
WYOMING LAW REVIEW

VOLUME 4

2004

NUMBER 1

E. George Rudolph Distinguished Lecture*

WORKING OUT AN ENVIRONMENTAL ETHIC: ANNIVERSARY LESSONS FROM MONO LAKE

*Craig Anthony (Tony) Arnold***

I. INTRODUCTION	2
II. THE ENVIRONMENTAL CONSERVATION CHALLENGE AND (ENVIRONMENTAL) LEGAL CENTRALISM.....	5
III. A HISTORY OF MONO LAKE AND THE MONO LAKE COMMITTEE.....	12
IV. LESSONS FROM MONO LAKE	26
1. <i>The Ecology and Psychology of Place</i>	26
2. <i>The Roles and Limits of Law</i>	33
3. <i>Public Participation</i>	39
4. <i>Politics</i>	41
5. <i>Collaborative and Creative Problem-Solving</i>	44
V. THE FUTURE: A MULTI-DISCIPLINARY APPROACH	48

* This lecture is made possible through a generous gift by the Paul Stock Foundation to honor the late E. George Rudolph, former Dean and Professor of Law, University of Wyoming College of Law. It has been an honor and privilege to teach at the University of Wyoming College of Law as the E. George Rudolph Distinguished Visiting Chair in Law for Fall 2003. I thank Dean Jerry Parkinson, Associate Dean Mary (Dee) Pridgen, Professor Elaine Welle, and faculty, staff, and students at the University of Wyoming College of Law for their gracious hospitality.

** E. George Rudolph Distinguished Visiting Chair in Law, University of Wyoming College of Law, Fall 2003; Professor of Law & Director of the Center for Land Resources, Chapman University School of Law, Orange, California. I am grateful to the leaders and members of the Mono Lake Committee for their inspiration and work; Professor Oliver Houck for his exchanges with me about the Mono Lake case and my work on the subject; Leigh Jewell for her collaboration with me on a prior article about the Mono Lake case; and Professor Robin Wellford for suggested sources on legal centralism in practice.

I. INTRODUCTION

Does environmental law matter? More specifically, does environmental law actually achieve environmental protection or conservation? And does the content of environmental, property, water, and land use law doctrines either reflect or encourage an environmental ethic (or, as some have called it, a land ethic or a stewardship ethic or a conservation ethic)? These questions dominate environmental law scholarship. They also dominate the practice of environmental law and the development and implementation of environmental policy at all levels of government. Environmental controversies tend to have common features: (1) identification of threats or harms to ecological health and integrity from human activity; (2) contested societal choices about values and goals, including consideration of environmental ethics and other, often competing principles, interests, goals, and standards for making decisions; and (3) contested societal choices about which processes, institutions, and methods are the most fair, efficient, or effective to resolve the problem or to achieve environmental conservation. There is a seemingly infinite range of theories about the “right way” to protect, conserve, or relate to the natural environment, but many of them focus on legal theories and processes. The environmental movement has not only created environmental law but also has been captivated by environmental law, at least at first glance. However, examples of noteworthy successes in the pursuit of environmental ethics and conservation often reveal a more nuanced and complex picture on closer examination.

Insights about the role and efficacy of environmental law can be found in one of the most famous environmental controversies of the twentieth century, now celebrating a quarter-century mark: the Mono Lake conflict. The year 2003 marks the twenty-fifth anniversary of the founding of the Mono Lake Committee, a legendary environmental “David” that successfully took on the “Goliath” of thirsty, growing Southern California to protect a rare lake-based ecosystem in Northern California.¹ The year 2003 also marks the twentieth anniversary of the landmark “Mono Lake case,” *Na-*

1. For histories of the Mono Lake Committee’s work, see JOHN HART, *STORM OVER MONO: THE MONO LAKE BATTLE AND THE CALIFORNIA WATER FUTURE* (1996); Craig Anthony (Tony) Arnold and Leigh A. Jewell, *Litigation’s Bounded Effectiveness and the Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, 8 HASTINGS W.-NW. J. ENVTL. L. & POL’Y 1 (2001); Leigh A. Jewell & Craig Anthony (Tony) Arnold, *The Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, in BEYOND LITIGATION: CASE STUDIES IN WATER RIGHTS DISPUTES 155-190 (Craig Anthony (Tony) Arnold & Leigh A. Jewell eds., 2002); Michael C. Blumm & Thea Schwartz, *Mono Lake and the Evolving Public Trust in Western Water*, 37 ARIZ. L. REV. 701 (1995); Cynthia Koehler, *Water Rights and the Public Trust Doctrine: Resolution of the Mono Lake Controversy*, 22 ECOLOGY L.Q. 541 (1995); Andrew H. Sawyer, *Changing Landscapes and Evolving Law: Lessons from Mono Lake on Takings and the Public Trust*, 50 OKLA. L. REV. 311 (1997). For both history and current work of the Mono Lake Committee, see the Committee’s extensive and informative website, available at www.monolake.org (last visited Dec. 31, 2003), as well as the Mono Basin Clearinghouse website, available at www.monobasinresearch.org (last visited Dec. 31, 2003).

tional Audubon Society v. Superior Court, in which the California Supreme Court applied the public trust doctrine to established prior appropriation water rights, in the service of environmental protection.²

The Mono Lake conflict offers an ideal case study of the role of environmental law and litigation in achieving environmental conservation and implementing an environmental ethic. The controversy itself is famous, a nationally newsworthy conflict over environmental values and economic development.³ The California Supreme Court's Mono Lake opinion is regarded as one of the ten most important environmental law cases of the twentieth century.⁴ It has been cited in over 100 judicial or administrative opinions, including in Alaska, Arizona, Colorado, Idaho, Hawaii, Louisiana, Montana, Nevada, North Dakota, Oregon, Vermont, Washington, and five federal courts.⁵ It is included in many law school casebooks on environmental law,⁶ property law,⁷ and water law,⁸ and has been discussed in about 20 treatises and nearly 400 law review articles.⁹ Moreover, the Court's opinion in the Mono Lake case effectuated one of the most widely touted theories about the role that law and courts could play in achieving environmental conservation. In 1970, Professor Joseph Sax published a seminal article in the *Michigan Law Review*, contending that the public trust doctrine could and should be an effective means of judicial intervention to protect and conserve the natural environment.¹⁰ In 1983, the California Supreme Court in *National Audubon Society* cited Professor Sax's article as the Court used the

2. *National Audubon Society v. Superior Court*, 658 P.2d 709 (Cal. 1983).

