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Abstract

Free market environmentalism (FME) analyzes environmental problems as property rights problems. Whereas conventional analyses characterize environmental problems as examples of "market failure," FME diagnoses point to the lack of markets, and in particular a lack of enforceable and exchangeable property rights. This approach works well with many, if not most natural resources. The case for FME approaches to pollution problems is much weaker, however. Most FME proponents suggest that common law tort suits can adequately protect private property and ecological resources from environmental harm. Yet such claims have not been substantiated. The case for the common law as an effective substitute for pollution control regulation has yet to be made. Much work needs to be done before the common law, or regulatory reforms grounded on common law principles, can be seen as a viable alternative to traditional environmental regulation.

IS THE COMMON LAW THE FREE MARKET SOLUTION TO POLLUTION?

Jonathan H. Adler[*]

I. Introduction

"At the heart of free market environmentalism is a system of well-specified property rights to natural and environmental resources" (Anderson and Leal 2001, 4). Whereas conventional analyses characterize environmental problems as examples of "market failure," free market environmentalism (FME) diagnoses identify the lack of markets – and in particular a lack of enforceable and exchangeable property rights – as the source of environmental problems. To remedy such ills, FME proponents advocate the extension of property rights to ecological resources so as to facilitate their use and protection in a manner consistent with individual preferences, including any preferences for a clean and healthy environment. But are all environmental problems amenable to FME solutions?

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A strong case has been made for FME with regard to many, if not most, natural resources. Property rights solutions are applied (relatively) easily to questions of natural resource management. It has been demonstrated theoretically and empirically that natural resources tend to be managed more sustainably under property institutions than most available political or regulatory alternatives. As a general rule, those resources incorporated into property institutions are better protected and managed more efficiently than their unowned or politically managed counterparts. (Adler 2001b, 667-76, 684-86) For example, those fish stocks subject to the most property-like institutional arrangements are, on the whole, managed far more sustainably than those governed by conventional regulation or left in an open-access commons (Costello 2008; Adler 2002, 19-22; DeAlessi 1998). Privately owned forests exhibit higher rates of forest growth than those managed by the government or left in the public domain (Adler 2000; Roger Sedjo 1995). And so on. At a societal level, the protection of private property rights appears to correlate with superior environmental performance (Stroup 2003, 74-75). Economist Seth Norton (1998, 51) has found that "environmental quality and economic growth rates are greater in regimes where property rights are well defined than in regimes where property rights are poorly defined."

Environmental problems extend well beyond questions of natural resource management, however. In the 21st century, most major environmental concerns are related to pollution of one sort or another. Such problems arise out of conflicts between competing property uses, or what economists often refer to as "externalities."[1] Activities undertaken on some lands cause the

[1] The term "externality" is not particularly useful in determining which unaccounted-for effects of market transactions are worth addressing, as such effects are ubiquitous and many externalities are too insignificant to address profitably. As R.H. Coase (1990, 26) explained, "the ubiquitous nature of "externalities" suggests to me that there is a *prima facie* case against

generation of waste streams or other byproducts that, when uncontrolled, infringe upon the use and enjoyment of other lands or degrade resources that are held in common. Air and water pollution are prime examples, and global environmental concerns, such as climate change, loom large on the horizon.[2]

At one level, pollution problems involve incompatible land uses and a failure to adequately define existing rights. Defining the relevant rights enables landowners to resolve conflicts in a Coasian fashion through voluntary exchange. According to Anderson and Leal (2001, 132), "[t]he free market environmental approach to pollution is to establish property rights to the pollution disposal medium and allow owners of those rights to bargain over how the resource will be used." Yet even once the contours of the respective property rights are defined, these rights must be recognized and enforced. If property rights are violated, or voluntary bargains breached, there must be a remedy if pollution is to be controlled.

Most FME advocates call for the use of common law legal institutions to protect property rights (Smith 1992; Meiners and Yandle 1993; Smith 1995; Brubaker 1997; Taylor 1997; Meiners and Yandle 1998; Meiners and Yandle 1999; Bate 2000; Morris 2003). They argue that the common law, and its emphasis on protecting property rights from interference by others, through the doctrines of trespass and nuisance, is superior to administrative regulation at controlling pollution. Again, Anderson and Leal (2001, 133): "there is abundant evidence that the common law of property, nuisance, and torts is a way of making people accountable for their waste." Yet the evidence to date is more equivocal than FME advocates have acknowledged. The

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intervention" when externalities are identified. *See also* James M. Buchanan and William C. Stubblebine (1962) noting that externalities are only relevant in a limited set of circumstances.

[2] For an examination of how property rights principles should inform climate policy, see Adler 2009.

case for the common law as an effective substitute for pollution control regulation has not yet been made.

Most environmental law experts are skeptical that common law institutions could do more than supplement environmental regulations. The conventional wisdom, as articulated by noted environmental law professor Joseph Sax (2007, xvii), is that "the traditional common law remedies were utterly inadequate to deal with contemporary environmental problems." Critics of the property-based framework suggest that transaction costs, collective action problems, and difficulties with scientific proof make the common law an unsuitable alternative for contemporary environmental regulation, even if it may be a useful supplement (see e.g. Schroeder 2002; Percival and Goger 2001; Cross 1999; Thompson 1996; Menell 1991). Others argue that common law litigation is a poor fit for the particular nature of modern environmental injuries and that regulatory measures supplanted common law remedies because the latter proved incapable of solving modern environmental woes (Lazarus 2004).

Defenders of traditional regulatory approaches are not the only ones with doubts about common law environmental protection. Some who are otherwise sympathetic to property rights and market-based policy solutions have expressed doubts about exclusive reliance on the common law. Richard Epstein (1995, 280), for example, argues that common law actions may work "tolerably well" for relatively simple cases, such as when a factory pollutes the land of its neighbor, but that transaction costs are "prohibitive" when pollution is distributed across many properties through common resources, such as water and air, and affects many parties. Even those who generally advocate much greater reliance upon private tort actions for environmental protection concede that public regulatory enforcement is preferable in some cases. Keith Hylton (2002, 529), for instance, acknowledges "[p]ublic enforcement is preferable to private lawsuits in

the cases of (1) real environmental crimes, (2) judgment-proof defendants, and (3) low detection probabilities." Others who would like to support greater use of common law actions in place of regulations confess that they remain unconvinced (Schoenbrod 1999; Schoenbrod 2008). Still others point to the failings of the contemporary tort system and argue these failings far exceed those of the modern environmental regulatory state (Huber 1994), and some who have advocated greater use of common law actions have second thoughts when common law nuisance theories are applied to large-scale problems like global climate change (see e.g. PERC 2005; Meiners 2010).

