endangered Species Act: Pushing the Practical and Legal Limits of Species Protection*, 44 Sw. L.J. 1393 (1991). For more current policy discussions having the benefit of several years' experience of program implementation, see DEFENDERS OF WILDLIFE, *FRAYED SAFETY NETS* (1998); Barton H. Thompson, *The Endangered Species Act: A Case Study in Takings & Incentives*, 49 STAN. L. REV. 305 (1997); Albert C. Lin, *Participants' Experiences with Habitat Conservation Plans and Suggestions for Streamlining the Process*, 23 ECOLOGY L.Q. 369 (1996); Eric Fisher, *Habitat Conservation Planning Under the Endangered Species Act: No Surprises and the Quest for Certainty*, 67 U. COLO. L. REV. 371 (1996).

⁴⁵ See Habitat Conservation Plan Assurances ("No Surprises") Rule, 63 Fed. Reg. 8859 (1998) (amending 50 C.F.R. pts. 17, 222).

⁴⁶ See *id.* at 8871.

The need for and promise of the CCA, Safe Harbor, and No Surprises policies is not immediately apparent from Rachlinski's empirical study because they respond to the diversity of life and living under the ESA. Generalizations about species and landowners don't reveal the dynamics that lead to the three scenarios in which the ESA works against—not for—species conservation. Rachlinski is probably correct in surmising that “situations in which the FWS's land-use restrictions do more harm than good to a listed species are probably the exception, not the norm.”⁴⁷ But why should there be *any* such situations? In short, although Rachlinski drives a stake through the heart of the property rights extremists' theory that repealing the ESA will unleash countless voluntary landowner conservation practices, his data do not account for what happened to the vireo and, I believe, present no reason to dissuade the FWS from pursuing its limited reform agenda, so long as it remains targeted at the kinds of behavior my anecdotes suggest is occurring all too frequently and unnecessarily.

III. RESPONDING TO NIT-PICKING: THE BIG PICTURE REMAINS INTACT

It is naïve to think that the ardent property rights advocates will read Rachlinski's studies and go home without a fight. Although it seems unlikely they will be able to produce an empirical study proving the opposite of his conclusion, I expect they will focus on nit-picking his study in an attempt to discredit its conclusions. There are some legitimate concerns regarding Rachlinski's analysis, but in the long run they do not appear to undermine his basic research design and conclusion. I will now outline some of the more likely questions to be raised by his critics.

Plants are not animals. This charge is indisputable. It is not clear, however, why landowners would respond differently to regulation of plants than they would to regulation of animals. Indeed, most of the restrictive effect associated with protection of animals is in reality about plants—i.e., the animals' vegetative habitat.⁴⁸ In Texas, for example,

⁴⁷ Rachlinski, *supra* note 4, at 7.

⁴⁸ Actions that do not result in direct physical killing or injury to species are regulated principally under the “harm” component of the take prohibition. The definition of “harm” does not appear in the statute, but the FWS and the NMFS have provided a definition through a regulation, including within the scope of the prohibited actions “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” Endangered and Threatened Plants; Introduction and General Provisions; Definitions, 50 C.F.R. § 17.3 (1975) (amended Sept. 30, 1985). The Supreme Court has upheld that rule, focusing on the evidentiary aspects of the “actually kills or injures” language as the key to keeping the scope of harm within the legislatively intended meaning of take. See *Babbitt*, 515 U.S. at 696-97 n.9. Indeed, the Court went so far as to say that “every term in the regulation's definition of ‘harm’ is subservient to the phrase ‘an act which actually kills or injures wildlife.’” *Id.* at 700 n.13. The Court ob-

FWS focused its efforts on convincing landowners that they should not impair vireo *habitat*.⁴⁹ Rachlinski, by focusing on landowner response to different levels of plant species protection regulation, offers a reliable indicator of how landowners would respond to different levels of animal species protection regulation.

Landowners may not know that plants are not protected. Rachlinski surmises that perhaps landowners do not understand that the ESA treats plants and animals differently.⁵⁰ If they believe plants receive full ESA protection, this would undermine his premise that differences in plant species' progress on different land regimes reflect differences in plant species protection regulation levels. But while I know of no comprehensive qualitative research into landowner perceptions of how the ESA treats plants, my experience is that most private landowners are shocked to learn that the ESA mentions plants at all. In addition, landowners who seek legal counsel generally ought to learn the way the statute works and thus come to understand that the level of protection for plants varies as Rachlinski describes.

The underlying FWS database used for the study is unreliable. It is true that any empirical study is only as reliable as the data upon which it is based. Rachlinski thus acknowledges that problems with the FWS's access to private land, with the quality of data that the FWS receives from other federal agencies, and with the way that the FWS interprets post-listing discoveries of "new" populations of the species, may make the database less than ideal for his purposes.⁵¹ But these are the best data we have; therefore, any criticism on this ground ought to demonstrate the data's unreliability before the study conclusion can be questioned. Indeed, if anything, this criticism indicates the need for more funding for empirical research into the kinds of questions Rachlinski raises.