3. See NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER HISTORY* 344 (rev. ed. 2001) (stating that Mono Lake's plight was featured in *Harper's*, *National Geographic*, *TIME*, *Smithsonian*, *Audubon*, and *Sports Illustrated* magazines).

4. Blumm & Schwartz, *supra* note 1, at 704.

5. Author's search of Westlaw database Keycite-Citing References for *National Audubon Society v. Superior Court*, 658 P.2d 709 (Cal. 1983), on Nov. 14, 2003.

6. See, e.g., ZYGMUNT J.B. PLATER ET AL., *ENVIRONMENTAL LAW AND POLICY: NATURE, LAW AND SOCIETY* 1000-11 (2d ed. 1998); THOMAS J. SCHOENBAUM ET AL., *ENVIRONMENTAL POLICY LAW: PROBLEMS, CASES, AND READINGS* 289-98 (4th ed. 2002). See also ROBERT L. GLICKSMAN ET AL., *ENVIRONMENTAL PROTECTION: LAW AND POLICY* 13-15 (4th ed. 2003); JOHN COPELAND NAGLE & J.B. RUHL, *THE LAW OF BIODIVERSITY AND ECOSYSTEM MANAGEMENT* 663-65 (2002); WILLIAM MURRAY TABB & LINDA A. MALONE, *ENVIRONMENTAL LAW: CASES AND MATERIALS* 972 (2d ed. 1997).

7. See, e.g., JOHN E. CRIBBET ET AL., *PROPERTY: CASES AND MATERIALS* 654-63 (8th ed. 2002); EDWARD H. RABIN ET AL., *FUNDAMENTALS OF MODERN REAL PROPERTY LAW* 687-96 (4th ed. 2000). See also JOHN P. DWYER & PETER S. MENELL, *PROPERTY LAW AND POLICY: A COMPARATIVE INSTITUTIONAL PERSPECTIVE* 112 (1998); J. GORDON HYLTON ET AL., *PROPERTY LAW AND THE PUBLIC INTEREST: CASES AND MATERIALS* 270 (2d ed. 2003).

8. See, e.g., GEORGE A. GOULD & DOUGLAS L. GRANT, *CASES AND MATERIALS ON WATER LAW* 536-49 (6th ed. 2000); JOSEPH L. SAX ET AL., *LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS* 541-54 (3d ed. 2000); A. DAN TARLOCK ET AL., *WATER RESOURCE MANAGEMENT: A CASEBOOK IN LAW AND PUBLIC POLICY* 414-21 (5th ed. 2002).

9. See *supra* note 5.

10. Joseph L. Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970).

public trust doctrine to require the California State Water Resources Control Board to consider the impacts of forty-three-year old water rights held by the Los Angeles Department of Water Power, on the public's interest in the environmental condition of Mono Lake and its ecosystem.¹¹ The decision was followed by additional litigation under environmental statutes, including the California Fish and Game Code, a massive campaign of public education and participation that built public support for saving Mono Lake, hearings before the State Water Resources Control Board, political activism, and ultimately a negotiated and creative solution reached by the Mono Lake Committee and Los Angeles and adopted by the State Water Resources Control Board. The solution provided for the Los Angeles Department of Water and Power gradually to reduce its diversions from almost 100,000 acre-feet per year to only 12,000 acre-feet per year, but to adjust to this reduction through conservation and reclamation efforts, instead of simply finding another body of water to drain. The results have been impressive. Southern California water consumption patterns have changed and the Mono Lake ecosystem has made progress towards recovery.

Mono Lake, though, is more than a case and more than a place. It is more than the manifestation of a legal theory or an abstract set of principles. It is more than just a remarkable outcome built on committed passions and savvy strategies. Mono Lake is about the Mono Lake Committee's work over the past twenty-five years, work that involved the complex interrelationship of the ecology and psychology of a place, legal theories and litigation victories, public education and participation, political action, and creative, collaborative problem-solving. The story of Mono Lake is about the ongoing, imperfect, multi-faceted, and incomplete process of working out an environmental ethic in practice.

Environmental law cannot, of its own force, achieve environmental conservation or manifest an effective and meaningful environmental ethic. The work of the Mono Lake Committee illustrates five lessons demonstrating that environmental law is but a component of a broader set of forces, factors, and processes that are critical to environmental protection. These lessons highlight the importance of place, public participation, politics, and problem-solving, as well as both the utility and limits of what Dan Tarlock calls "environmental 'rule of law' litigation."¹² If we are to understand and

11. *National Audubon Society v. Superior Court*, 658 P.2d 709, 719 n.16 (Cal. 1983). The National Audubon court also relied heavily on a symposium on the public trust doctrine, which was organized by Professor Harrison (Hap) Dunning, held at the University of California at Davis School of Law, and published in the *U.C. Davis Law Review*. See *id.* at 718 n.15, 720-21, 721 n.18.

12. A. Dan Tarlock, *The Future of Environmental "Rule of Law" Litigation*, 19 PACE ENVTL. L. REV. 575 (2002) [hereinafter Tarlock, *Rule of Law I*]; A. Dan Tarlock, *The Future of Environmental "Rule of Law" Litigation and There is One*, 19 PACE ENVTL. L. REV. 611 (2002) [hereinafter Tarlock, *Rule of Law II*].

effectively use law for social change and environmental conservation, we must begin to map the interrelationships of the many dimensions of environmental activism and environmental decision making, including socio-cultural, political, economic, ethical, psychological, scientific, and legal dimensions. The study and practice of environmental law must become more interdisciplinary in the sense of being truly multi-disciplinary – not just interdisciplinary in the sense of bi-disciplinary – so that environmental law can contribute its proper function to the working out of an environmental ethic.

