The Future Public Law of Private Ecosystems: Merging a Mantra, a Metric, and a Method

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I. Introduction

The enactment of the Endangered Species Act (ESA) in 1973 marked a turning point in the law of ecosystems. For one thing, the ESA used the word "ecosystems" in its stated purpose—to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." From there, however, the story becomes quite complex, particularly with respect to private lands. The ESA has become neither what anyone in 1973 thought it would be, nor what anyone since then has hoped it would be.

The origins and legislative history of the ESA of 1973 are well documented. This paper picks up from there to trace the emergence and development of three themes since then: (1) the implementation of the ESA and its importance as the *mantra* of the law of ecosystems; (2) the growing importance of the concept of biodiversity as a *metric* for the health of ecosystems and the performance of ecosystem law; and (3) the adoption of ecosystem management as the *method* for implementing ecosystem policy goals. A fragmentary history of each theme is provided, followed by thoughts and observations offered about their past interrelationship and their future together.

II. The Three Paths of Ecosystem Law

I've been pondering the connections between the ESA, biodiversity, and ecosystem management since the 1990s, with some early thoughts laid out in a 1995 issue of the *Colorado Law Review* in *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Nonfederal Lands*. Oliver Houck took the topic a giant step farther in his landmark 1997 *Minnesota Law Review* article, *On the Law of Biodiversity and Ecosystem Management*. This paper revisits the topic a decade later, with the benefit perhaps of some hindsight, but with no better power to predict the future.

A. The Endangered Species Act

The ESA hit its apogee in 1978 with *TVA v. Hill* and its famous lines that the statute "afford[s] endangered species *the highest of priorities*" and is intended to "reverse the trend toward species extinction, *whatever the cost*."

When a dam bursts (pun intended), the immediate effects are quite spectacular, but over time the water spreads out and recedes; the effects, while lasting, can be lived with. This is largely the story of the ESA since *TVA v Hill*. The statute has never been implemented—not by Congress, not by the agencies, and not by the courts—in a way that lives up to *TVA v. Hill*. To be sure, it is powerful, but it can be lived with. That is what

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almost all interest groups with a stake in the ESA are content to do today despite the statute's misfit in the modern ecosystem era—live with it as is, with tweeks here and there from agencies and courts, because the idea of changing it in Congress opens too scary a Pandora's box.

Some historical evidence of this slow but tangible erosion of the statute:

- Amendments in 1978 adding the "God Squad" extinction exemption process.
- Amendments in 1982 adding the "incidental take" authorization provisions in section 7 and section 10.
- Repeated judicial rulings that the so-called "conservation duty" federal agencies must fulfill pursuant to section 7(a)(1) is discretionary.
- The erosion of the "best scientific data available" standard through court rulings that have rendered it little different in practical effect from the default rules applied under the Administrative Procedure Act.
- The Babbitt era administrative reforms—HCPS, safe harbors, candidate conservation agreements, and no surprises—which, while good defense against an aggressive congressional threat on the statute, considerably softened the "pit bull" bite of the section 9 take prohibition.
- The *Sweet Home* decision in 1995, which interpreted the take prohibition as limited by tort-like proximate cause principles and placed the burden of proof on the plaintiff.
- The critical habitat wars, beginning in the Babbitt era and still going strong today, which exposed the weaknesses of the critical habitat mechanism.
- Efficiency-minded reforms in the Bush Administration, such as conservation banking and joint counterpart regulations, which further transform the statute into a plain vanilla environmental permitting law.
- Concerns over the politicization of the listing and critical habitat designation processes, fueled by the Julie MacDonald IG investigation.
- 25 years of congressional inertia.

