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# ENVIRONMENTAL PROTECTION:

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## Law and Policy

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## PREFACE

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Until the late 1960s, the “environmental perspective” was not often brought to bear in the formulation of natural resources management policy; conservationism was the major philosophy. Progressive conservationism assumed the wisdom of developing and using natural resources, and the key questions were, when and by whom? The great debates centered on issues such as whether there should be private or public ownership and development of particular resources. The idea that the physical integrity of natural systems should be respected, either for their own sake or to benefit man, was mainly represented by advocates of resource preservation. Preservationism was an elite political movement concerned almost exclusively with preserving from development scenic portions of federal public lands. Pollution usually was only a local public health problem. Only in Los Angeles, because of the combination of population and geography, did air pollution emerge in the 1950s as other than a smoke nuisance problem.

Until the late 1960s what we now call environmental law did not exist; the term was first used in 1969. There were air and water cases dealing with the question of when an activity was a nuisance or violated a downstream riparian’s rights, and there were a few decisions reviewing public intervention to protect what we would now call environmental quality. But lawyers, legal scholars, and judges did not see the cases as constituting a unified subject matter. Concepts such as that of an ecosystem or environmental values were simply neither part of the popular nor the legal vocabulary. The state of law school curricula circa 1969 is described in Tarlock, *Current Trends in the Development of an Environmental Curriculum*, in *Law and the Environment* 297 (M. Baldwin & J. Page, Jr., eds. 1970). See also Dunning, *Notes for an Environmental Law Course*, 55 *Cornell L. Rev.* 804 (1970), and Irwin, *The Law School and the Environment*, 12 *Nat. Resources J.* 278 (1972). Compare Mintz, *Teaching Environmental Law: Some Observations on Curriculum and Materials*, 33 *J. Legal Educ.* 94 (1983).

The first suggestion that a body of law might be built around the duty to consider nondevelopmental values was the Second Circuit’s opinion in *Scenic Hudson Preservation Conference v. FPC*, 354 F.2d 608 (2d Cir. 1965), *cert. denied sub nom. Consolidated Edison Co. v. Scenic Hudson Preservation Conference*, 384 U.S. 941 (1966), which remanded a hydroelectric power license for a pumped storage project because the FPC had failed to consider adequately the project’s impact on scenic values and on fish and wildlife. For reasons we explore

in Chapter I, environmental quality suddenly became a popular political issue in the late 1960s. Lawyers rushed to create an environmental law out of the modest law of nuisance, the then-anemic pollution control statutes, *Scenic Hudson* and a few related cases, and a mix of older precedents restraining governmental action that were reinterpreted as being environmental. Professor Joseph Sax's pioneering article, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 Mich. L. Rev. 471 (1970), gave lawyers hope that they would be successful in creating environmental precedent. However, the speculative period of environmental law did not last long. As every teacher and student knows, the Congress and state legislatures responded to public concerns in the 1970s by passing a series of complex statutes regulating a wide range of environmental insults, and like the New Deal-inspired subjects of labor law and securities regulation, environmental law quickly won a place in the law school curriculum.

In many important respects, environmental law grew out of the same grass roots movement that succeeded so well in persuading Congress to enact far-reaching environmental legislation. As a result, the field still retains significant vestiges of the energy, voluntarism, and idealism that characterized it in the early 1970s. Suits by citizens' organizations, whose attorneys often donated their time pro bono publico or who earned low wages under foundation grants, thrust the courts into a new era of judicial supervision of the administrative process, in an attempt to democratize traditional agency decisionmaking practices; European-style technocratic environmental management was forestalled until a later day.