II. THE ENVIRONMENTAL CONSERVATION CHALLENGE AND (ENVIRONMENTAL) LEGAL CENTRALISM

Environmental problems arise and persist despite over three decades of extensive environmental legislation and litigation at both federal and state levels. Relationships between humans and the natural environment in the United States pervasively threaten ecological health and integrity. Everywhere we face difficult issues about how best to protect the environment and how to work out an environmental ethic, or conservation ethic, or stewardship ethic in practice.

The concept of an environmental ethic is now significant in American culture and environmental policy and activism. There is a diverse and extensive set of writings for both general and academic audiences by environmental ethicists and conservation ecologists that draws on both philosophy and science to articulate an environmental ethic.¹³ The precise content of environmental ethics varies from deep ecology, emphasizing the intrinsic value of nature, its component parts, and its integrating systems and processes, to more anthropocentric and pragmatic concerns about the social and human value of the natural environment. In general, though, environmental concern is an important factor in United States society with a large number

13. See, e.g., *ETHICS AND ENVIRONMENTAL POLICY: THEORY MEETS PRACTICE* (Frederick Ferre & Peter Hartel eds., 1994); *POSTMODERN ENVIRONMENTAL ETHICS* (Max Oelschlaeger ed., 1995); *SACRED TRUSTS: ESSAYS ON STEWARDSHIP AND RESPONSIBILITY* (Michael Katakis ed., 1993); *SEEING THINGS WHOLE: THE ESSENTIAL JOHN WESLEY POWELL* (William deBuys ed., 2001); *UPSTREAM/DOWNSTREAM: ISSUES IN ENVIRONMENTAL ETHICS* (Donald Scherer ed., 1990); ROBIN ATTFIELD, *THE ETHICS OF ENVIRONMENTAL CONCERN*, (2d ed. 1991); J. BAIRD CALLICOTT, *IN DEFENSE OF THE LAND ETHIC: ESSAYS IN ENVIRONMENTAL PHILOSOPHY* (1989); RACHEL CARSON, *SILENT SPRING* (1962); ALDO LEOPOLD, *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* (1949); ALDO LEOPOLD, *THE RIVER OF THE MOTHER OF GOD AND OTHER ESSAYS* (Susan L. Flader & J. Baird Callicott eds., 1991); ALDO LEOPOLD, *FOR THE HEALTH OF THE LAND* (J. Baird Callicott & Eric T. Freyfogle eds., 1999); MAX OELSCHLAEGER, *THE IDEA OF WILDERNESS* (1991); HOLMES ROLSTON, III, *ENVIRONMENTAL ETHICS: DUTIES TO AND VALUES IN THE NATURAL WORLD* (1988); JOSEPH SITTLER, *EVOCATIONS OF GRACE: WRITINGS ON ECOLOGY, THEOLOGY, AND ETHICS* (Steven Bouma-Prediger & Peter Bakken eds., 2000); RICHARD SYLVAN & DAVID BENNETT, *THE GREENING OF ETHICS* (1994).

of people expressing support for environmental conservation.¹⁴ Environmental ethics have also influenced legal thinking, evidenced not only through the writings of legal scholars like Eric Freyfogle,¹⁵ but also in legal authorities themselves.¹⁶ Nonetheless, there does not appear to be a uniform, universally accepted environmental principle or set of environmental principles that consistently and effectively govern public policy, social and individual behavior, or legal decision making. Environmental ethics are visionary and aspirational, but do not actually achieve environmental conservation until they are put in practice.¹⁷ The persistence of environmental problems in United States society is evidence that our practice of environmental ethics is considerably less well developed than our theory of environmental ethics.¹⁸

14. See LISA M. BENTON & JOHN RENNIE SHORT, ENVIRONMENTAL DISCOURSE AND PRACTICE 113-17 (1999); DANIEL A. FARBER, ECO-PRAGMATISM: MAKING SENSIBLE ENVIRONMENTAL DECISIONS IN AN UNCERTAIN WORLD 1-3 (1999); BENJAMIN KLINE, FIRST ALONG THE RIVER: A BRIEF HISTORY OF THE U.S. ENVIRONMENTAL MOVEMENT 133 (2d ed. 2000); WALTER A. ROSENBAUM, ENVIRONMENTAL POLITICS AND POLICY 21-26 (5th ed. 2002); Daniel J. Fiorino, *Rethinking Environmental Regulation: Perspectives on Law and Governance*, 23 HARV. ENVTL. L. REV. 441, 441 n.1 (1999).

15. See, e.g., ERIC T. FREYFOGLE, JUSTICE AND THE EARTH: IMAGES FOR OUR PLANETARY SURVIVAL (1995); ERIC T. FREYFOGLE, BOUNDED PEOPLE, BOUNDLESS LANDS: ENVISIONING A NEW LAND ETHIC (1998); ERIC T. FREYFOGLE, THE LAND WE SHARE: PRIVATE PROPERTY AND THE COMMON GOOD (2003); Eric T. Freyfogle, *Context and Accommodation in Modern Property Law*, 41 STAN. L. REV. 1529 (1989); Eric T. Freyfogle, *The Owning and Taking of Sensitive Lands*, 43 UCLA L. REV. 77 (1993). See also Craig Anthony (Tony) Arnold, *The Reconstitution of Property: Property as a Web of Interests*, 26 HARV. ENVTL. L. REV. 281, 305-06, 318-21, 334, 344, 349-58 (2002); CHARLES F. WILKINSON, THE EAGLE BIRD: MAPPING A NEW WEST (1992); *Symposium: Environmental Ethics and Policy: Bringing Philosophy Down to Earth*, 37 U.C. DAVIS L. REV. 1 (2003).