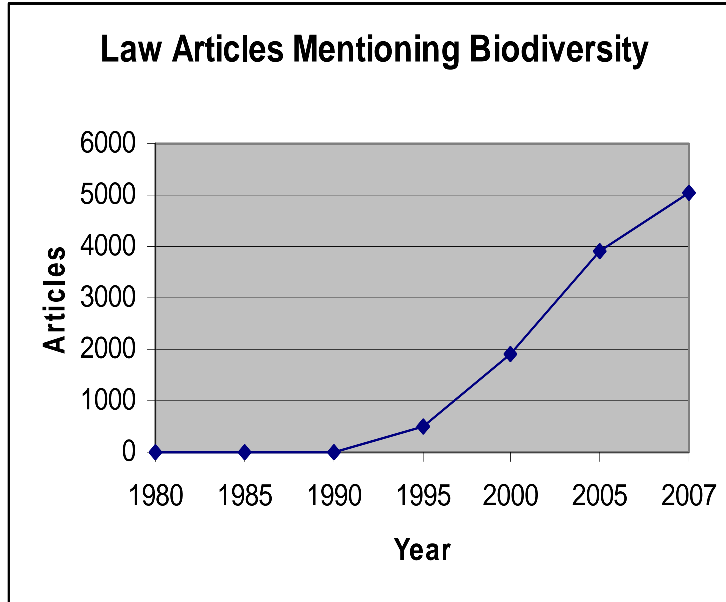
In short, the ESA has become a narrow, technical, litigation-driven statute administered for the most part by the courts. To be sure, depending on what yardstick one uses, the statute has accomplished much—it has "stopped projects" activists believed to be "bad," it has provided models of market-based environmental regulation, and, more importantly, very few species that have come under its protective wings have taken the final step into oblivion. The pit bull may have fewer teeth, but what there are still must be reckoned with. Yet it has by no measure become a "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved," and this is particularly so with respect to private lands. It may, as Oliver Houck has suggested, be an effective means to "convene the meeting and draw a bottom line," as it has done in the Klamath River Basin, but it has not been and is highly unlikely ever to become the means for comprehensively managing ecosystems over significant landscape scales. It doesn't look much different from any other environmental law in this respect.

B. Biodiversity

The concept of biodiversity (or biological diversity, or natural diversity) has been around in science for at least 30 years. It became a household word in the early 1990s with E.O. Wilson's publication of the elegant *The Diversity of Life*, which established it as something science studies and measures and which many ecologists believe ought to be important to policy. Ecologists since Wilson, particularly C.S. Holling, Lance Gunderson, Carl Folke, and Simon Levin, emphasized the importance of biodiversity to ecological *resilience*—the ability of an ecosystem to recover from perturbations.The Nature Conservancy's publication in 2000 of *Precious Heritage: The Status of Biodiversity in the United States* beautifully demonstrated the power of biodiversity and resilience as metrics of ecosystem health.

Indeed, biodiversity has picked up steam as a metric in ecosystem law as well:

- Law actually was ahead of the science curve in one rare example—the biodiversity management provision of the National Forest Management Act of 1976.
- 1992 saw the adoption of the Convention on Biological Diversity at the international level.
- 1992 also saw publication of Bill Snape's edited volume, *Biodiversity and the Law*, which provided a thorough account of where biodiversity had and could become part of the legal fabric.
- One judge on the D.C. Circuit suggested that impacts to biodiversity resulting from loss of the habitat of an intrastate endangered species are of such ubiquitous importance as to immunize the ESA from *Lopez*-style Commerce Clause challenges (*NAHB v. Babbitt*, 130 F.3d 1041 (D.C. Cir. 1997)
- Legal scholarship grew impressively on the topic, going from *zero* articles using the phrase "biodiversity" as of 1985, to just 6 as recently as 1990, to *over 5000* articles by 2007 (albeit many references are to party names in cases).
- Biodiversity even has its own law school casebook, in its second edition, with *The Law of Biodiversity and Ecosystem Management*.



The Environmental Law Institute's 2007 publication, *The Biodiversity Conservation Handbook*, surveys legal developments at federal, state, and local levels. Much ground is covered in its 37 chapters, but is there really a law of biodiversity? If there is, it's development path is the opposite of the path the ESA is taking: biodiversity law is struggling to build itself up from bits and pieces of other environmental laws, whereas the ESA is struggling not to fall too far from its auspicious beginnings as *the* environmental law.