There are more differences than similarities between environmental regulation and previous social legislation. Perhaps this is a function of the accelerated germination time for new political ideas—witness the current debate over industrial policy. Environmental regulation differs from previous regulatory schemes, which were mainly directed toward a specific industry and had well-defined objectives both to restrain and to promote the industry. Environmental regulation is problem- rather than industry-directed, cutting across the entire private sector. When the environmental problem was first discovered, it was widely assumed that the dimensions of the problem were known, that the objectives to be attained were clear, and that command-and-control regulation would do the job. The common law was quickly downgraded to a supporting role. Subsequent experience has taught that all of the original assumptions were either wrong or at least questionable. There is widespread agreement that environmental degradation is an undesirable consequence of industrial and technological progress and that such degradation needs to be curbed, but there is sharp controversy about the level of restraint and the best means to institute restraint. Early legislation was rather indifferent to the cost of achieving environmental objectives, but as the consensus about objectives has disintegrated, cost has emerged as a major factor. Environmental positions range from a grudging acknowledgment that some problem exists to neo-Kantian imperatives and apocalyptic visions.

This casebook tries to explain the logic behind our current regulatory programs and related programs and to force the student to evaluate critically the nature of the perceived problem and the choice of available means. These

materials represent three teachers' opinions about the content of an environmental law course. Because most environmental law teachers are independent-minded and may have valid reasons for questioning our emphasis, we have tried to provide the teacher with a set of basic building blocks around which to build his own course. Environmental law can be presented as a series of discrete subject matter areas or regulatory programs (e.g., the National Environmental Policy Act and air and water pollution) or as a set of common themes that permeate each subject matter area (e.g., regulation in the face of scientific uncertainty, technology-forcing, and federalism). We have chosen the first type of organization, for two reasons. First, it stresses the factual, scientific, and technical context; a detailed knowledge of a specific problem informs and colors the whole range of legal issues raised by the resulting regulatory program, and this casebook emphasizes scientific perspectives more than most other casebooks. Second, most teachers are accustomed to this organization.

To accommodate individual tastes, many different chapters and subchapters can be combined to make an effective course. A teacher wishing to stress pollution control may place Chapters III, IV, and V at the core of the syllabus, with attention to NEPA, the common law, and land use, as time allows. Another may prefer to stress resource management issues by focusing first on NEPA and then on private and public land use, with less attention to pollution and the common law. Many teachers will wish to start traditionally with the common law remedies for pollution control and land abuse, taking advantage of the last section of the common law chapter, which we deliberately designed as a bridge to the statutory chapters, and move on to either pollution control or land and resource management. We believe, however, that our placement of the common law chapter later in the book properly reflects the interstitial role left for the common law in an age of statutes.

To fit these and the other topics covered within the allotted page limitations, we have been forced to make many hard choices about coverage. On the basis of complexity of issues and topical importance, air pollution and toxic substances are treated in the greatest detail. Water pollution is treated comprehensively but in less detail because many of the basic issues are settled and because the frontier issues, toxic discharges and groundwater, are treated in the toxic substances chapter. NEPA is also covered in detail, but we have been terse when an issue basically has been settled after extensive litigation. This organization has forced us to omit detailed coverage of some important areas. Noise, nuclear energy, and strip mine reclamation are three topics that are treated only in relation to broader themes. Likewise, important statutes such as the Endangered Species Act, the Marine Protection Research and Sanctuaries Act of 1972, and the National Historic Preservation Act are covered only in the context of other issues. Teachers with a special interest in these topics will have to supplement this casebook.

The volatile nature of our subject matter also forced us to make other hard, somewhat unsatisfactory choices. Environmental law is a young yet rapidly maturing area of the law. Writing in 1981 through 1983, we had the advantage of a well-developed case law in air and water pollution and of the National Environ-

mental Policy Act, but we also had to contend with nascent case law in areas such as toxic substances regulation. We have tried both to reflect what seems settled law and to focus on problems to come. For this reason, we give considerable attention to proposals for a reformed common law to reach injuries not prevented through regulation, to land use and public lands issues, and to toxic substances regulation because these topics seem to be sources of future litigation. The 1980 election produced a president and members of Congress who have substantial doubts about the thrust of much environmental legislation and who have introduced more volatility into the subject matter. From a pedagogical standpoint, we were forced to decide whether to concentrate on changes that were likely to occur in the basic statutes or largely to ignore the debates about legislative changes. In general, we opted to outline the philosophical underpinnings of current environmental policy debates but not to focus too much on either the details of specific current programs or on proposed legislation.