16. See *Freeborn County by Tuveson v. Bryson*, 243 N.W.2d 316, 332 (Minn. 1976); *Application of Christenson*, 417 N.W.2d 607, 615 (Minn. 1987); *McLeod County Bd. of Comm'rs v. State*, 549 N.W.2d 630, 633-34 (Minn. App. 1996); *Just v. Marinette County*, 201 N.W.2d 761 (Wis. 1972); *Rowe v. Town of North Hampton*, 553 A.2d 1331 (N.H. 1989); *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1034-35 (1992) (J. Kennedy concurring). See also Alyson C. Flournoy, *In Search of an Environmental Ethic*, 28 COLUMBIA J. ENVTL. L. 63 (2003) (analyzing whether federal environmental statutes reflect environmental ethics); John R. Nolon, *In Praise of Parochialism: The Advent of Local Environmental Law*, 26 HARV. ENVTL. L. REV. 363 (2002) (describing local ordinances and regulations aimed at environmental conservation).

17. See J. BAIRD CALLICOTT, BEYOND THE LAND ETHIC: MORE ESSAYS IN ENVIRONMENTAL PHILOSOPHY 45-58 (1999); Barton H. Thompson, Jr., *Tragically Difficult: Obstacles to Governing the Commons*, 30 ENVTL. L. 241, 267-69 (2000). See generally RECONSTRUCTING CONSERVATION: FINDING COMMON GROUND (Ben A. Minteer & Robert E. Manning eds., 2003).

18. See, e.g., UNITED STATES GEOLOGICAL SURVEY, STATUS AND TRENDS OF THE NATION'S BIOLOGICAL RESOURCES (1999) available at <http://biology.usgs.gov/s+t/SNT/index.htm> (last visited 3).

The Intermountain West, for example, is no stranger to the types of challenges that were faced by the Mono Lake Committee in California.¹⁹ Communities in Wyoming currently wrestle with whether to allow extractive activities, such as coal-bed methane extraction and oil and gas drilling, in areas of rich but subtle landscapes and habitat corridors for countless wildlife, such as the Powder River Basin in northeastern Wyoming and the Red Desert in southwestern Wyoming.²⁰ In addition, protection of both instream flows and water quality in the Wind River and Big Horn River, not only for the benefit of the Wind River Tribes but also for the health of the watershed, are important socio-political and legal issues despite an adverse, but confused and possibly non-implementable, opinion by the Wyoming Supreme Court on the Tribes' right to instream flows for fisheries.²¹ In Montana, currently contested environmental issues include loss of wilderness and way of life to rapid land development, threats to water quality from livestock feedlots, a new statewide ban on cyanide-process open-pit mining, and implementation of a state constitutional right to a clean and healthful environment.²² Colorado's rivers and streams suffer from high demand for water appropriations to support urban development and other rapidly growing urban areas and to provide water for artificial snowmaking activities of the ski industry. Conflict over the Gunnison River, stressed by development on the

19. For conservation issues in the Intermountain West generally, see CHARLES F. WILKINSON, *CROSSING THE NEXT MERIDIAN: LAND, WATER, AND THE FUTURE OF THE WEST* (1992); WILKINSON, *THE EAGLE BIRD*, *supra* note 15; ROCKY MOUNTAIN FUTURES: AN ECOLOGICAL PERSPECTIVE (Jill S. Baron ed., 2002).

20. Keith Kloor, *Powder Keg*, AUDUBON, Dec. 2002, at 65-72; FRIENDS OF THE RED DESERT, WYOMING'S RED DESERT: WILD HEART OF THE WEST (informational brochure on file with the *Wyoming Law Review*); BIODIVERSITY CONSERVATION ALLIANCE AND FRIENDS OF THE RED DESERT, THREATS TO JACK MORROW HILLS (informational flyer on file with the *Wyoming Law Review*).

21. In re Big Horn River Adjudication, 835 P.2d 273 (Wyo. 1992); Tom Bellamore, *From Sharing to Strife: A Case Study of the Adjudication of the Big Horn River System and Its Impact on the Wind River Tribes*, in BEYOND LITIGATION: CASE STUDIES IN WATER RIGHTS DISPUTES 15-77 (Craig Anthony (Tony) Arnold & Leigh A. Jewell eds., 2002); GEOFFREY O'GARA, *WHAT YOU SEE IN CLEAR WATER: INDIANS, WHITES, AND A BATTLE OVER WATER IN THE AMERICAN WEST* (2000); Tom Reed, *Wyoming Tribes Get Support to Keep a River Wet*, HIGH COUNTRY NEWS, May 29, 1995.

22. Jennifer McKee, *Judge Restricts Permits for Feedlots*, BILLINGS GAZETTE, Oct. 10, 2003; Montana Environmental Information Center, *Plum Creek Moves Toward Land Development*, available at <http://www.meic.org/PlumCreek.html> (last visited Nov. 19, 2003); Montana Environmental Information Center, *Land Use Policy*, available at http://www.meic.org/land_use.html (last visited Nov. 19, 2003); Montana Environmental Information Center, *Judge Reinforced Feedlot Decision*, available at <http://www.meic.org/cafo.html> (last visited Nov. 19, 2003); Montana Environmental Information Center, *The Kendall Mine*, available at <http://www.meic.org/kendallmine.html> (last visited Nov. 19, 2003); Montana Environmental Information Center, *Hardrock Mining: Supreme Court Hears I-137 Challenge*, available at <http://www.meic.org/i137victory.html> (last visited Nov. 19, 2003); Montana Environmental Information Center, *Water Quality: Landmark Victory for Human Health and the Environment*, available at <http://www.meic.org/cleanandhealthful.html> (last visited Nov. 19, 2003); Montana Environmental Information Center, *Saving the Blackfoot River*, available at <http://www.meic.org/blackfoot.html> (last visited Nov. 19, 2003).