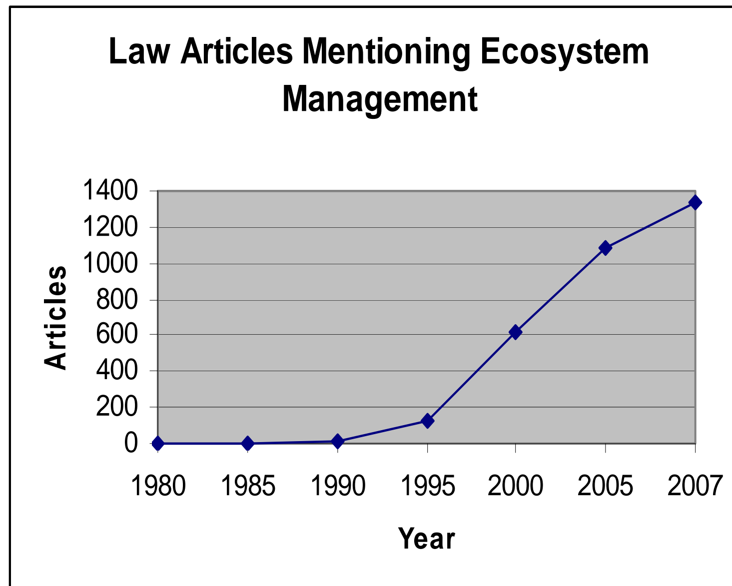
C. Ecosystem Management

The last path in the story is ecosystem management, which hit the scene in the 1990s as a central topic in the debate over public lands management. Vice President Al Gore's reinvention initiative included a call for federal agencies to develop "a proactive approach to ensuring a sustainable economy and a sustainable environment through ecosystem management." Edward Grumbine's landmark 1995 article in *Conservation Biology*, *What Is Ecosystem Management*, truly put the concept into play as a complex policy implementation method by questioning whether it means managing primarily for nature or for humans.

Along with its cousin, adaptive management, in the 1990s ecosystem management firmly took hold as a policy goal in the federal public land management agencies as well as in EPA and the Fish and Wildlife Service ESA Division.

- The 1993 Northwest Forest Plan was/is a large-scale an ecosystem management program
- FWS adopted an ecosystem management policy for ESA implementation in 1994
- EPA issued its "Edgewater Consensus the same year, calling for a more "place-driven" approach to implementing pollution control statutes.

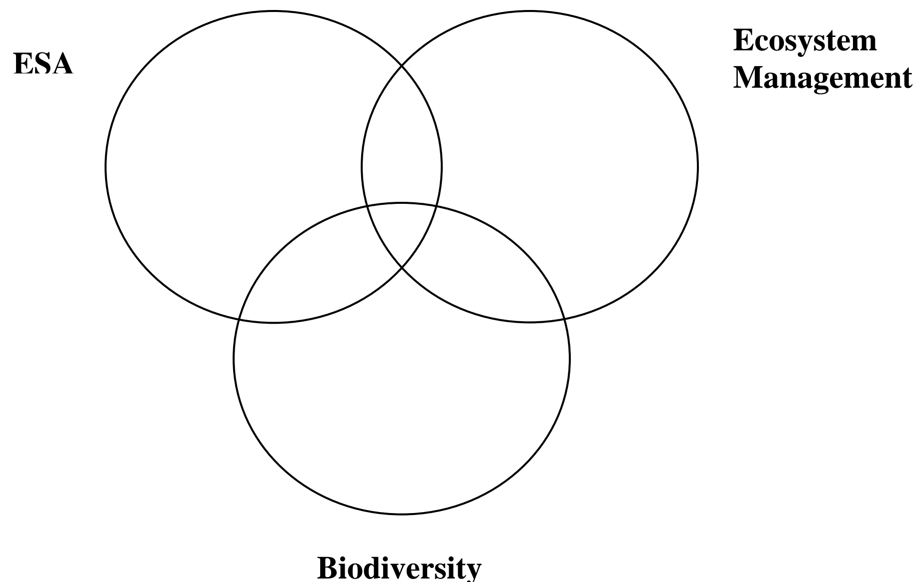
- Legal scholarship has also exploded on ecosystem management. No articles had mentioned the term by 1980, and only 14 had by 1990, yet by 2007 *over 1300* articles referenced the term.
- And it also has its own law school casebook, in its second edition, with *The Law of Biodiversity and Ecosystem Management*.



Yet ecosystem management is not without its detractors, from both ends of the spectrum. See, for example, the ongoing Bruce Pardy-J.B. Ruhl debate over ecosystem management in the Pace Environmental Law Review, in which Pardy characterizes it as too soft, versus the scathing attack Allan Fitzsimmons launched in 1999 from the property rights perspective in *Defending Illusions: Federal Protection of Ecosystems*.

III. Future Trajectories

Biodiversity and ecosystem management are powerful concepts that respond to the set of problems we are likely to face in the next several decades as we muddle our way through non-point source pollution, climate change, invasive species, fisheries collapse, and so on—i.e., large-scale, complex, cumulative effects problems that have replaced contaminated sites and dirty discharges on the agenda. The problem is that they are policies that have yet to be operationalized in hard law to apply. The ESA's species-specific focus has prevented that law from becoming their home base, and consequently the ESA itself is becoming less and less relevant—a species-specific focus is not the answer to climate change or any of the other problems just mentioned. It has been a rare case, therefore, when the three themes overlap in application—when they meet in the sweet spot of a Venn diagram—though it has been accomplished through programs such as regional habitat conservation plans and multi-species recovery plans.