The study's federal land use classifications are too coarse. Rachlinski divides private landowner lands according to *use*, but divides federal lands according to management agency.⁵² As some federal land management agencies control millions of acres of lands put to a variety of uses, it would make the comparison more relevant if federal lands had been divided according to use as well. It may be, for example, that a

served that the rule "did not need to include 'actually' to connote 'but for' causation, which the other words of the definition obviously require." *Id.* The Court also emphasized that the harm rule thus must "be read to incorporate ordinary requirements of proximate causation and foreseeability." *Id.* at 697 n.9.

⁴⁹ See CAMPBELL, *supra* note 22, at 33-35 (reproducing the FWS's management guidelines for the black-capped vireo).

⁵⁰ See Rachlinski, *supra* note 4, at 34.

⁵¹ See *id.* at 34-35.

⁵² See *id.* at 21.

species' status is consistent between federal and private land when uses are held constant.

The study does not examine species status trends over time. Rachlinski's study depends on species assessments ("stable," "declining," and "improving") that are snapshots in time rather than longitudinal. The statement that a species is "stable" on federal property and "declining" on private property *today* does not tell us much about how that condition came to be. Was the species once abundant on federal land and abused to the point that today a small remnant population is "stable" because the federal authority is finally protecting it meaningfully? Is the species "declining" on private property, but declining slower than it was five years ago? Without some historical perspective of this sort, the full story about landowner behavior may not be reflected in the data.

Many species are affected by causes outside of the landowner's control. The fact that a species is "declining" or "improving" on a particular property does not necessarily tell us what the property owner's contribution to that condition has been. Invading species, offsite pollution sources, nearby urbanization, and other offsite forces can affect on-site conditions regardless of the property owner's land stewardship ethic.⁵³ Federal lands may have an inherent advantage in this respect given that they often appear in large isolated tracts that may be insulated from outside threats. Blaming private property owners for offsite conditions seems unfair, and tightening land use restrictions on the property owner will not avoid the problem, but will only exacerbate the unfairness.

Even taking these criticisms into account, Rachlinski's study does support the view that the likely consequence of completely eliminating the ESA's land use restrictions for listed animal species would be to drive more animal species into extinction. A few points of criticism appear to have some merit and may warrant further study, but those points go only to the strength of the conclusion, not its direction. As between

⁵³ Examples of offsite forces taken from recent FWS actions include the following: the *Higgins* eye pearly mussel, which is threatened by the invasion of zebra mussels; the Bruneau Hot Springsnail, which lives near hot springs outlets the flow of which is diminished by distant agricultural pumping of the related aquifer; the Bog Turtle, which is threatened by, among other things, habitat succession due to invasive species; and nine coastal plants found in central California, which are threatened by invasive plant species and natural plant community succession. See Notice of Availability of a Draft Revised Recovery Plan for *Higgins* Eye Pearly Mussel, *Lampsilis Higgins*, for Review and Comment, 63 Fed. Reg. 33,944 (1998); Endangered and Threatened Wildlife and Plants; Notice of Determination to Retain Endangered Status for the Bruneau Hot Springsnail in Southwestern Idaho Under the Endangered Species Act, 63 Fed. Reg. 32,981 (1998); Endangered and Threatened Wildlife and Plants; Final Rule to List the Northern Population of the Bog Turtle as Threatened Due to Similarity of Appearance, 62 Fed. Reg. 59,605 (1997); Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Nine Plants from the Grasslands of Mesic Areas of the Central Coast of California, 62 Fed. Reg. 54,791 (1997).

the two possible outcomes of eliminating the ESA's land use restrictions, Rachlinski has surely pointed us in the right direction; eliminating the restrictions would lead generally to less conservation of species on private property.

CONCLUSION

Anyone with any practical experience working with the ESA knows that only the intransigence of ardent property rights advocates necessitated someone like Rachlinski to assemble empirical proof for the proposition that landowners generally will not voluntarily protect endangered species. That landowner behavior is as Rachlinski concludes seems intuitively obvious, but, in these times, airtight proof is essential when it comes to debating ESA policy. Rachlinski has now given us that level of proof. The free market assault on the core of the ESA is dead.

Rachlinski thus leaves me armed with only my anecdotes to support the argument that the ESA can be unfair in some applications, and to throw support toward what the FWS has done or proposed to do under the CCA, Safe Harbor, and No Surprises policies to ameliorate unfairness. I believe these anecdotes expose the unfairness in the ESA and reveal holes in Rachlinski's macro-data analysis of landowner-regulation interaction. His study, aimed as it was at the extreme property rights version of ESA reform, does not purport to deal with the timing and location scenarios. An analysis of these scenarios suggests that the particular mix of species needs, habitat characteristics, and landowner behavior distort the ESA into an enemy of species conservation because of its root unfairness issues. I confess that I also do not know, empirically speaking, how big the holes are, how often they appear, or how best to manage them and the ESA's unfairness through incentives, taxes, markets, or another method. Unfortunately, I am not up to the task of computing χ^2 values for landowner behavior in those settings. Perhaps Rachlinski is ready for the third in his excellent series of empirical studies of the ESA.