This article surveys and assesses the dominant critiques of relying upon common law causes of action to control pollution. Part II provides a brief overview of common law approaches to pollution control as advocated by FME proponents. Part III summarizes the most common and significant critiques of common law as a potential substitute for conventional environmental regulations. Part IV questions whether there are lessons from the common law for "second best" regulatory approaches that are consistent with FME principles. Part V concludes with suggestions for future research for those still interested in making the case that common law approaches could outperform conventional environmental regulations.

II. Common Law Environmental Protection

Within the FME paradigm, pollution control is grounded in the protection of private property. Where the deposit of waste or residuals onto private property is consented to by the owner, and the physical effects of such disposal are contained on the property, there may be ecological harm, but no pollution. As Richard Epstein (1995, 277) notes, "self-pollution may be a harm, but it's not a tort." Waste itself is not pollution. Waste becomes pollution when imposed on the person or property of another without their consent. So, in a sense, pollution is waste out of place. Where two property owners reach a voluntary agreement to allow one to dispose of waste products or residuals on land owned by the other – and any harms contained therein – there is no pollution as there is no involuntary imposition of a waste or emission on another person or their property. So long as such exchanges are consensual, and external harms prevented, there is no property rights violation, and hence no pollution.[3] Preventing pollution means preventing the forcible imposition of a waste or emission by one person onto the person or property of another.

When the imposition of waste or emissions onto the property or person of another is *not* consensual, property rights have been violated. Most FME advocates argue that such violations are best redressed through common law legal actions. Such actions are more than remedial as the threat of such actions provides a powerful incentive against polluting in the first place. FME proponents point to the common law as it developed in England and North America as the best way to protect property rights from environmental pollution (see Brubaker 1995; Meiners and Yandle 1998; Bate 2000; Morris 2003). Elizabeth Brubaker (1997, 88-89), author of *Property Rights in Defense of Nature*, explains the underlying principles:

[3] This is not the only way to define pollution. Some have sought to define pollution in other ways, e.g., as the disruption of natural systems or the "contamination" of common environmental resources.

> Under the common law, people have very strong property rights: They have the right to both use and enjoy their property. Balancing this right, however, is a responsibility not to interfere with others' rights to use and enjoy their property. This responsibility dates back to the English law of the mid-thirteenth century. Henry of Bracton, a judge and prominent legal scholar of that era, wrote that "no one may do in his own estate any thing whereby damage or nuisance may happen to his neighbor." Bracton, whose writings provided a foundation for later nuisance law, noted that a landowner could not, in raising a pond, flood his neighbor's land, nor could he divert a watercourse and deprive his neighbor of water.
>
> This principle became embodied in a maxim that has governed common law decisions since being coined by an English court in 1611: "Use your own property so as not to harm another's." Clearly, the maxim has profound environmental implications.

Consistent with FME principles, the common law prohibits the forcible imposition of pollution or other harms onto the persons or property of others, even if such a forced exchange of rights would be net beneficial. This rule is enforced with actions for trespass (an unprivileged or unconsented-to invasion of another's property) and nuisance (an unreasonable interference with quite use and enjoyment of another's property), the latter of which is more commonly relied upon in environmental cases. In a famous nuisance case from New York, the state's highest court upheld an injunction shutting down a $1 million pulp mill employing several hundred workers in

order to protect the riparian rights of a single farmer. "Although the damage to the plaintiff may have been slight compared with the defendant's expense of abating the condition," the court explained, "that is not a good reason for refusing the injunction." Such a ruling "would deprive the poor litigant of his little property by giving it to those already rich."[4] This approach also safeguards subjective value preferences against forced exchange.

A key aspect of the common-law approach to pollution control is that it serves to clarify property rights and thereby facilitate bargaining among property owners over how land will be used. Such bargaining over the allocation of property rights is often referred to as "Coasean bargaining," after the economist Ronald H. Coase, who argued that, in the absence of transaction costs, property rights will be transferred to their highest and best use through voluntary transactions among property owners (Coase 1960). In an unregulated world without property rights in environmental resources, a company that opts to dispose of chemical wastes as effluent into a nearby river instead of seeking to reduce or reuse such wastes or send them to a disposal facility does so because it is the least cost option. Dumping wastes into the river is a rational action motivated by a desire to maximize profits. Pollution is the least-cost action in this case because the river is an open-access commons. As an unowned resource, there is no one to protect it.

Were the river owned, or were those who live along the river to have clearly established rights in the continued use of the river, the company would have to negotiate with downstream rights holders before dumping its wastes. If the ecological impact of such dumping is negligible, the company could probably continue as before, as downstream rights-owners would be unlikely to object; taking action in such cases would probably be more costly than tolerating the

[4] Whalen v. Union Bag & Paper Co., 208 N.Y. 1, 5 (1913).

infringement. If the impact is significant, however, the company would have to find a means of reducing the damage, compensating the owner, or developing an alternative means of waste disposal, if not all three. Failure to satisfy the downstream rights holder risks damages and an injunction on the polluting activity. Injunctions in particular provide a powerful incentive to avoid polluting activities.

If legal rules are clear, there are strong incentives to avoid conflicts over emissions through decisions on facility siting and efforts to negotiate easements for emissions *ex ante*. Having failed to take such precautions, and facing the threat of an injunction, a company might seek a deal under which the company would compensate a downstream owner for the harms caused by its emissions (see Brubaker 1995, 120; Zywicki 1996). Insofar as such deals take place, all parties involved consider themselves to be better off. As Brubaker (1995, 120) notes, "property law does its best job when land is held and exchanged in an orderly way without litigation."[5]

For exchange to take place it is not necessary for one party to transfer all of its rights to another. Would-be polluters may acquire easements or other limited property rights instead of the underlying fee simple estate. Where property rights are defined, one should expect to see rights holders develop contractual relationships that address their specific needs or concerns. For instance, an owner of riparian rights in a stream may be particularly concerned about the effects of upstream pollution on fish populations. However, protecting the fish may not require that upstream firms cease operations or control all waste streams. Rather, it may only be necessary for firms to reduce emissions to a given level, to alter the effluent's composition, or even to finance mitigation efforts that help restore fish populations at a lower cost than reductions in

[5] For examples of such negotiation in the context of stream pollution, see Bate (2000).

emissions. Whichever course is chosen, so long as injunctive relief is available, the existence of property rights force the polluter to satisfy the rights holder's subjective value preference for how her property is used, and also force the rights holder to consider the values that are sacrificed by holding out and refusing a deal. The creation of property rights in the underlying resources encourages rights owners to discover ways of reconciling their competing interests so that all parties are better off.