Front Range of the Rocky Mountains near Denver, exemplifies the former,²³ while litigation over instream flows in Snowmass Creek exemplifies the latter.²⁴ In New Mexico, stresses on the Middle Rio Grande Basin along the Rio Grand River, including increasing demands by Albuquerque and other cities for water, have run head-long into the Endangered Species Act's protection of the Rio Grande silvery minnow.²⁵

In all of these examples, the participants use or contemplate using legal principles, institutions, and processes to resolve the issues and to achieve some greater degree of environmental conservation than would occur with a more laissez-faire approach. Much of the work of the environmental movement, environmental lawyers, and environmental law scholars is concerned with "law" – legal doctrine and legal institutions – as central to the successes (or potential successes) and failures (or potential failures) of environmental protection. This way of looking at the law is known as legal centralism or legal centrism. The primary premises of legal centralism are that the state is the source of social order and rules of behavior in society, and that conflicts over behaviors or values are resolved by formal legal institutions and processes.²⁶ Critics of legal centralism include legal peripheralists, who are generally market-oriented libertarians demonstrating the central role of informal, nongovernmental ordering and norms in society,²⁷ and legal pluralists, who are generally social reformers and critics emphasizing the multitude of non-legal forces that shape both society and law.²⁸

23. AMERICAN RIVERS, AMERICA'S MOST ENDANGERED RIVERS OF 2003, 20-21 (2003); American Rivers, *Gunnison River*, available at <http://www.amrivers.org/mostendangered/gunnison2003.htm> (last visited Oct. 28, 2003).

24. *Aspen Wilderness Workshop v. Colorado Water Conserv. Bd.*, 901 P.2d 1251 (Colo. 1995).

25. *Rio Grande Silvery Minnow v. Keys*, 333 F.3d 1109 (10th Cir. 2003); Beth Richards, Note, *WATER LAW – The Pump Don't Work Because the Bureau Took the Handle: The United States Bureau of Reclamation's Discretion to Reduce Water Deliveries to Comply with the Endangered Species Act*, 4 WYO. L. REV. 111 (2003); John R. Brown, "Whisky's Fer Drinkin': Water's Fer Fightin'! Is It?: Resolving a Collective Action Dilemma in New Mexico", 43 NAT. RESOURCES J. 185 (2003).

26. For analysis of legal centralism/centrism, typically by critics, see ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* 4-6, 137-55 (1991); John Lande, *Getting the Faith: Why Business Lawyers and Executives Believe in Mediation*, 5 HARV. NEGOT. L. REV. 137, 147-49 (2000); Barton H. Thompson, *Institutional Perspectives on Water Policy and Markets*, 81 CAL. L. REV. 671, 674-79 (1993); Jonathan Zasloff, *Law and the Shaping of American Foreign Policy: From the Gilded Age to the New Era*, 78 N.Y.U. L. REV. 239, 258-59 (2003).

27. ELLICKSON, *supra* note 26, at 4-6, 137-55; Robert D. Cooter, *Against Legal Centrism*, 81 CAL. L. REV. 417 (1993) (reviewing ELLICKSON, *supra* note 26); Robert D. Cooter, *Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant*, 144 U. PA. L. REV. 1643 (1996); Thompson, *supra* note 26, at 674-79.

28. PATRICIA EWICK & SUSAN S. SILBEY, *THE COMMON PLACE OF LAW: STORIES FROM EVERYDAY LIFE* 34-35 (1998) ("Because the term 'law' names assorted social acts, organizations, and persons, including lay as well as professional actors, and encompasses a broad range of values and objectives, it has neither the uniformity, coherence, nor autonomy that is

Environmental law is dominated by the legal centralist world view. First, consider the environmental movement itself. The mainstream environmental movement, especially as represented by the major national environmental groups, has historically relied heavily on federal environmental legislation to establish broad mandates, regulatory programs to implement these mandates through controls over private and public actions, and on citizen suit litigation to force both the regulators and the regulated to comply with statutory mandates.²⁹ The last factor is what Dan Tarlock refers to as environmental “rule of law” litigation, which has pervaded the environmental movement.³⁰ This identification of environmental activism with environmental legal action came into sharp focus when the grassroots environmental justice movement in low-income communities of color criticized the mainstream environmental movement as dominated by legal and scientific elites, biased by their preference for legal and scientific solutions to environmental problems.³¹

Second, consider environmental lawyers. To many environmental lawyers, environmental problems are legal problems requiring legal solutions. The lawyer’s cognitive bias in framing in the problem and limited set of skills to offer participants in environmental conflicts makes some sense; after all, legal education prepares people to be lawyers – to understand legal principles, engage in legal analysis, use legal skills, and in short, think like a lawyer – not to be political scientists, philosophers, conservation ecologists, engineers, economists, sociologists, or urban planners.³² However, there is a

often assumed.”); Abner S. Green, *Kiryas Joel and Two Mistakes About Equality*, 96 COLUM. L. REV. 1, 13 n.57 (1996); Pauline T. Kim, *Norms, Learning, and Law: Exploring the Influences on Workers’ Legal Knowledge*, 1999 U. ILL. L. REV. 447; Lande, *supra* note 26, at 147-49.

29. Cary Coglianese, *Social Movements, Law, and Society: The Institutionalization of the Environmental Movement*, 150 U. PA. L. REV. 85, 95-102 (2001); Flournoy, *supra* note 16, at 64-66; David Sive, *The Litigation Process in the Development of Environmental Law*, 19 PACE ENVTL. L. REV. 727 (2002).

30. See Tarlock, *Rule of Law I*, *supra* note 12; Tarlock, *Rule of Law II*, *supra* note 12.

31. Robert D. Bullard, *Anatomy of Environmental Racism and the Environmental Justice Movement*, in CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 15, 22 (Robert D. Bullard ed., 1993); Luke Cole, *Empowerment as the Key to Environmental Protection: The Need for Environmental Poverty Law*, 19 ECOLOGY L.Q. 619, 634-42 (1992); Sheila Foster, *Environmental Justice in an Era of Devolved Collaboration*, 26 HARV. ENVTL. L. REV. 459 (2002); Eileen Gauna, *The Environmental Justice Misfit: Public Participation and the Paradigm Paradox*, 17 STAN. ENVTL. L.J. 1 (1998); Eileen Gauna, *An Essay on Environmental Justice: The Past, The Present, and Back to the Future*, 42 NAT. RESOURCES J. 701 (2002).

