

## Harvard Journal of Law and Public Policy

Spring, 2005

## Article

**\*679** PROPERTY AND ENVIRONMENT: THOUGHTS ON AN EVOLVING RELATIONSHIP

J. Peter Byrne [FN1]

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Byrne

Private property is a necessary but insufficient tool for environmental regulation. Why is it necessary? There are several reasons. First, it settles who controls a resource, making rational management possible. While this may sound trivial, countries with weak or fragmented systems of ownership--or where enforcement of law is tainted by corruption--find it impossible even to begin to preserve resources or prevent pollution. [FN1] This is especially the case when different individuals make conflicting claims to the same plot of land.

Second, private property owners have the incentive to preserve the capital value of their land. They can reap where they (or nature) have sown. They postpone harvesting their property (by cutting a forest, for example) until a propitious time. This choice is a cousin to environmental protection. Private ownership involves control of appetite and rational planning. It similarly solves the problem of open access to a resource, which leads to destruction, because all may have an incentive to reap but none have any incentive to sow-- or even to defer use. [FN2]

**\*680** Private property owners can also be effectively regulated. Regulators can easily locate owners of land and many other natural resources. To the extent that the resource is valuable or the owner competes in a market, regulators have a generally effective lever for enforcement of laws. This obvious point is not unimportant; clear expectations of effective enforcement are an aspect of the rule of law. Reducing enforcement costs enhances the efficiency of regulations in reaching public goals.

Private property generally encourages innovation by simplifying decision-making and safeguarding the fruits of success. In some instances, it can similarly encourage innovation in achieving environmental goals by allowing an owner to capture the economic benefit of the innovation. Regulatory systems that create such benefits harness private initiative for public ends, but are themselves complex public creations that require enormous sophistication in regulatory agencies. [FN3] I will discuss this further below.

Consequently, private property may be necessary for environmental protection in a market economy. [FN4] Nearly everyone, however, recognizes that property rights alone are insufficient. While an owner may manage her land to protect the value of some economic service or product it provides her, she may not take steps to protect its ecological health, at least in spheres unrelated to economic return. A farmer may assiduously cultivate a field for corn, but remain indifferent to the consequences of destroying wildlife habitat. Moreover, the fertilizer spread on the fields and the drainage system for rainwater may weaken the natural health of nearby bodies of water. [FN5] Owners might also rationally conclude that exhausting the entire value of a resource immediately is more valuable to them than preserving it, even if this eliminates options for future users. [FN6] They **\*681** make choices that impose costs on others without taking those costs into account, which is the fundamental economic problem of externalities. Environmental law starts from the recognition that: 1) environmental benefits

are public goods, so individual owners do not have a strong incentive to produce them, and 2) legal institutions are needed to make owners take account of the costs that they might impose on others. A near consensus on these points seems to exist, both in the legal academy and on this panel, although with a great deal of pulling at the margins.

Professor Ely distinguishes between pollution control regulations, which address harms to the public, and other regulations (such as those preventing the destruction of privately-owned wetlands or woodlands) that seemingly try to gain some public environmental benefit. He argues that the former is unobjectionable because no one has the right to use his property to harm another, a familiar principle drawn from the common law of nuisance. Conversely, Professor Ely reasons that regulations which attempt to achieve some public environmental benefit invade the owner's rights and should require compensation. [FN7]

Professor Ely knows that the line between pollution regulations and other regulations is terribly difficult to draw. Skilled advocates can describe the securing of benefits as the prevention of harm, and vice versa. [FN8] Let me present a hypothetical. In a certain county, pure water flows down from an undeveloped hill, crosses a plateau, and enters into a stream that flows into a river used by a town to supply its public drinking water. Now imagine that market forces increase the incentives for grazing dairy cattle, so that more cattle graze on the plateau and eat all the grass by the edge of the stream. This allows more runoff into the stream, degrading its quality so that its water is not suitable for drinking without expensive treatments. Would it be legitimate for the government to require the farmer to keep his cattle from grazing within eight or fifteen feet of the stream, so natural grasses will grow and filter runoff? Certainly this would prevent the harm of allowing runoff to pollute a drinking water supply that also serves as a habitat for fish. On the other hand, it could be said that \*682 government is creating, on private land, a miniature environmental reserve that amounts to a public benefit.