Even were the river owned in its entirety by the company itself, it is unlikely that the firm would dump its wastes with abandon. Such activity would destroy the river's value to other potential users. Any economically rational corporate executive would have to weigh the river's value as a disposal site with competing present and future uses. The fact that others in a market system place value on alternative uses of the river would force the company to consider these uses and seek to reconcile them with its own priorities, in order to fulfill the profit-maximizing mandate placed upon it by its shareholders. The activities of private firms will further be constrained by concern for reputational capital and public relations.

As noted above, the traditional remedy for property rights violations caused by a trespass or nuisance was injunctive relief and the payment of damages for harm caused. This was strong medicine for industrial firms and other would-be polluters. Perhaps as a consequence, some courts eventually adopted a balancing approach whereby they compared the costs imposed upon the polluted landowner with the value of the activity to be enjoined. In such cases, courts became reluctant to award injunctive relief to private landowners, even though such an award could be effectively overturned by subsequent negotiation among the parties.[6] Insofar as courts have

[6] In most jurisdictions, injunctions are only available if a plaintiff can demonstrate imminent and substantial harm, and even then the harm to the plaintiff may be balanced against the burden on

shifted to awarding money damages, and refusing injunctions, they have greatly diminished the potential effectiveness of common law actions. Indeed, allowing a firm to pollute the property of others so long as damages are paid is to award industrial firms with a de facto power of eminent domain over affected properties.[7]

III. Critiques of Common Law Environmental Protection

If common law causes of action are a particularly effective means of protecting environmental values, then why aren't such actions relied upon more often today? Over the past five decades, governments at all levels have adopted a wide array of environmental regulatory measures. While public choice narratives may explain some of this development, there is little question that many have supported administrative regulation out of a sincere belief that such measures are necessary for environmental protection, and that background common law legal

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the defendant. As Schroeder (2002, 590) explains, "[t]he requirement that harm must be imminent and practically certain before an injunction will lie substantially impairs the usefulness of the anticipatory injunction . . . Consequently, for many environmental risks the ability of tort to prevent harm will depend entirely on the success of its deterrent effect."

[7] Judge Jasen's dissent in the seminal case of *Boomer v. Atlantic Cement Co.* is instructive. In response to the court's holding that the plaintiff landowner was not entitled to a permanent injunction against the nuisance caused by the defendant, Judge Jasen wrote:

> In permitting the injunction to become inoperative upon the payment of permanent damages, the majority is, in effect, licensing a continuing wrong. It is the same as saying to the cement company, you may continue to do harm to your neighbors so long as you pay a fee for it. Furthermore, once such permanent damages are assessed and paid, the incentive to alleviate the wrong would be eliminated, thereby continuing air pollution of an area without abatement. . . . it is clearly established that the cement company is creating a continuing air pollution nuisance primarily for its own private interest with no public benefit.
>
> This kind of inverse condemnation may not be invoked by a private person or corporation for private gain or advantage. Inverse condemnation should only be permitted when the public is primarily served in the taking or impairment of property. The promotion of the interests of the polluting cement company has, in my opinion, no public use or benefit.

Boomer v. Atlantic Cement Co., 257 N.E. 2d 870, 876 (1970) (Jasen, J., dissenting).

rules alone were insufficient. Whatever its faults, this approach appears to have had positive results. Many measures of environmental quality has improved significantly since the onset of modern environmental regulation (see generally Hayward 2009; Bailey 1995).

How and why did the common law fail? Common complaints stress the difficulty with using private causes of action to address widespread harms that affect numerous parties. Transaction costs and collective action problems make private lawsuits an inefficient and ineffective response to many environmental threats. It may also be particularly difficult to establish and apportion liability in an adversarial legal system. Some environmental advocates argue more broadly that the nature of environmental harms makes common law legal actions particularly impotent. Ecological questions defy traditional property boundaries and implicate broader public values than are best, or even effectively, addressed within the context of private litigation.

Even critics of contemporary environmental regulations raise questions about the ability of common law legal actions to address pollution problems. Among other things, such critics note that there is relatively little statutory preemption of common law causes of action in the United States, and yet such actions are relatively rare. If nuisance suits were more effective than proscriptive regulations, why aren't more such suits filed? And if common law remedies were so effective, why did they not stem the growth of environmental problems of the 20th century? Defenders of the common law may argue that the common law did not fail so much as it was sabotaged, but is such an account consistent with the historical evidence? And how would the common law had performed if left in place? To these questions this article now turns.

A. Common Law Environmental Protection and Complex Cases

Common law legal actions can easily handle the simple case in which one property owner causes rather obvious harm to his neighbor. If emissions from a cement plant foul a downwind property owner's air, causing clear damage, a contemporary nuisance action provides an adequate means of redress, and can also provide a powerful incentive to avoid potentially polluting behavior in the first place. But what about the not so simple case? Commentators and critics have raised concerns that common law legal actions are a particularly poor fit for many contemporary pollution problems because the pollution may come from numerous sources, affect numerous property owners, and may be difficult to detect (Schroeder 2002, 599). It is one thing to urge nuisance remedies when a factory dumps sludge into a pond owned by someone else, quite another when numerous factories emit invisible pollutants into the air or water causing effects on numerous rights holders downstream. Even if property rights in environmental resources are fully specified – an implausible assumption – are common law causes of action a viable replacement for pollution control regulations?

Where numerous rights holders are affected by a single firm's polluting behavior, it may be difficult or costly to organize a response. If the harm is spread across a wide area and affects numerous property owners, no individual owner may have suffered harm sufficient to justify bearing the costs of organizing her neighbors (Brunet 1992, 313). Even if the collective benefit to all of the rights holders along a given stream might justify the costs of filing a suit, transaction costs and free rider problems could conceivably prevent the victims of pollution from organizing to put an end to it.