32. Craig Anthony (Tony) Arnold, *Litigation as Dispute Non-Resolution: Lessons From Case Studies in Water Rights Disputes*, in BEYOND LITIGATION: CASE STUDIES IN WATER RIGHTS DISPUTES 1-14 (Craig Anthony (Tony) Arnold & Leigh A. Jewell eds., 2002); Derrick A. Bell, Jr., *Serving Two Masters: Integration Ideals and Client Interests in School Desegregation Litigation*, 85 YALE L.J. 470 (1976); Gary L. Blasi, *What Lawyers Know: Lawyering Expertise, Cognitive Science, and the Functions of Theory*, 45 J. LEGAL EDUC. 313 (1995); Paul Brest & Linda Hamilton Krieger, *Lawyers as Problem Solvers*, 72 TEMP. L. REV. 811

growing awareness in both the legal profession and legal education of the problems associated with a lawyer's failure to consider a client's non-legal goals and needs, to consider the non-legal aspects of legal problems, to consider non-legal solutions, to work well on a team with non-lawyers, and to resist seizing control of the client's dispute or problem.³³

Third, consider environmental law scholars. Like our former students in legal practice, we are biased by our training and professional norms to focus on law as a primary vehicle for environmental conservation. Our scholarship both seeks out existing legal principles and methods and proposes new legal principles and methods to solve environmental problems. Two recent, important articles exemplify the legal centralism of environmental law scholarship. In the June 2003 issue of the *Stanford Environmental Law Journal*, Holly Doremus argues that environmental law is constitutive in that it shapes and determines the core characteristics of our communities, values, technologies, institutions, and behaviors.³⁴ In a 2003 issue of the *Columbia Journal of Environmental Law*, Alyson Flournoy examines environmental law for the values it reflects, assuming that an environmental ethic – to the extent that it exists in practice – will be found in the substantive content and actual implementation of environmental laws.³⁵ Both of these articles offer valuable insights and are significantly broader in scope and implication than a traditional article suggesting a particular doctrine or mechanism as a method of achieving environmental conservation, as did Joseph Sax's seminal public trust article in 1970.³⁶ But they reflect the sort of legal centralism expressed by a former dean of the University of Wyoming College of Law and natural resources law scholar, the late Frank Trelease, who said:

(1999); Cole, *supra* note 31; Gerald P. Lopez, *Lay Lawyering*, 31 UCLA L. REV. 1 (1984); Peter Margulies, "Who Are You to Tell Me That?": *Attorney-Client Deliberation Regarding Nonlegal Issues and the Interests of Nonclients*, 68 N.C. L. REV. 213 (1999); Ann Shalleck, *The Constructions of the Client Within Legal Education*, 45 STAN. L. REV. 1731 (1993). *But see* David Luban, *Rediscovering Fuller's Legal Ethics*, 11 GEO. J. LEGAL ETHICS 801 (1998) (describing the theories of Lon Fuller, who rejected legal centralism but argued that lawyers are architects of social structure integrating legal and non-legal concerns).

33. *See, e.g.*, DAVID A. BINDER, *LAWYERS AS COUNSELORS: A CLIENT-CENTERED APPROACH* 18 (1991); DOUGLAS E. ROSENTHAL, *LAWYER AND CLIENT: WHO'S IN CHARGE?* 36-46 (1974); Arnold, *supra* note 32; Bell, *supra* note 32; Brest & Krieger, *supra* note 32; Cole, *supra* note 31; Bradley C. Karkkainen, *Environmental Lawyering in the Age of Collaboration*, 2002 WIS. L. REV. 555 (2002); Lopez, *supra* note 32; Margulies, *supra* note 32; Carrie Menkel-Meadow, *Narrowing the Gap by Narrowing the Field: What's Missing from the MacCrate Report – of Skills, Legal Science, and Being a Human Being*, 69 WASH. L. REV. 593, 620 (1994); Carrie Menkel-Meadow, *When Winning Isn't Everything: The Lawyer as Problem Solver*, 28 HOFSTRA L. REV. 905 (2000); Robert S. Redmount, *Humanistic Law Through Legal Counseling*, 2 CONN. L. REV. 98, 111-12 (1969); Shalleck, *supra* note 32.

34. Holly Doremus, *Constitutive Law and Environmental Policy*, 22 STANFORD ENVIRONMENTAL LAW JOURNAL 295 (2003).

35. Flournoy, *supra* note 16.

36. Sax, *supra* note 10.

The law is a mechanism for getting things done, for accomplishing the purposes of society, for requiring some things and forbidding others. If the people of the United States or of a state desire to keep water in a stream or to put it back in a stream a law can be framed to do the job.³⁷

The Mono Lake Committee's work suggests that the inquiries that are central to environmental law scholarship and practice miss a broader, and arguably more important, set of issues about how best to achieve environmental protection. The "law" plays only a part in environmental protection. Although this part is virtually inevitable in current American society, often valuable, and sometimes even necessary, the law's role is hardly central or all-important. Like particular components of nature contribute to the complex and dynamic interrelationships of ecosystems, legal doctrines, institutions, and processes contribute to a broader "ecology" of environmental protection, which is made up of many interconnected parts that are integrated by dynamic processes and relationships. The legal centralism of environmental law scholarship overemphasizes the role of law, instead of studying how the law fits into a larger picture that includes social forces, politics, economic considerations, ecology, ethical development and action, psychology, religious belief, natural phenomena and events, technology, and many other factors. In the case of Mono Lake, legal theories and victories were important but preliminary to even more important work, such as public education and advocacy, political action, and collaborative problem-solving.