So, how do we "tighten" the circles to enlarge the sweet spot? I leave for others the exercise of devising grand reform proposals—I've tried it, and any law professor with a laptop can try as well. Rather, assuming Congress will not be drawing new circles for the foreseeable future, I suggest the following:

- *Explore all nooks and crannies of the ESA.* As the Babbitt era reforms suggested, the ESA is remarkable flexible and gives the agencies a lot of room under *Chevron* to move the circles. There is probably more room in the statute, particularly for programs using market-based instruments, to squeeze out more uses of biodiversity and ecosystem management principles. Conservation banking has some promise, as does the emerging concept of "recovery crediting." Some form of performance track program—e.g., rewarding "beyond compliance" with expedited permitting—could also prove effective.
- *State and local governments can draw more circles.* the ESA could be better integrated with other state and local programs that can and do use biodiversity and ecosystem management principles. An example is Florida's Rural Land Stewardship Act, which rewards landowners who set aside natural areas, including listed species habitat, with transferable development rights.
- *Bulk up the science.* The species-specific focus of the ESA does not preclude using an ecosystem-based approach to questions of take, jeopardy, and recovery. The problem is that the science of the ESA is not sufficiently developed to *require* taking an ecosystem-based approach. Further advances in the science of complex systems in application to ecosystems, and of the role of biodiversity in ecosystem resilience, will increase the overlap between the ESA, ecosystem management, and biodiversity.
- *Look elsewhere.* Ultimately, the ESA can only operate where listed species roam, and thus can only carry biodiversity and ecosystem management that far.

> But other concepts and programs may integrate well with them. The ecosystem services concept provides a new angle on ecosystem management, one that plugs it in more directly to market economies and business realities. And the common law is beginning to have some play as an ecologically relevant institution.

In short, many small steps taken on many different fronts may add up to significant traction. One can hope that climate change, invasive species, and the suite of "wicked problems" that are on our horizon will prompt meaningful new legislative initiatives, and that Congress and state and local legislatures will lean heavily on biodiversity as a metric and ecosystem management as a method. Until then, however, moving the circles and pulling in others will happen one small step at a time.

IV. Conclusion

Back in 1995, I closed my initial foray into this topic with the following angle:

> A strong federal presence in shaping our national response to biodiversity conservation clearly is needed. The present federal system for defining that policy, however, is in danger of disintegrating as a result of uncoordinated regulatory efforts and overzealous application of unbridled regulatory powers....We cannot afford, in terms of money, environmental health, and political stability, to allow federal biodiversity conservation policy for nonfederal lands to be carried out any longer by the present structure. Its myopic emphasis on regulation through coercive mechanisms will not produce meaningful biodiversity conservation without an unacceptable human-factor cost.

And a year later, Oliver Houck closed his thoughts with a different perspective:

> The law of diversity and ecosystem protection is at a crossroads. Looking back over our shoulders we can see that single species management has been fairly effective—in some cases wildly effective—in promoting the success of individual species and the habitats on which they depend. This approach has begun to lose its steam, however, as more species and more habitats come into view. The temptation to shed our concerns for individual species in favor of conservation on a more holistic, landscape level is strong. All the more so where single species protections require us to make specific and difficult accommodations, while landscape conservation can be assigned to the realm of planning and discretion. At bottom, species-based protection is law. Ecosystem management, as currently promoted, is politics with a strong flavor of law-avoidance.

I won't ask who turned out to be more right in a decade's retrospect (Oliver usually wins in such matters), but rather will highlight the truth in both observations. First, the ESA has been able to breath some life into ecosystem management (and keep breathing itself) through innovation, not through harder regulation. I find it difficult to believe that the ESA would be alive and well today without HCPs, regional HCPs, safe harbors, candidate conservation agreements, no surprises, conservation banking, and all the rest of the administrative reforms Babbitt started, and I find it difficult to believe that they did not advance the formation of ecosystem management principles. Yet the regulatory arm of the ESA remains our bottom line commitment device in ecosystem law. And as such it is essential for the continued development of biodiversity and ecosystem

management as policies, as they have yet to find any other law home. The fit between the three remains at a crossroads ten years after they first found each other, and is as poorly tailored and mismatched as it was in the 1990s, but they are still all the clothes we've got. We need to keep trying to make them look good.