Are such concerns about transaction costs overstated? Perhaps. Efforts by citizens to influence the legislative and administrative processes are plagued by collective action problems

of their own, yet some degree of organizing does occur. Where externalities are severe enough, property owners have a substantial incentive to develop associations and firm-like institutions to reduce the transaction costs involved with protecting rights and negotiating solutions to incompatible uses. In addition, using the property rights framework as the foundation for environmental protection does not preclude legislative action to reduce obstacles to worthy legal actions.

Coordination problems and transaction costs were faced by the owners of riparian rights in British rivers, largely fishing clubs, in the decades following World War II, but this did not bar their efforts to protect their rights (Bate 2000). In 1948, several fishing club members joined to form the Angler's Conservation Association (ACA) which, among other things, helped fishing clubs pursue injunctions against upstream pollution.

In the ACA's history, there are incidents of a public water authority being successfully sued by a private individual, of an angling club stopping pollution of an estuary 40 miles downstream of the club itself, and of ACA lobbying dissuading the government from handing a license to pollute to large industries. Although they rarely made headlines, ACA cases were quite influential. Many of its cases are settled by negotiation before the reach the courts – a very efficient process, but one that yields little publicity or recognition for the ACA as a pollution – preventing body. In the five decades after its founding, the ACA has brought an estimated two thousand or more actions, “losing only three” (Bate 2000, 86-87).

Environmental organizations, whether national or local, could play a similar role in overcoming collective action problems with common law tort suits, supporting victims of pollution who have insufficient incentives or ability to act in their own defense. Many rivers are now guarded by private “river-keeper” organizations that monitor pollution levels, emission

violations, and the like.[8] Defining property rights in water resources would more clearly define what rights river-keepers are empowered to enforce. Were there greater reliance upon common law causes of action to control polluting behavior, and less recourse to administrative procedures, one could envision environmental litigation groups shifting from their current focus on permit violations and regulatory strictures toward cases of actual injuries to rights holders.

The common law developed means of dealing with harms that are spread across numerous potential plaintiffs, none of whom would have sufficient incentive by himself to file suit: class actions. Yet class action tort suits may still be insufficient, and may create other problems of their own. With class action suits, those affected have the ability to pool their resources and join claims they could not afford to bring individually. However, critics question how often class actions successfully solve collective action problems in this way (e.g. Schroeder 2002, 601; Brunet 1992, 313). Class actions may be effective to organize those who are more severely injured, but environmental harms are often moderate or remote in nature. As Anton and Shelton (2011, 41) explain, "[w]hile class action devices can ameliorate some of the transaction costs problem, cases of only moderate individual injury remain difficult to bring."

Class action suits are particularly effective where a lawyer can act upon, and collect fees based upon, the aggregate claim. This provides a substantial incentive for private plaintiffs' attorneys to assume the costs of organizing and coordinating litigation against alleged tortfeasors. But such suits are focused upon the collection of monetary damages, not on eliminating polluting behavior. Where injunctive relief is necessary to protect property owners, or where those causing the pollution do not have "deep pockets," class action suits have less to

[8] According to American Rivers, there are some 3,000 river conservation organizations throughout the country (Yandle 1997, 119).

offer. Still, class action suits can be a solution to the collective action problems plaguing many kinds of pollution cases.

Another common law mechanism to overcome the collective action problem where pollution is dispersed and affects many individuals or the public at large is the public nuisance action (Boudreaux and Yandle 2002). A public nuisance is traditionally defined as "an unreasonable interference with a right common to the general public." Actions to address public nuisances are typically brought by public officials seeking to protect the public's rights in common resources or the public as a whole against a threat to its health or welfare. While public nuisance actions operate on traditional common law principles, such actions do not leave as much room for private ordering as do private nuisance suits. Because public nuisance actions are brought by public officials, such as district attorneys or state attorneys general, they may be more subject to rent-seeking and political manipulation than private nuisance actions. Political figures seeking (re)election have different incentives than do those seeking to protect their own property against violations. In recent years, state attorneys general have brought suit against major industries alleging that they have contributed to the public nuisance of global warming. Many have argued this litigation is as much, if not more, about making a political statement and encouraging greater regulatory action, as it is about controlling an actual nuisance.

If it can be difficult for common law causes of action to address situations in which pollution is widely dispersed, the same is true when pollution comes from numerous potential sources, and individual pollution streams may not be readily identifiable. A downstream property owner may have little problem identifying the source of pollution if there is only one factory upstream, but what if there are five? (Or fifty? Or 500?) And what if all five produce the same sort of goods or utilize similar production processes? In such cases, identifying the source of

pollution – a precursor to a common law legal action – could be quite costly.[9] And if source identification is difficult in a river, it is still relatively easy compared to source identification of underground aquifer contamination or pollution in the ambient air.

Some critics of common law's pollution control potential compare it with an idealized (and quite unrealistic) notion of the regulatory alternative. Peter Menell (1991, 101), for example, claims that, "[a]dministrative regulation, featuring specialist decision-makers, centralized research facilities, continual oversight of regulatory problems, and a broad array of regulatory tools, is capable of systematically assessing environmental risks, evaluating a broad range of prospective and retrospective regulatory tools, and implementing a comprehensive and flexible set of policies."

This may be true in theory, but it is certainly not in practice. Administrative agencies are no more capable of systematic and flexible implementation of environmental controls than they are of traditional economic regulations. Indeed, if anything, the former is far more complicated (see Adler 2001b, 657-67). While administrative agencies may be better able to compile and evaluate scientific information about various chemical substances and the risks they may pose in certain circumstances, this does not necessarily translate into any comparative advantage in implementation and enforcement (Adler 2005). Further, administrative agencies may not have any specific advantage at source identification over local property owners (Butler 2008). Any advantage from scientific or technical expertise may be offset by the lack of localized knowledge. This may be why environmental regulations are rarely harm-based, focusing instead

[9] Schroeder (2002, 601-02) discusses the difficulties with toxic exposure cases, stating, "[t]he difficulty is that in a case in which the effects caused by the manmade risks remain hidden within a slightly elevated background rate, we cannot tell whether a given case of harm originates in something done by the defendant(s) or in some other causes, including natural ones . . .Because the tort is non-signature, we cannot trace any harm back to any specific human origin . . ."

on rules that are easier to enforce, such as a given emission limit or (easier still) the adoption of a given control method or technology.