37. DAVID M. GILLILAN & THOMAS C. BROWN, *INSTREAM FLOW PROTECTION: SEEKING A BALANCE IN WESTERN WATER USE* 3 (1997).

III. A HISTORY OF MONO LAKE AND THE MONO LAKE COMMITTEE³⁸

The story of Mono Lake began between 750,000 and three million years ago, when geologic activity created a basin of water in the area in which Mono Lake is now located – on the eastern slope of the Sierra Nevada Mountains in eastern California and the western edge of the Great Basin. The Great Basin is a large region of parallel mountain ranges and valleys, most of which drain to desiccated playas or saline lakes like Mono Lake. The Great Basin extends to southeastern Idaho and Utah's Great Salt Lake in the northeast, Oregon's Klamath Lake and Albert Lake in the northwest, and Lake Mead and Las Vegas in the south. Its western edge includes Pyramid Lake north of Reno, Mono Lake, and the now-dry Owens Lake, which was drained by the Los Angeles Department of Water and Power for municipal water supplies in the early twentieth century. What is now known as Mono Lake emerged from a larger body of water known by geologists as Lake Russell between 9000 and 13,300 years ago due to volcanic activity.

Mono Lake is a terminal lake: Sierra Nevada snowmelts flow into the lake from five feeder streams and a little precipitation falls directly into the lake's surface, but the lake has no outlet. As such, it is a saline lake, but it is also an alkaline and sulfurous lake, having an especially unusual chemistry and a "heavy" feel and "reflective" look. There are an estimated 285 million tons of chemicals now dissolved in Mono Lake. Prior to Los Angeles diverting Mono Lake feeder stream waters, the lake was about one-third

38. Portions of this section are republished from Leigh A. Jewell & Craig Anthony (Tony) Arnold, *The Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, in BEYOND LITIGATION: CASE STUDIES IN WATER RIGHTS DISPUTES 155-190 (Craig Anthony (Tony) Arnold & Leigh A. Jewell eds., 2002), with permission of the Environmental Law Institute; and Craig Anthony (Tony) Arnold & Leigh A. Jewell, *Litigation's Bounded Effectiveness and the Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, 8 HASTINGS W.-N.W. J. ENVTL. L. & POL'Y 1 (2001), reprinted from HASTINGS WEST-NORTHWEST JOURNAL OF ENVIRONMENTAL LAW & POLICY, Volume 8, Number 1, Fall 2001, 1 by permission. Unless noted otherwise, the sources of information in this history section come from these two publications and the sources cited therein, or from: HART, *supra* note 1; the Mono Lake Committee website, available at www.monolake.org (especially pages for Committee History; L.A. Water Conservation Council; Education & Interpretation; Political History; Mono Lake FAQ; Mono's Wildlife; Statistics; and Restoration of the Mono Basin) (last visited Nov. 18, 2003); the Mono Lake Basin Research website, available at www.monobasinresearch.org (especially pages for Political & Legal Chronology; Mono Basin Historical Information; Waterfowl Habitat at Mono Lake; Mono Basin Creek Profiles: Rush, Lee Vining, Parker, Walker, and Mill; Current Mono Basin Research; Mono Basin Reports and Studies Online; and Mono Basin Legal Resources) (last visited Nov. 18, 2003); Jane Braxton-Little, *Mono Lake Rising: Adding Water Is Just the First Step in the Recipe for Renewal*, CALIFORNIA WILD, Summer 2000, available at www.calacademy.org/calwild/summer2000/html/monolake.html (last visited Dec. 31, 2003); Kevin Roderick, *SELLING A LAKE: Tenacious Mono Backers Use Sophisticated Tactics to Beat DWP to Its Knees*, LOS ANGELES TIMES, Sept. 24, 1989, at 3; Mike Rosentreter & Gary A. Warner, *Mono Lake Chronology*, ORANGE COUNTY REGISTER, July 29, 2001. In this section, citations are provided for direct quotations and primary legal authorities.

as salty as the ocean, but in 1981, with vastly less water to dilute the solids in the lake, it was three times as salty as the ocean.

Mono Lake is part of an extraordinary ecosystem that supports a diversity of life. Although the lake is too saline to support fish, it bursts forth with millions of tons of algae and microscopic plants every spring and summer. These organisms feed a sizeable population of brine shrimp unique to Mono Lake, which populate the entire lake near the surface and number as many as seven trillion during their summer peak, and alkali flies ringing the edge of the lake's surface and numbering in the millions. The brine shrimp and alkali flies in turn support a large number of nesting and migratory birds that feed on them. These birds include the California gull, eared grebe, northern or red-necked phalarope, Wilson's phalarope, American avocet, and snowy plover. Mono Lake is internationally recognized as an important habitat for shorebirds, one of the three or four most important shorebird habitats in the United States. It provides the breeding habitat for 60,000 California gulls, about twenty-five percent of the world's California gull population, second only to the Great Salt Lake. It serves as an essential migratory stop for many birds moving between summer and winter nesting areas, including several thousand avocets, about 70,000 phalaropes, and between 750,000 and one million grebes. The five feeder streams to Mono Lake – Mill, Lee Vining, Walker, Parker, and Rush Creeks – have historically supported a range of riparian vegetation and trout, among other species.

Mono Lake is also aesthetically extraordinary. Limestone formations that look like towers and spires – known as tufa – rise from the lake. The tufa formations at Mono Lake are arguably the most numerous and distinctive of any saline lake, and have been extensively photographed, including by the famous Ansel Adams. They also provide nesting habitat for falcons, owls, and small mammals. With its dramatic tufa towers, reflective water, diverse wildlife, and dramatic geologic setting on the eastern slope of the Sierra Nevadas, Mono Lake's landscape is unusual, evocative, and eerie. It now attracts thousands of visitors annually, although Mark Twain called it the "loneliest tenant of the loneliest spot on earth."³⁹

In 1940, the Division of Water Resources, which was the predecessor to the State Water Rights Board and ultimately the State Water Resources Control Board (Water Board), granted the City of Los Angeles Department of Water and Power (DWP) a permit to appropriate almost the complete flow of four of the five streams that supply water into Mono Lake. Immediately after receiving appropriative rights to the four streams, DWP erected structures to divert approximately half of the flow of the four streams into DWP's Owens Valley aqueduct. Then, in 1970, when faced with judi-

39. Mark Twain, *Roughing It* (1871), quoted in SAX ET AL., *supra* note 8, at 541.

cially mandated limits on diversions from the Colorado River, DWP constructed another diversion tunnel, resulting in the diversion of almost all of the flow of the four streams. By 1979, the Mono Lake feeder streams supplied almost twenty percent of Los Angeles' water.