Because it is difficult — if not impossible — to cover our entire casebook in one semester, we offer an explanation of our outline and some suggestions for reorganization and material selection. Chapter I is the perspectives chapter. It aims to introduce the student to the important ideas that make up the environmental perspective and to survey the range of methods for promoting environmental quality. This chapter either can be taught or assigned and folded into the other chapters. We have tried, through a series of problems, to ask what an environmental problem is, so that the student understands the diversity and ambiguity inherent in labeling a conflict “environmental.” The readings focus on the fundamental premises of various disciplines that have addressed environmentalism, primarily ecology and welfare economics. The teacher can teach these readings like a case, drawing out the implications of each reading, or can integrate them into the book as a whole. Chapter II also is an introductory chapter. Fundamentally, environmental law is a law of judicial review of agency action. Modern administrative law has been enriched — if not made — by environmental litigation, and therefore the student must understand the fundamental problems of access to the courts and the different approaches to judicial review. However, if the teacher thinks the students are familiar with the material, it can be assigned as a reading.

Chapters III, IV, and V are the heart of regulatory environmental law. More attention is given to air pollution because air quality management raises virtually all of the key legal, economic, and political issues involved in modern regulatory environmental law, and the federal Clean Air Act provides the paradigm of the basic federal approach to controlling pollution. Also, the Act is now an important feature of the national legal landscape, involving hundreds of lawyers in its implementation. Over 200,000 stationary sources and millions of mobile sources are regulated; in the decade prior to 1988 the Act will cost American industry an additional \$300 billion — over half the total investment under all federal environmental regulatory statutes combined. Finally, the Act has been much criticized and thus presents the student with the challenge of finding a better way to protect air quality.

The length of the air chapter may require the teacher to omit some sections,

e.g., prevention of significant deterioration or enforcement. Most candidates for omission include summary material that can be read in lieu of the entire section. The teacher who intends essentially to skip air pollution but who wants students at least to have a bare bones introduction to the Clean Air Act may assign the summary overview provided in part C.

Hazardous substances control, the subject of Chapter V, presents what may eventually become the central organizing issue for environmental law: What precautionary or preventive measures should society adopt, based on evidence suggesting, but not proving, that substantial harm to human beings and the environment may occur at some time in the future? In the arena of hazardous substances control, the most challenging problems occur when risks are presented through prolonged exposures to trace quantities of substances, usually modern industrial chemicals, the damage from which may occur only after decades-long latency periods. The response to such hazards, which is as heavily federalized as is air and water pollution control, has been marked by the passage of not one but a score of detailed regulatory statutes. Some twenty federal statutes and six major agencies are involved. The course of implementation remains far from settled for such major statutes as the Toxic Substances Control Act of 1976, the Resource Conservation and Recovery Act of 1976, the Safe Drinking Water Act Amendments of 1977, the Hazardous Materials Transportation Control Act Amendments of 1976, and the Comprehensive Environmental Response, the Compensation and Liability Act of 1980 (Superfund), as well as the hazardous pollutant provisions of the Clean Air and Clean Water Acts. These statutes raise problems destined to confront environmental law for many years: the use of "good" versus "bad" science in determining cause; the adoption of the threat of cancer as a proxy for other environmental threats for which controls are politically harder to obtain; the difficulty of quantifying and comparing the health risks and the economic benefits of toxic exposures; whether the burden of proof of safety should shift to a potentially responsible party if an agency or plaintiff can make only a rudimentary evidentiary showing of risk; and how responsibility should be apportioned for the cleaning up of hazardous chemical wastes that were jettisoned in previous decades. To compress this chapter into fewer class days, it may be necessary to omit consideration of one or more individual statutes.