A common law means of addressing source identification problems is the imposition of joint liability in cases where one or more facilities may have contributed to a single nuisance. The seminal case of *Summers v. Tice* is instructive.[10] Three men were in the woods hunting quail. Two fired at a bird. Both missed their quarry, but one (or both) hit Charles Summers. The equipment used by both shooters, and their position to Mr. Summers, was sufficiently similar that it was impossible to determine who had fired the errant shot. Had Summers sued either shooter individually, he would have lost. There was a 50 percent chance either hunter was guilty, but the common law has always required that a plaintiff show a 50+n-percent chance – a preponderance of the evidence – that a given defendant was responsible in order to prevail in a tort suit. Rather than leave Summers without a means of redress, the court allowed him to sue both shooters together because they were both negligent, holding them each liable for the harm and imposing upon them the burden of demonstrating who was really responsible.

Applied in the environmental context, this could enable a polluted property owner to sue upstream sources of air or water pollution in the aggregate, holding them jointly liable for the harm, and leaving the burden of identifying the actual source of the pollution – or apportioning liability based upon relative contributions to the harm – to the negligent defendants. So long as it is clear that the defendants, as a group, were responsible for the pollution at issue, this would ensure that a polluted party has the potential for redress (even if at the potential expense of due process for the defendant firms). This approach has been used to determine liability at some hazardous waste under the Superfund statute and in some product liability in cases where

[10] 33 Cal.2d 80 (1948).

numerous manufacturers have produced the same or similar products. Yet the difficulty of addressing such widespread harms through private litigation remains substantial, particularly where the polluting activities of one or more firms are merely contributors to a larger problem, or exacerbate an underlying condition, such as asthma.

Joint liability is not without its critics, including in FME circles (see e.g. Cato 2009, 115). The imposition of such liability is often attacked as unfair or unjust. As Schroeder (2002, 601) notes "The range of cases to which joint and several liability applies is under continual pressure from defendants claiming it to be unfair." The adoption of joint liability may empower plaintiffs to pursue deep pockets with little regard for actual fault. As with class actions, the imposition of joint liability is also more readily used where plaintiffs seek money damages for harm caused than for suits to stop ongoing polluting activity. Industry-wide injunctions would be more difficult to justify than broad impositions of joint liability.

As Anderson and Leal (2001, 138) note, "under the property rights approach to pollution, the plaintiff must demonstrate that there is a connection between the cause and the effect of pollution, that the defendant is responsible for the cause, and that the damages have resulted." Such a requirement may be a significant obstacle to use of common law actions for pollution control. The law of nuisance and trespass developed to deal with relatively obvious examples of harms caused by one landowner against another. A plaintiff was required to demonstrate with a preponderance of the evidence that the defendant's actions had caused or were still causing a nuisance or trespass, and this was not a particularly great burden. With the growth of modern industry, however, harms became more diffuse and difficult to identify. Yet, as Menell (1991, 99) notes, "the tort system is mired in a requirement of particularized proof of causation that was developed long before modern scientific notions of disease causation were understood." Whether

a given factory's emissions reached another's property and interfered with the latter's peaceful enjoyment of his property would be more difficult to demonstrate. In an age of non-point source pollution and invisible pollutants, it has become more difficult still.[11]

Even with the traditional standard of proof for civil actions, common law cases for pollution may be difficult to bring successfully, resulting in pollution problems that cause harm to property owners but remain unaddressed. Land and water are often contaminated well before there are adequate scientific techniques to identify the source (see Menell 1991, 99). As Anderson and Leal (2001, 135) acknowledge, "in order for the common law to work, owners of property must be able to enforce their rights against trespass, and this requires that plaintiffs be able to prove who is creating the pollution and what the damages are that result from that pollution. Because the costs of identifying polluters and their damages are positive and sometimes quite high, the common law will not always result in well-defined and enforced property rights to disposal media." In such cases, pollution is unlikely to be controlled, as polluted property owners are unlikely – indeed unable – to vindicate their property rights in court. If this is because the transaction costs of defending the property rights are greater than the damage incurred, some may consider this an efficient result, but it is not one many would consider to be environmentally protective or just, as it allows would-be polluters to pollute at will so long as it is costly to catch them.

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[11] Some libertarians would make it even more difficult to sue for environmental harms. The late Murray Rothbard (1982, 87-88), for instance, argued for an absolutist approach to nuisance and trespass but also argued that nuisance and trespass claims, to be successful, should have to be meet a higher burden of proof, such as that which is used for criminal trials ("beyond a reasonable doubt" instead of "preponderance of evidence"). Even though the imposition of a higher burden of proof would mean that fewer individuals harmed by pollution would be able to achieve recompense in court, Rothbard argued such a high standard of proof is necessary because "it is far better to let an aggressive act slip through than to impose coercion and commit aggression ourselves" (70).

Technological advances may make it easier to identify the sources of pollution, but this is not guaranteed (Anderson and Leal 2001, 135-37; Anderson and Hill 2001). Such advances will also entail substantial costs, and it is not clear who will bear them. Would-be polluters are unlikely to voluntarily invest in technologies, such as tracers or other means to "fingerprint" emissions, which would make it easier for others to hold them liable, unless there are legal changes that incentivize or mandate such behavior. For example, under a broad, Superfund-style liability regime, industrial chemical users might invest in emission fingerprinting technology if it could be used to immunize them from suit by proving they did not contribute to environmental contamination.

The problem of scientific proof is exacerbated when combined with some of the factors discussed above, such as actual or potential contributions by multiple alleged tortfeasors and dispersed pollution that affects numerous property owners. In such cases, the problem is not simply to coordinate the actions of the plaintiffs and identify the proper universe of defendants, but also to demonstrate that the actions of one or more alleged tortfeasors violated the rights of one or more plaintiffs – and to show that this is the case with a preponderance of the evidence.

B. The Nature of Environmental Injuries and Private Remedies for Public Harms

Even if the common law is adept at addressing conflicts between private individuals, this may not make it particularly well suited to environmental problems, at least as conceived by many environmental thinkers. "What makes environmental law distinctive is largely traceable to the nature of the injury that environmental protection law seeks to reduce, minimize, or sometimes prevent altogether" (Lazarus 2000, 744). To many, environmental harms are

meaningfully distinct from the traditional sorts of torts for which common law actions are appropriate. From this perspective, it is the very nature of environmental concerns, and the existence of ecological interconnectedness, makes property-based, private law actions incompatible with environmental protection. So, for example, Joseph Sax (2007, 150) has argued that the "interconnectedness between seemingly unrelated pieces of property" means that traditional notions of property and ownership must yield to ecological considerations. Eric Freyfogle (1993, 1279) likewise explains, "[t]he boundaries that we draw, between farm A and ranch B, carry no meaning in nature's terms. No coyote or egret reads our deeds; no percolating groundwater stops to ask permission to enter."