Both accounts are plausible descriptively, but the characterization of a particular regulatory measure as either preventing harm or securing a benefit is essentially a political judgment. The characterization is normative, not factual. This judgment must reflect perceptions of the nature of the public problem to be addressed, the justice of the burdens placed on the owner, and views about the proper role of government. Before the case of *Pennsylvania Coal Co. v. Mahon*, [FN9] the Supreme Court accepted that such judgments, when reasonable, could redefine nuisance limits--and hence property rights-- without requiring compensation. [FN10] One glaring weakness of the Supreme Court's current regulatory takings jurisprudence is the disposition of the Court to address by itself these freestanding, fundamental questions concerning the balance of public and private authority. These are questions about which the Constitution gives no concrete guidance and which the community ought to be able to decide by democratic means.

Disagreements about takings decisions often involve disputes over the nature of property. One might believe that the institution of property has not changed in significant ways since the adoption of the Constitution. In my view, property is a highly dynamic institution. People today have less discretion to use land as they wish, but more ownership over their own ideas and creations. The boundaries of rules that confer discretion or protect against harm shift to reflect economic, technological, and cultural factors. [FN11] Despite social change, regulatory takings law plays a more plausible role in protecting fair transitions among property rules than in freezing a particular conception of the boundaries of ownership as orthodox.

Ecological consciousness and environmental concern have transformed how we think about property. While the basic ecological insight is that creation is interconnected, some traditional notions of property emphasize how boundaries can mark off domains independent of each other. But property law also has always emphasized rela-

tions, connecting people as well as protecting them from each other. Riparian water rights are explicitly relational among \*683 upstream and downstream users. Nuisance law provides an owner the right not to be harmed unreasonably by another owner's land use. The doctrine of waste governs relations between the present tenant and remainderman in a life estate, providing for intergenerational equity. Co-owners have always had duties toward each other. A host of common law property principles are relational in this sense.

Modern environmental and land use regulations extend the protective aspects of common law property developed in light of an increased awareness of how one person's land use affects another. We may not recognize the continuity because property rules today are more likely to appear in the form of statutes and regulations than common law rules announced in judicial decisions. The Clean Air Act and the District of Columbia Historic Preservation Act, for example, provide property rules. Property, like all modern law, employs the legal technology of the twentieth century: statutes, regulations, and their attendant procedures. These tools permit the law to attend to a broader and more complex range of interests and to involve more people in legal decision-making. Thus, the Clean Air Act effectuates the public's interest in the atmosphere and protects our rights against harm in a way that would be impossible at common law. It does not merely declare the public to be the owner and await common law litigation between factory owners and the public, however. The Act instead prescribes complex but pragmatic rules that reflect scientific uncertainty and our fallible political process.

Thus, environmental regulations appear to be a part of the property system, rather than external to it. They give form to rights and duties in resources to all sorts of persons. They broaden the idea of ownership by protecting people who do not own property in the traditional sense, but also narrow it by making more private decisions subject to public control. Insisting on the traditional jurisprudential distinction between private and public law leads to a serious misunderstanding of contemporary law, where various sources and forms of law overlap and intertwine.

Of course, acknowledging that we need not accept the image of a bipolar struggle between property and regulation does not mean that serious substantive disagreements about how rights and duties should be structured for any resource at any time and place will disappear. Various values and interests will inform deeply held beliefs, but such clashes should not obscure the remarkable consensus on the need to balance appropriately a vital sphere of economic liberty. This sphere will foster efficiency and creativity, with the prohibitions that protect \*684 public health and ecological resources. Those debating this issue should focus on specific disputes about facts and values, rather than masking themselves in misleading ideological claims about an apocalyptic clash between property rights and environmental protection. We need to find a language for debate in the public sphere that allows us not only to maintain our deeply held beliefs about ultimate values, but also to speak with each other in a manner that forges workable conclusions on specific matters.

Some commentators have argued that cost-benefit analysis provides such a neutral language, through which priorities can be set and real benefits and costs identified. [FN12] Conversely, Lisa Heinzerling and Frank Ackerman persuasively demonstrate how cost-benefit analysis, as it is commonly understood, both understates the harms of pollution and exaggerates the costs of regulation. [FN13] More fundamentally, it provides a specious precision to broad value judgments that actually suppress serious discussion of relevant issues. Professors Heinzerling and Ackerman argue that a more straightforward discussion of competing concerns would lead to better decision-making and results. At a minimum, their analysis indicates the difficulty of forging a usable language for environmental debate. [FN14]