The pollution statutes that provide the nuclei for Chapters III, IV, and V presented us with a special problem. Pre-enforcement litigation challenging the complex regulations adopted under the federal statutes provides almost all the important case law on the pollution control programs. Federal circuit court decisions covering dozens of issues and running one hundred to three hundred pages in length are not uncommon, yet the traditional casebook format calls for numerous case excerpts followed by a few notes and questions. We found this approach undesirable; instead, we provide fewer, heavily edited cases, accompanied by a larger than usual amount of explanatory notes. At times our method casts the appellate case in a secondary role in solving the larger problem of how a statute should be interpreted and implemented. Sometimes we abandon the appellate decision as a teaching tool altogether. In such instances, as with the

pesticide, toxic substances, and hazardous waste regulation laws, we invite the teacher and the student to consider the entire statute, with our explanatory notes as a guide, as a “decision,” the fundamental “ratio” or controlling principle of which must be gleaned from the wealth of detailed statutory provisions. For some teachers and students our more limited reliance on appellate decisions will be welcome; others, we believe, will overcome initial resistance and become receptive to this approach, at least in this one field of law, in which environmental lawyers fight out issues of policy and procedure largely outside the courtroom, in informal meetings and conversations with federal and state agency officials, in formal agency rather than court proceedings, and in written comments on regulations proposed in the Federal Register.

Chapter IV, water pollution, inevitably duplicates some of the coverage of Chapter III because issues such as technology-forcing and the role of cost-benefit analysis are the same. But we have tried to focus on the distinctive features of water pollution, including the greater continuing attention to land use approaches to the control of non-point sources and the fact that many water pollution issues are use-rather than health-based problems.

The National Environmental Policy Act (NEPA), which is covered in Chapter VII, is the magna carta of environmental law. Just as the pollution statutes pervasively regulate private industry, NEPA requires environmental impact statements from the entire federal establishment. Yet, unlike the pollution legislation, NEPA enacts a process in which agencies must consider environmental values, not environmental standards with which they must comply. The treatment of NEPA is conventional. The chapter first considers the all-important question of when an environmental impact statement must be prepared. It then considers the scope of the impact statement and what must be done to make the discussion of environmental effects in an impact statement adequate. Throughout the chapter, questions about the merits of the environmental impact statement process are raised.

Land use control is perhaps the key to environmental regulation because so many pollution problems are at base land use problems. Land use has been part of environmental law from the beginning, but most materials have focused more attention on NEPA and air and water pollution. Chapter VIII tries to expand this coverage by including an extensive treatment of private and public land use issues. Land use law is well established in the legal curriculum; indeed, two of the authors of this casebook also have their own land use casebooks. This casebook does not attempt a comprehensive treatment of land use law as it applies to environmental issues; instead, it concentrates on environmental resource areas such as floodplains, wetlands, agricultural areas, the coastal zone, and public lands. The first part of Chapter VIII considers federal and state programs, most of them regulatory, that seek to preserve and protect these areas. Two state land use control programs with an environmental orientation, adopted in Vermont and in Florida, also are considered. The second part of the chapter is an overview of federal public lands law, with emphasis on incorporation of environmental values into management decisions.



Chapter VI, dealing with the common law, has been described at various points in this preface. Basically, we adhere to the traditional view that the common law is now quite subordinate to statutes. Various chapters treat the common law as an aid to understanding the origins of a statute or as an aid to construction, so that the course can be taught without assigning Chapter VI. But because there is considerable interest in using the common law to redress toxic injuries, we reopen the debate about the common law's role and speculate about the shape of a "reformed" common law.