The primary ecological critiques of common law can be divided into two groups. The first stresses the nature of environmental harms, including those caused by environmental pollution. The second group focuses on the role of environmental values, as distinct from private interests in environmental protection that are threatened by pollution. Each has distinct implications for the viability of common law approaches to pollution control.

In addition to being complex, dispersed, and often from multiple sources, environmental harms may also be cumulative and temporally distant, highly uncertain, and be irreversible if not catastrophic.[12] As Richard Lazarus (2000, 745) notes, "ecological injury has several recurring features that render its redress through law especially difficult. These pertain to both the 'cause' and the 'effect' of such injury, each of which inevitably becomes a regulatory touchstone in any legal regime for environmental protection."

[12] Richard Lazarus (2000, 745-48) identifies six distinct elements of environmental injury. Such injuries 1) are "irreversible, catastrophic and continuing"; 2) are physically distant; 3) are temporally distant; 4) involve highly uncertain risks; 5) have multiple causes; and 6) involve noneconomic, and often "nonhuman" damages."

Some environmental harms, such as those resulting from long-term exposure to potentially hazardous substances, may be cumulative or may not manifest themselves for a substantial period of time (Schroeder 2002, 586; Lazarus 2000, 747). These arguments are used to justify a more precautionary approach to pollution control that urges the control of emissions and exposures even before a risk has been demonstrated and quantified, and it is assumed that *ex ante* regulations are a more effective way to impose precautionary controls than *ex post* liability.

There is some question whether environmental harms are really distinct in this way. Harms from workplace chemical exposures or risks posed by some consumer products may also be cumulative and temporally distant, insofar as the risks of adverse consequences may result from chronic exposure, are highly uncertain, and are irreversible if not also catastrophic. Whether a given chemical increases cancer risks to workers or consumers exposed to certain levels over a given period of time certainly implicates all of these concerns. If there is a difference it is that workplace exposures may be more amenable to private contracting insofar as the exposure is the consequence of a voluntary relationship.[13] The same might be said, albeit to a lesser degree, in the context of some consumer products. What this suggests is that the distinct aspect of environmental injuries is that they are unconsented to and dispersed, and not that they are particularly complex, attenuated, distant or uncertain. As for whether precautionary measures are necessary, it is unclear whether the argument for greater care *ex ante* is necessarily an argument against common law causes of action, as opposed to an argument for a lower standard

[13] That the relationship is voluntary does not necessarily mean that the risks are different, or that there is no basis for regulatory interventions or the imposition of liability. Insofar as one problem with workplace exposures is the information asymmetry between employer and employee, disclosure requirements or a duty to disclose may be sufficient, whereas such measures cannot adequately address involuntary exposures, such as those caused by pollution.

of proof before action is required and liability attaches or statutory definition or identification of the type and magnitude of risks that will become actionable.[14]

The more serious challenge to common law pollution control is that a system predicated on private enforcement of private rights will have a difficult time protecting some things of "public" or intrinsic value. As Schroeder (2002, 586) notes, "the interests taken into account in private transactions affecting the environment are too narrow to encompass all that people value." On this basis he argues that, "the structure of the tort system supplies an argument in favor of public mechanisms, not private ones, to deal with environmental issues that implicate many interests. Thompson (1996, 1361) echoes this concern, arguing that, "[a] system of private regulation raises serious ethical concerns because the intrinsic value of nature would be dependent upon, and subjugated to, the preferences, incentives, and circumstances of self-interested individuals."

These arguments are not only a challenge to common law causes of action and the underlying system of private property upon which they are based. They also implicate a broader debate about the extent to which there is a public interest distinction from the aggregation of private interests, and whether regulatory intervention is the best means to advance the public interest. One may well believe that there is a broader public interest in safeguarding and advancing environmental values without believing that regulatory agencies are particularly effective advocates for such interests. Insofar as environmental protection is a public good, government provision or subsidization of such goods is fully compatible with a property-based,

[14] In both the occupational and pollution context, exposure to certain substances may increase the risk of contracting a disease, such as cancer. Assuming there is to be a non-zero risk threshold for liability (as there is under most regulations) it is unclear that courts would be particularly effective at identifying what this threshold should be. (Schoenbrod 2008, 875).

common law system. Yet it is unclear that such actions will do more to advance the allegedly undervalued public interest in non-marketable ecological resources than a property-based system of voluntary exchange protected by common law principles. Congress has enacted laws that purport to place a high value on the protection of non-human species, such as the Endangered Species Act, but such laws have not been particularly effective (Adler 2011). It is an empirical question whether environmental values are better protected and advanced by "public" regulatory processes or a decentralized property-based system that empowers individuals and groups to take direct action in defense of their properties and based upon their subjective value preferences. Asserting a public interest in "the environment" is not a trump card.

C. Common Law Environmental Protection and the Regulatory Alternative

If common law actions were so effective where did they go? In making the case for greater reliance on common law legal actions to control pollution, FME advocates often imply (if not assert) that modern environmental regulation has preempted most common law remedies. Yet in reality, most common law causes of action against polluting activity are not legally precluded, at least not in the United States.[15] As Frank Cross (1999, 966) notes, the common law is largely intact. Most major federal environmental statutes contain "savings clauses" that expressly preserve state law causes of action. At the state level, the story is more mixed but, as a general matter, common law nuisance claims are not preempted by environmental regulation. The one area where federal environmental regulation has preempted common law nuisance

[15] Some causes of action are precluded in Canada, however (see Brubaker 1997); See also Morris (2003) discussing regulatory protection of some heavily regulated industries in England.

actions is interstate pollution, but such suits were traditionally filed only by states (rather than individuals) (Cross 1999, 967; Thompson 1996, 1340).

If not preempted, have common law actions been displaced by regulatory standards? It appears not. In most U.S. jurisdictions, compliance with federal regulatory standards, by itself, is not a defense against nuisance claims, although some corporate interests have advocated legislation to this effect. The Russell Corporation, for example, was sued for polluting a lake and harming neighboring properties and found liable for $52 million in compensatory and punitive damages, despite its adherence to regulatory requirements. Regulatory violations may be considered to constitute a *per se* nuisance, however. In this way, environmental regulations may actually strengthen common law remedies (Cross 1999, 968-69).