One area where there has been something of a rhetorical convergence is the championing of market-based, prop-

erty-like approaches to environmental protection. [FN15] Embodying "ecological services"--such as maintaining wetlands that purify water or provide wildlife habitat, or granting permission to emit air pollutants in rights that can be bought and sold--these approaches offer the promise of less contentious environmental improvements at a lower cost to the regulated owners. [FN16] Such approaches may also disaggregate \*685 ideological conflict, so that parties can straightforwardly bargain about the costs and benefits of particular problems and solutions. For example, the farmer who is paid for providing a migratory bird habitat may come to see himself or herself as a dignified partner in a public enterprise that he or she can embrace. [FN17]

A bargain or arrangement between parties could create an overall positive result in my earlier hypothetical about preventing grazing too close to a river that flows into a municipal water supply. For example, the city might purchase, or condemn with compensation, an easement along the banks that keeps grazing animals away and perhaps results in the cultivation of native plants that provide a healthy buffer between the river and pasture. The farmer should more readily agree to the easement than he would to regulation without compensation, and his rate of compliance over time might even be higher. Another benefit of purchasing an easement, rather than laying down a uniform regulation, is that one can provide differing degrees of restriction to different sites based on the effects they might have on the water. For example, one site that is badly eroded and slopes toward the river might be addressed immediately, but another where the farmer's use of her land is less threatening, or where the contour leads away from the river, might remain free from legal imposition. The enhanced ability to treat different conditions on individual bases may increase both fairness and efficiency. At this point, one moves rather close to the world for which Professor Ely argues.

The creation of markets for trading air pollution permits under the 1990 Clean Air Act Amendments represents the most innovative use of property norms to achieve environmental goals. The Amendments directed the Environmental Protection Agency (EPA) to establish limits on total emissions of certain pollutants below current levels and distribute pollution permits. These permits gave heavy polluters the option to maintain their emissions at current levels or trade the right to pollute among themselves. Those who could reduce the emission of pollutants at the lowest cost could profit from the sale of permits to others who faced higher costs. By most accounts, the program has been a large success, achieving greater reductions at lower costs than had been estimated. It introduces the force of competition into the property equation, encouraging participants to compete to see who \*686 can reduce pollution faster at the lowest cost. At the same time, it allows each participant to devise its own method for reducing pollution from each source.

How would such a runoff trading system work for the previously mentioned hypothetical riparian farmer? It does not add substantial benefit to the simpler purchase of easements described earlier. The most basic problem is that a trading system requires sophisticated monitoring systems to determine how much pollution (or runoff) each participant is producing, systems that are a large investment for the hypothetical city. Small farmers are unlikely to invest much in innovations to reduce runoff at lower cost. Moreover, the group of farmers involved probably would be too small to produce a competitive market for permits. Perhaps it would be more logical to return to the simpler property-based system of purchasing easements along the river from the farmers.

Still, there are more problems with this scenario than the hypothetical initially acknowledged. How should the city acquire these easements? There is no commercial market for them. The city could approach each farmer and negotiate a price, but that process would be costly in itself. Moreover, this would create an incentive for holdouts that would increase the total cost if the city were unable to obtain adequate reductions in runoff without complete participation. The city might resort to its eminent domain power, but that also entails high costs, both in litigation and in bitterness. What would be the price? Perhaps it should be measured by the fair market value

of the additional pasturage--the traditional measure in eminent domain of what the owner has lost. [FN18] Viewed as such, the price could rise rapidly without netting the harms that the farmer imposed on others. It might still be sensible for the city to purchase the easements somehow if the cost of doing so, including payments, transaction costs, and administrative costs, would be less than the cost of alternate methods of obtaining clean water, such as building a filtration plant near the city. Yet, all of this could be much more expensive than simply forbidding the farmers from allowing their cows near the water, sweetened, perhaps, by offering them money for fencing.

This situation raises a great concern. There is probably not enough public money in the world to purchase all the environmental protection that is needed. Professor Ely suggests that this may reflect the fact that the public does not support environmental restrictions as \*687 much as it seems they do. [FN19] This explanation is too simple, however. Environmental benefits, such as clean air and abundant wildlife, usually do not put money in people's pockets for purchasing those benefits. They are public goods that are free to all once they are created. My hypothetical presents a case where the clean river is not a pure public good because the cleanliness of the water affects citizens' water rates. Consequently, there may be cash benefits to finance the acquisition. This is an unusual example, intended to highlight the general rule that environmental benefits do not produce cash.