A statutory supplement to this casebook is indispensable. We have printed only a few statutory provisions verbatim. To save space and to encourage recourse to the full texts themselves, we have also deleted most statutory passages from the cases. Teachers may want to compile their own supplement, but several published supplements exist, e.g., West's Selected Environmental Law Statutes and the Environmental Law Institute's Statutes and Regulations. We have ordinarily cited to the federal public law sections in our notes, after an initial United States Code citation, and have edited the case excerpts accordingly, but the user should adopt a supplement with parallel textual citations to the original public law section numbers and to the United States Code.

A few words are necessary about the mechanics of the casebook. To keep the text uncluttered, citations to the United States Code, state codifications, the Code of Federal Regulations, and the Federal Register do not carry a year; in addition, in parallel cites, jump cites are given only for the unofficial (West) reporter. Footnotes in quoted material retain their original numbering, and author footnotes are designated with an asterisk or a dagger. Finally, at the risk of seeming out of step with the times, we use the masculine pronoun "he" exclusively in the casebook, but we mean to include the feminine pronoun by implication. We adhere to this convention for purposes of expediency only.

The authors owe numerous debts of gratitude to those who helped in the preparation of these materials. Countless students suffered through mimeographed versions of these materials, and their distress helped us to decide what worked and what did not work in the classroom. We were fortunate to have had the assistance of diligent and committed research assistants. Professor Mandelker would like to acknowledge the patient and always supportive assistance of Kathleen Chovan, J.D., Washington University, 1983. Professor Tarlock would like to thank Marcia Holland, J.D., IIT Chicago-Kent College of Law, 1982; Michael J. Maliciki, J.D., IIT Chicago-Kent College of Law, 1983; and David Goldenberg, J.D., IIT Chicago-Kent College of Law, 1984. Each of us was blessed with secretaries who went beyond the call of duty. Professor Anderson gratefully acknowledges the assistance of DeLys Ostlund; Professor Mandelker acknowledges the invaluable assistance of Virginia C. Autry; and Professor Tarlock thanks Janice Hogan. All three authors are grateful to Virginia Autry, who assumed the responsibility of coordinating the final preparation of the manuscript.

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*Frederick R. Anderson*  
*Daniel R. Mandelker*  
*A. Dan Tarlock*

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Anderson, Kneese, Reed, Stevenson & Taylor, *Environmental Improvement through Economic Incentives* 3-4, 22-26 (1977). Reprinted with permission of Resources for the Future, Inc. and The Johns Hopkins University Press.

Boulding, *The Economics of the Coming Spaceship Earth*, in *Environmental Quality in a Growing Economy* 3 (H. Jarrett ed. 1971). Reprinted with permission of Resources for the Future, Inc. and the Johns Hopkins University Press.

Boffey, *Efforts to Gain "Fishable-Swimmable" Waters Appear to Falter*, N.Y. Times, Oct. 12, 1982, at 19, col. 1, and Boffey, *New Findings about Cancer Raising Hope*, N.Y. Times, Feb. 20, 1983, at 1, col. 6. Copyright © 1982/1983 by The New York Times Company. Reprinted with permission.

Bruen, *Environmental Law Study Materials, Hypothetical for Discussion—Matter of Annex Disposal Services, Inc.* 3, 4, 5 (ALI-ABA Committee on Continuing Education 1983). Copyright © 1983 by the American Law Institute. Reprinted with the permission of James A. Bruen, Landels, Ripley & Diamond, San Francisco, and the American Law Institute-American Bar Association Committee on Continuing Professional Education.

Bureau of National Affairs, Inc., *Environment Reporter (BNA) Monograph No. 21*, at 2 (July 25, 1975). Copyright © 1975 *Environment Reporter*, Bureau of National Affairs, Inc., Washington, D.C., 20037. Reprinted with permission.

Calabresi & Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 Harv. L. Rev. 1089, 1118-1119 (1972). Copyright © 1972 by the Harvard Law Review Association. Reprinted with permission.