Commentators regularly cite the failure of common law institutions to protect environmental values as a reason for the adoption of prescriptive environmental regulations in the post-WWII period (see e.g. Hines 1966, 195; Cross 1999, 977; Percival 1998). “Traditional tort doctrine proved unable to provide meaningful redress to the new class of environmental injuries” (Lazarus 2004, 114). As a leading environmental law casebook explains, environmental legislation was, in part, driven by “dissatisfaction” with the common law’s capacity to address “modern concerns about environmental quality” (Percival 1996). Edward Glaeser and Andrei Schleifer (2003, 421) also make a plausible argument that regulatory enforcement displaced private enforcement of common law standards because the former was more efficient, at least at the time.[16]

[16] The authors also note, however, that tort liability is capable of greater efficiency than a regulatory system, so it might be more efficient to move back toward reliance on private litigation today.

There are examples of companies taking precautionary measures to avoid potential liability or seeking ways to profit from the recovery and reuse of residuals. Yet there are just as many, if not more, examples of companies engaging in polluting behavior, despite the continued existence of common law causes of action. Some cases of pollution may be caused or exacerbated by governmental interventions to subsidize environmentally harmful activity or sabotage traditional legal remedies, but such cases do not account for the lion's share of pollution problems about which contemporary environmental advocates are concerned.

If the common law were superior to regulatory alternatives, an obvious question is why certain environmental problems appeared to get worse up until the adoption of environmental regulations. Why, for instance, did not the common law prevent the accumulation of waste, oil, and debris on the Cuyahoga River until it eventually burst into flames? The stock FME answer is that the common law did not fail, but that it was sabotaged. Specifically, the claim is that regulator measures preempted common law claims that could have kept pollution at bay.

There is some evidence in support of the FME position. Many environmental trends were positive before the adoption of federal environmental regulations. Yet credit for these improvements may be due state and local regulatory efforts that preceded federal regulatory intervention, and not the private law system of nuisance. Insofar as some environmental problems were unaddressed prior to the 1970s, this was often due to a lack of knowledge about the nature of the problems or how they could be controlled, and not any particular institutional failure (Adler 2002; Goklany 1999). Early regulatory interventions were often ineffective as well, particularly at the federal level, so it is not enough to point to the common law's failures to make the case for a regulatory alternative.

In the case of the Cuyahoga River, there were efforts to control pollution through litigation, but these largely failed to do more than bring attention to the river's continued woes. Some local residents filed suit against the city of Cleveland to force it to control the public nuisance of pollution in the Cuyahoga, either through legal action of its own or other measures. State courts ruled that such actions were precluded under state law, as the pollution permits under state law were a defense against public nuisance claims. Ohio law did not preempt *private* nuisance actions against polluting activities, however. In other words, state law did absolutely nothing to preclude the primary legal tool that one property owner could use to defend his property against another. The problem was that such suits were not viable on the Cuyahoga, as the river was already industrialized. No industrial firm that had failed to control its own wastes could bring a suit, and members of the public at large did not have sufficient interest in the river to sustain a private nuisance action. This suggests that the problem of using nuisance law to control pollution on the Cuyahoga was not so much legal as institutional. Nonetheless, by the time the Cuyahoga River caught the nation's attention with a fire in 1969, the river was significantly cleaner by some measures – and less of a fire hazard – than it had been for decades (Adler 2002, 119-26).

The story of the crooked river notwithstanding, some FME proponents argue that the common law did not so much fail to solve pollution problems as much as it was sabotaged, perhaps even from within.[17] The gradual shift from injunctive relief to money damages – from

[17] Fred Smith (2004, 30), for example, argues that progressive thought undermined classical liberal principles that had been embodied in the common law and had the potential to provide greater environmental protection.

> Progressives believed that markets and private property slowed progress, and that collective management of resources would more surely advance the public interest. Thus they blocked the extension of private property to resources that had not yet been

"property rules" to "liability rules" – combined with courts' increased willingness to balance the equities in nuisance cases undermined the ability of property owners to safeguard environmental values, particularly those that did not command significant value in the private marketplace (Horwitz 1992). Yet if one virtue of the common law is its evolutionary nature, on what basis are some evolutionary courses to be preferred over others? Some would also argue that this evolutionary shift was necessary to accommodate industrialization and economic growth. The complete enforcement of property rules against even the most minor trespasses and nuisances could threaten to grind industrial growth to a halt (Sagoff 1992, 220-21). If this had been the outcome, would the common law have protected property rights only to condemn them?

IV. The Search for Second Best

It may not be the common law itself which is attractive to FME proponents, so much as certain principles upon which common law actions were based. Among other things, the common law focused on the recognition and vindication of defined rights in resources. As a consequence, common law adjudication reinforces and facilitates private ordering and

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> privatized (indeed, in the case of the electromagnetic spectrum and some arid western lands, rolling back fledgling homesteading efforts). Progressives also transformed the rule of law, making it more utilitarian, more willing to ignore individual values to advance the "common good." Social concerns trumped individual rights. Earlier common-law defenses of individual property rights that might have encouraged economic development along more environmentally sensitive paths were weakened or abandoned. . . .
> The gradual emergence of the environment as a valued aspect of life occurred in a world bereft of classical-liberal institutions. Older property-rights defenses were slowly eroded, and their newer adaptations were blocked. The result was that when environmental values became majority values, few realized that they might better be protected privately via a creative program of ecological privatization.

advancement of subjective value preferences, particularly insofar as common law decisions leave the parties in position to negotiate around the court's judgment. As a consequence, common law adjudication of environmental disputes fosters decentralized decision-making, generates and uncovers information about preferences and scarcity. Common law cases are, by and large, context-specific and occur case-by-case. Where common law courts err, the consequences of such mistakes are rather confined, and there is an ability to learn and correct such mistakes in the future.