Environmental problems are characterized by the widely-dispersed effects of pollution or ecological degradation, the scientific complexity of their causes, the severity of their consequences, and the long timeframes within which they may operate. [FN20] Such issues pose insurmountable problems for private bargaining to address. They also make difficult the political mobilization of such large, diffuse citizen groups, few of which can capture concrete benefits for themselves. Specific environmental regulations may be wrongheaded, but the overall endeavor exemplifies a collective reaching for a distinct public interest that has few parallels in our polity.

There are moral hazard problems when one pays for preventing pollution or obtaining ecological services. If farmers are rewarded for not polluting the river, does it not give every farmer an incentive to become, or at least threaten to become, a polluter? This may be most acute when the city pursues a selective purchase plan as described above, buying easements only at the most degraded spaces. Now only those who create public threats receive payment for their efforts, while farmers who care voluntarily for the public river receive nothing. Still, the problem is general and creates strategic opportunities. A gentleman farmer with no interest in development may threaten to subdivide environmentally sensitive land, induce an offer to purchase most of the land in fee or a conservation easement, and continue to live happily in the middle, having lost nothing he wanted but also having enriched himself. This seems to be something of a problem now with private purchases of development rights, but it could escalate dramatically if the government used such schemes as a primary vehicle for conservation. Additionally, there is a large and unacknowledged problem with the lack of monitoring and enforcement of the terms of conservation easements.

There is also a more fundamental concern. Paying people not to \*688 harm the environment obscures a basic issue of morality: polluters ought to pay for the harm they cause or bear the cost of pollution abatement. This principle captures a duty that we all bear toward creation and has shaped our environmental law since the first Earth Day. It both fosters a vision for restoring healthy ecosystems and serves as a deterrent to actions that degrade the environment. In addition, this principle captures the notion that property rights do not include the unlimited right to convert land and water from their natural function to support life. Environmentalists are not likely to abandon this as a general approach, nor should they. They may view payment as expedient in particular instances, but fear that payment over time may undermine the obligatory nature of the duty to take care of the world that we all share. [FN21] On the other hand, establishing patterns of beneficial behavior and rewards may help to establish

and promulgate the moral attractiveness of that behavior.

Given this ethical anchor, environmentalists need to think hard about when they should support the recognition of property rights as a way to reduce environmental harm. Should the northern forests of New England be protected primarily through the purchase of development rights or through regulation? Can mercury pollution be addressed through emissions trading, as the Bush Administration currently proposes, when mercury is highly toxic and remains concentrated near the plants that emit it? While there may be troubling cases for purchasing environmental benefits, there are also cases where it seems entirely appropriate. Such cases include the following: where public management of a resource would be preferable, where public access should be secured, where the resource has a unique character, where time is of the essence, or where effective private competition to produce an environmental benefit can be gained. In addition to sorting out where purchases are appropriate, theorists have only begun to think about how easements and other purchases should be coordinated with regulations for maximum protection at the lowest cost to both owners and the public.

One can anticipate that the shape of property rights will continue to evolve in light of environmental concerns, economic change, and legal innovations. This evolution will resonate with our deepest hopes and fears regarding social values, whether they emphasize individual <sup>689</sup>liberty or harmony with nature. It is important, however, to meet in contexts where people can debate reasonably specific remedies for real problems. The future of property and of the living world will be forged there.

[FNa1]. Professor, Georgetown University Law Center. This remains a written version of a talk given at the annual Federalist Society National Student Symposium in February, 2004. I extend my thanks to the Society for the invitation to speak and to the many students there who engaged me in lively discussion.

[FNaa1]. This essay is part of the 2004 National Student Federalist Society Symposium on Law and Public Policy. Further discussion on the topic of "Private Law: The New Frontier for Limited Government" can be found in the Fall 2004 issue of the Harvard Journal of Law & Public Policy.

[FN1]. See Kristin Hite, Back to Basics: How Improved Property Rights Can Help Save Ecuador's Forests, 16 GEO. INT'L ENVTL. L. REV. 763 (2004). A chaos of conflicting claims in a context of swirling corruption seems more environmentally destructive than the classic "tragedy of the commons" from which most environmental reasoning begins.