Cheek, *Environmental Law Study Materials, Financial Responsibility Requirements under RCRA: Insurance Coverage for and beyond the Grave* (ALI-ABA Committee on Continuing Professional Education 1983). Copyright © by The American Law Institute. Reprinted with the permission of Leslie Cheek, III, Crum & Forster Insurance Companies, and the American Law Institute-American Bar Association Committee on Continuing Professional Education.

Coggins, Of Succotash Syndromes and Vacuous Platitudes: The Meaning of "Multiple Use, Sustained Yield" for Public Land Management (pt. 1), 53 U. Colo. L. Rev. 229, 279 (1982). Reprinted with permission.

Coughlin & Keene, The Protection of Farmland: An Analysis of Various State and Local Approaches, 33 Land Use L. & Zoning Dig. 5 (1981). Reprinted with permission.

Dales, Pollution, Property and Prices 81-84, 93 (1968). Reprinted with permission of the University of Toronto Press.

Diamond, The Federalist on Federalism: "Neither a Nation nor a Federal Constitution, but a Composition of Both," 86 Yale L.J. 1273, 1274, 1276 (1977). Reprinted with permission of the Yale Law Journal Company and Fred B. Rothman & Company.

Doniger, Federal Regulation of Vinyl Chloride: A Short Course in the Law and Policy of Toxic Substances Control, 7 Ecology L.Q. 497, 508-514 (1978). Copyright © 1978, Ecology Law Quarterly. Reprinted with permission.

Dorfman, Introduction, in Measuring Benefits of Government Investments 4-7 (R. Dorfman ed. 1965). Reprinted with permission.

Hardin, The Tragedy of the Commons, 162 Science 1243, 1243-1248 (1968). Reprinted with permission.

Heal, Economics and Resources, in Economics of Environmental and Natural Resources Policy 62, 64, 66-68 (J. A. Butlin ed. 1981). Reprinted with permission of the Longman Group Limited.

Hellerich, Imminent Irreparable Injury: A Need for Reform, 45 S. Cal. L. Rev. 1025, 1030-1032 (1972). Reprinted with the permission of the Southern California Law Review.

Hines, A Decade of Nondegradation Policy in Congress and the Courts: The Erratic Pursuit of Clean Air and Clean Water, 62 Iowa Law Review 643 (1977). Copyright © 1977, University of Iowa (Iowa Law Review). Reprinted with permission.

Jaffe, Benefit-Cost Analysis and Multiple-Objective Evaluation of Federal Water Projects, 4 Harv. Env'tl. L. Rev. 58, 59-72 (1980). Reprinted with permission.

Kneese, Ayres & D'Arge, Economics and the Environment: A Materials Balance Approach 2-6 (1970). Reprinted with permission of Resources for the Future, Inc. and The Johns Hopkins University Press.

Latin, Environmental Deregulation and Consumer Decision-making under Uncertainty, 6 Harv. Env'tl. L. Rev. 187, 218 (1982). Reprinted with permission.

Leopold, A San County Almanac and Sketches Here and There 202-204, 214-216, 220 (1949; 1968 paperback ed.). Copyright © 1949, 1977 by Oxford University Press, Inc. Reprinted with permission.

Liroff, NEPA—Where Have We Been and Where Are We Going? 46 J. Am. Planning A. 154, 156-157 (1980). Reprinted with permission.

Mandelker & Sherry, Emissions Quota Strategies as an Air Pollution

Control Technique, 5 Ecology L.Q. 401, 402-410 (1976). Copyright © 1976 Ecology Law Quarterly. Reprinted with permission.

McGarity & Shapiro, The Trade Secret Status of Health and Safety Testing Information: Reforming Agency Disclosure Policies, 93 Harv. L. Rev. 837, 883-884 (1980). Copyright © 1980 by the Harvard Law Review Association. Reprinted with permission.

National Research Council of the National Academy of Sciences, On Prevention of Significant Deterioration of Air Quality 5-18 (1981). Reprinted with permission.