If these features are what is appealing about the common law, but common law institutions are unable or insufficient to address environmental concerns, it may be possible to conceive the government's role in environmental protection as vindicating, enhancing, or building-upon the common law, and not as erecting an alternative, competing regulatory structure. Even if pure common law approaches are not viable, greater definition of property rights in ecological resources and the application of harm-based regulatory approaches could move environmental protection in a market-oriented direction. Defining rights in threatened resources creates opportunities for property owners and offending facilities to develop new means of reducing the environmental impacts of polluting behavior. Consider the experience of North Carolina's Tar-Pamlico River Basin and the development of a local nutrient pollution trading system (Riggs 1997; Riggs 1999, 167; Adler 2001a). While often celebrated as an example of successful water pollution trading, it is perhaps more notable as an example of institutional evolution spurred by the enforcement of a harm-based ecological constraint.

The Tar-Pamlico river basin was declared "nutrient sensitive" by state regulators in 1989, despite extensive regulation of regional point sources. Yet because point sources, the only sources of pollution subject to regulatory controls, accounted for only 15 percent of the relevant

discharges, there was little to be gained from further tightening of the standards on major facilities. Nonetheless, this is what the regulatory regime purportedly required.

The firms that emitted into the Tar-Pamlico faced potentially severe restrictions on their activities if they did not develop an alternative solution. Recognizing that the imposition of additional controls would be unlikely to improve local water quality, the state provided local firms with an opportunity: If the firms could come up with an alternative means of reducing nutrient loading of the watershed, they would not be subject to additional, exceedingly stringent point source controls. The solution was to find a means for point source firms to facilitate the control of nonpoint source pollution, much of which came from agriculture. This led to the creation of the Tar Pamlico Association, "the first transacting water pollution control trading community in North America" (Riggs 1999, 154).

The Association was made up of participating companies in the watershed that contributed to nonpoint source pollution control efforts. It funded sampling, computer modeling of nutrient loads and their ecological impact, and coordinates efforts to reduce nonpoint source emissions by paying farmers to engage in agricultural practices that reduce runoff. In a sense, the Association was a transaction cost-reducing firm for companies in the watershed. If companies had to negotiate with farmers individually, the cost of the trading regime would have been insurmountable. Much as a firm that violated its Clean Water Act permit could face a choice between complying with the permit requirement or negotiating an alternative settlement with downstream property holders, permitted facilities in the Tar Pamlico had a choice of contributing to collective nonpoint source pollution control efforts or suffering the imposition of more stringent regulatory requirements.

One of the things that makes this type of arrangement possible and stable over time is the regulatory agencies' commitment to forego the imposition of yet another round of regulatory requirements on companies that hold up their end of the bargain. Without this reassurance, firms will not enter into this sort of arrangement, nor will they negotiate environmentally superior alternatives to reflexive compliance with permit conditions. Absent some limitation on the universe of potential citizen-suit plaintiffs, no such deal is possible between violating firms and members of potentially affected communities.

What is important about the property scheme is less the determination of what constitutes an injury – though this determination does matter – than the determination of who owns the rights to what, and who has the right to take legal action against a polluting party. Whether injury is defined by a physical invasion of another's property or a threat of harm above a given threshold or something else, what is most important is identifying which parties are “injured” by the offending action and therefore have standing to sue. Establishing property rights – not expanding standing rules – is the most sensible means to achieve this goal.

Establishing property rights in potentially threatened resources also helps channel private litigation concerning environmental harm toward those cases that actually matter to environmental quality. Those with rights to a resource are likely to be the first to be aware of a given environmental threat, and are most likely to take action against it. By the same token, a property owner is less likely to use her property as a proxy for another interest in legal action if doing so could compromise the protection of the resource. Equally important, once property rights are established, Coasian bargaining and other efforts to arrive at optimal resource management arrangements are possible. This sort of bargaining already occurs where rights are

defined. Absent the definition of property rights, however, such innovation is difficult if not impossible.

The story of the Tar-Pamlico is but one example of how regulatory standards could encourage the development of property-based approaches to pollution control and institutional evolution. If the common law has difficulty incorporating certain values, aggregating multiple parties, or accommodating particular interests, it may be possible for regulations to supplement common law actions through disclosure requirements, the creation of default rules and presumptive thresholds for nuisance actions, and other measures to reduce transaction costs and facilitate legal enforcement of private rights in environmental values. There is room to conceive of a less rigid and prescriptive regulatory regime that advances environmental protection while accommodating private ordering and negotiated settlements to property disputes. In this way environmental regulation could become more consistent with common law principles and the FME ideal. Some problems may defy easy solutions – global climate change comes to mind – but there is ample room for experimentation with common law-based approaches.

V. The Path Ahead

The case for common law environmental protection has not been made, but that does not mean it cannot be. As Anderson and Leal (2001, 141) caution, "we should not be too quick in assuming that the transaction costs for property rights approaches to pollution cannot be overcome." Nor should we be so quick to assume that the common law, warts and all, fails in comparison to the available regulatory alternatives. The common law's failings may be more easily remediable than those of centralized administrative regulation. But FME advocates have

yet to show this is the case. It remains unclear whether institutional reform and technological innovation can enhance the common law's potential to address pollution problems. Until such claims are supported by more substantial research and analysis the common law cannot be seen as a real competitor to the dominant regulatory model.

If the common law is to be taken seriously as a viable alternative to conventional regulation, much work needs to be done. Making the case for the common law – or even for a regulatory system that embodies common-law values – requires additional research and analysis into how common law systems operate in practice to address environmental concerns, how they can be improved, and how they compare with the available regulatory alternatives. Among fruitful areas of research would be the following:

- Investigation of how to aggregate polluters and affected properties so as to reduce the collective action problems and transaction costs associated with dispersed pollution that comes from many sources, including the extent to which class actions and joint liability are effective tools for pollution control.
- Investigation and documentation of institutional mechanisms that can facilitate negotiated, voluntary arrangements to address waste flows and emissions (such as occurs with industrial ecology), including analysis of how such arrangements can reduce the need for litigation in the first place.
- Examination of institutional firm-like structures that could be used to manage and safeguard geographically large resources that would otherwise be managed as common-pool resources.
- Consideration of how targeted regulatory interventions and administrative rules could enhance the viability of common law causes of action and facilitate greater private

enforcement of environmental values within a system of strongly protected property rights.

- Comparative assessment of private enforcement and property-based systems with the available regulatory alternatives, highlighting the need to compare each set of institutions as they are, and not as some might wish them to be.

This is necessarily an incomplete and preliminary list, but it should provide examples of the sort of research that must be conducted if a stronger argument for reliance on the common law is to be made. Until this work is done, FME advocates should be more circumspect about recommending common law adjudication as an alternative to modern administrative regulation.

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