[FN2]. See Garrett Hardin, The Tragedy of the Commons, 162 SCI. 1243, 1244 (1968). It is central to my argument that private ownership is not the only, or always the best, solution to overexploitation of common resources: many forms of regulation or limited common ownership may be as good or better, depending on a host of factors. This point is elaborated with impressive thoroughness in DANIEL H. COLE, POLLUTION & PROPERTY: COMPARING OWNERSHIP INSTITUTIONS FOR ENVIRONMENTAL PROTECTION (2002).

[FN3]. See COLE, *supra* note 2, at 80-83 (describing technical developments that allowed the Environmental Protection Agency to successfully oversee an emissions trading system).

[FN4]. At this point, I want to put aside the communal ownership of resources in traditional cultures. There seems little doubt that such group rights can be efficient and stable in certain circumstances. See ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION (James E. Alt & Douglass C. North eds., 1990); Henry Smith, Semicommon Property Rights and Scattering in Open Fields, 29 J. LEG. STUD. 131 (2000).

[FN5]. See ERIC T. FREYFOGLE, *BOUNDED PEOPLE, BOUNDLESS LAND: ENVISIONING A NEW LAND ETHIC* (1998) (describing the relation between the prairie agriculture and water quality).

[FN6]. This is exemplified in that classic account of the destruction of the Wisconsin forests by private owners in JAMES WILLARD HURST, *LAW AND ECONOMIC GROWTH: THE LEGAL HISTORY OF THE LUMBER INDUSTRY IN WISCONSIN, 1836, 1915* (1964).

[FN7]. James W. Ely, Jr., *Property Rights and Environmental Regulation: The Case for Compensation*, 28 HARV. J.L. & PUB. POL'Y 51, 52-55 (2004). A familiar explanation for using government regulation to address pollution is that relying on common law nuisances would be hopeless in many cases. This difficulty stems from the large information and collective action problems facing possible plaintiffs, as well as the technical complexities of the factual analysis and the widespread consequences of legal remedies.

[FN8]. See, e.g., *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1025 n.12 (1992).

[FN9]. *Pa. Coal Co. v. Mahon*, 260 U.S. 393 (1922).

[FN10]. See, e.g., *Northwestern Laundry v. City of Des Moines*, 239 U.S. 486 (1916); *Hadacheck v. Sebastian*, 239 U.S. 394 (1915).

[FN11]. See Joseph L. Sax, *Property Rights and the Economy of Nature: Understanding Lucas v. S.C. Coastal Council*, 45 STAN. L. REV. 1433, 1446-49 (1993).

[FN12]. See Robert W. Hahn & Cass R. Sunstein, *A New Executive Order for Improving Federal Regulation? A Deeper and Wider Cost-Benefit Analysis*, 150 U. PA. L. REV. 1489, 1498-503 (2002).

[FN13]. FRANK ACKERMAN & LISA HEINZERLING, *PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING* (2004).

[FN14]. One might hope for constructive engagement in a political debate where the participants speak a language that can be understood and replied to by a wide range of other people, even where many hold quite different comprehensive values or orientations -- rather in the spirit of JOHN RAWLS, *POLITICAL LIBERALISM* (Columbia Univ. Press 1993).

[FN15]. See Gregory S. Alexander, *Propriety Through Commodity: Why Have Legal Environmentalists Embraced Market-Based Solutions?*, in *PRIVATE PROPERTY IN THE 21ST CENTURY: THE FUTURE OF AN AMERICAN IDEAL* 75-78 (Harvey Martin Jacobs ed., 2004).

[FN16]. See, e.g., COLE, *supra* note 2, at 79-83; James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309, 310-19 (2001). Peter Menell has shown how market-based approaches have reduced municipal solid waste beyond all expectations. Peter Menell, *An Economic Assessment of Market-Based Approaches to Regulating the Municipal Solid Waste Stream* (forthcoming).

[FN17]. See Barton H. Thompson, Jr., *What Good Is Economics?* 37 U.C. DAVIS L. REV. 175, 193-201 (2003).

[FN18]. See, e.g., *United States v. 564.54 Acres of Land*, 441 U.S. 506, 510-12 (1979).

[FN19]. Ely at 54.

[FN20]. See RICHARD J. LAZARUS, *THE MAKING OF ENVIRONMENTAL LAW* 16-42 (2004).

[FN21]. John Echeverria has forcefully argued that paying for conservation benefits may undermine arguments against regulatory takings claims by reshaping "reasonable expectations." John D. Echeverria, *Regulating Versus Paying to Achieve Conservation Purposes* (Jan. 16, 2004) (unpublished manuscript, on file with author).

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