New York Times, Oct. 11, 1982, at 13, col. 1; Jan. 27, 1983, at 12, col. 6. Copyright © 1982/1983 by The New York Times Company. Reprinted with permission.

Odum, Fundamentals of Ecology 10-11, 27, 88-89 (2d ed. 1959). Copyright © 1959 by W. B. Saunders Company. Reprinted with permission of W. B. Saunders, CBS College Publishing.

Ophuls, Ecology and the Politics of Scarcity 159-163 (1977). Copyright © 1977, W. H. Freeman and Company. Reprinted with permission.

Page, A Generic View of Toxic Chemicals and Similar Risks, 7 Ecology L.Q. 207, 207-223 (1978). Copyright © 1978, Ecology Law Quarterly. Reprinted with permission.

Pashigian, The Political Economy of the Clean Air Act: Regional Self-Interest in Environmental Legislation 3 (Center for the Study of American Business, Washington University, St. Louis, 1982). Reprinted with permission.

Passmore, Man's Responsibility for Nature 5-6, 10, 12-14 (1974). Copyright © 1974 by John Passmore. Reprinted with the permission of Charles Scribner's Sons.

Phillips, Developments in Water Quality and Land Use Planning: Problems in the Application of the Federal Water Pollution Control Act Amendments of 1972, 10 Urb. L. Ann. 43, 78-79 (1975). Reprinted with permission.

Rodgers, Environmental Law 275 (1977). Reprinted with permission of West Publishing Company.

Sagoff, On Markets for Risk, 41 Md. L. Rev. 755, 761-764 (1982). Reprinted with permission.

Sagoff, Economic Theory and Environmental Law, 79 Mich. L. Rev. 1393, 1411-1412 (1981). Reprinted with permission.

Schmaltz, Superfunds and Tort Reforms: Are They Insurable? 38 Bus. Law. 175, 176-179 (1982). Copyright © 1982 by the American Bar Association. All rights reserved. Reprinted with the permission of the American Bar Association and the ABA Section of Corporate, Banking and Business Law.

Scully, Pueblo: Mountain, Village, Dance 4, 195, 204-205 (1975). Copyright © 1972, 1975 by Vincent Scully. Reprinted with permission of Viking Penguin Inc.

Stewart, The Development of Administrative and Quasi-Constitutional Law in Judicial Review of Environmental Decisionmaking: Lessons from the

Clean Air Act, 62 Iowa Law Review 713, 714-715 (1977). Copyright © 1977, University of Iowa (Iowa Law Review). Reprinted with permission.

Stewart, The Reformation of American Administrative Law, 88 Harv. L. Rev. 1667, 1712 (1975). Copyright © 1975 by the Harvard Law Review Association. Reprinted with permission.

Susskind, Environmental Mediation and the Accountability Problem, 6 Vt. L. Rev. 114 (1981). Reprinted with permission.

Tarlock, For Whom the National Parks? 34 Stan. L. Rev. 255, 257-269 (1981). Reprinted with permission.

Tarr, McCurley & Yosie, The Development and Impact of Urban Wastewater Technology: Changing Concepts of Water Quality Control, 1850-1930, in Pollution and Reform in American Cities, 1870-1930, at 63, 64, 68, 70 (M. Melosi ed. 1980). Copyright © 1980 by the University of Texas Press. All rights reserved. Reprinted with permission.

Trauberman, Statutory Reform of Toxic Torts: Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim, 7 Harv. Envtl. L. Rev. 177, 260-261 (1983) (also published in 1983 as a report by the Environmental Law Institute, Washington, D.C.). Reprinted with permission.

Tribe, Ways Not to Think about Plastic Trees: New Foundations for Environmental Law, 83 Yale L.J. 1315, 1345 (1974). Reprinted with permission of the Yale Law Journal Company and Fred B. Rothman Company.

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