The diversions resulted in widespread negative impacts in and around the lake. The level of the lake dropped and the surface area of the lake went down by one-third. In fact, between 1940 and 1970, Los Angeles diverted an average of 57,067 acre-feet of water per year from the Mono Basin, resulting in the lake level dropping by an average of 1.1 feet per year. In addition to the physical effects on the lake, the chemical composition increased significantly in salinity. Between 1970 and 1980, following construction of a second aqueduct to increase flow by fifty percent, Los Angeles diverted 99,580 acre-feet on average per year from the Mono Basin. Over the forty-year span from 1940 to 1980, the diversions caused Mono Lake to shrink from an area of eighty-five square miles to 60.3 square miles and its surface level dropped from 6416 feet above sea level to 6376 feet above sea level. Exceedingly wet winters from 1982-1984 gave the lake a moment to rejuvenate, raising the lake level to 6379 feet above sea level, still thirty-eight feet lower than in 1941.

The California gull became particularly endangered by the decrease in lake level. One of two main islands that protect bird breeding grounds joined with the mainland because of the lake level drop, allowing predators access to the nesting grounds. Coyotes actually reached one of the popular breeding islands by 1979, immediately resulting in a significant decline in breeding nests. Significantly, in 1981, almost all of the infant birds did not survive to adulthood.

The effort to save Mono Lake began with a small group of scientists and environmentalists who became alarmed about the health of the lake and its ecosystem in the 1970s. David Gaines, a Stanford-educated biologist, ornithologist, and ecologist, came across Mono Lake in 1974 when he was doing a quick biological inventory of Mono Lake for the California Natural Areas Coordinating Council. A bird enthusiast, Gaines became very interested in Mono Lake. He spent a year doing research at Mono Lake in 1975 in conjunction with his teaching job at the University of California at Davis. In 1976 he quit his Davis teaching job and spent the next two years traveling throughout California, lecturing to Sierra Club and National Audubon Society chapters to stir interest in the damage done by Los Angeles to the lake that he had come to love. He and about a dozen other environmentalists and

scientists formed the Mono Basin Research Group in 1976 to study environmental conditions at Mono Lake.⁴⁰

Field study research on birds at Mono Lake led to research on Mono Lake's overall ecology, which in turn led to a deep commitment to organize a campaign to save Mono Lake and the species that depended on it.⁴¹ In 1978, David Gaines and his eventual-wife Sally Judy founded the Mono Lake Committee with a small group of people who were also passionate about the lake. They set up Committee headquarters in the small tourist town of Lee Vining, on the eastern entrance to Yosemite National Park and western shore of Mono Lake. They sold t-shirts and distributed bumper stickers all over cities throughout the State saying "Save Mono Lake." Gaines was pivotal in bringing together various environmental groups, as well as the elite law firm of Morrison & Foerster, to file the *National Audubon* lawsuit and creating national recognition of the Los Angeles diversions. He was also joined by a former University of California at Berkeley student, Tim Such, whose 1974 class project resulted in an ongoing mission to find a way to use the public trust doctrine to protect Mono Lake.

In 1979, after observing the rapid decline in the level of Mono Lake and its ecological harm and unsuccessfully pursuing compromise proposals that DWP quickly rejected, the Mono Lake Committee, the National Audubon Society, and Friends of the Earth filed suit in Superior Court. They sought to enjoin diversions by DWP on the theory that the public trust doctrine protected the shores, bed, and waters of Mono Lake. The litigation resulted in the famous Mono Lake public trust case.

In *National Audubon Society v. Superior Court, Alpine County*, the California Supreme Court issued a writ of mandate to the Superior Court, essentially requiring the Superior Court to require the State Water Resources Control Board to reconsider DWP's water rights in light of the public trust doctrine.⁴² The public trust doctrine is an ancient doctrine, originating in Roman civil law and coming to the United States via English common law. It provides that the state does not merely own navigable waters and their underlying lands, but instead holds them in trust for the public and cannot alienate these resources without protecting the public trust values of navigation and increasingly now environmental conservation. In the 1892 case of *Illinois Central Railroad Company v. Illinois*, the United States Supreme Court upheld the Illinois Legislature's revocation of its grant of almost the

40. See *supra* note 38. See also Geoffrey McQuilkin, *Mono's Scientists: A Portrait of Five Committed Researchers*, MONO LAKE NEWSLETTER, Spring 2003, at 7-10 (on file with the *Wyoming Law Review*).

41. In addition to the sources cited in note 38, *supra*, see Mark Vanderhoff, *Hike for Hope*, RENO GAZETTE-JOURNAL, May 29, 2003, at E3.

42. *National Audubon Society v. Superior Court, Alpine County*, 658 P.2d 709 (Cal. 1983).

entire Lake Michigan waterfront in Chicago to the Illinois Central Railroad, asserting, "The State can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, . . . than it can abdicate its police powers in the administration of government and the preservation of the peace."⁴³ In *National Audubon Society*, the California Supreme Court stated that the "core of the public trust doctrine is the state's authority as sovereign to exercise a continuous supervision and control over the navigable waters of the state and the lands underlying those waters."⁴⁴ According to the court, the state's sovereign authority applies to the Mono Lake feeder streams and prohibits an entity such as DWP or others from obtaining vested rights where it is evident that interests protected by public trust are harmed by the diversions.⁴⁵

In *Marks v. Whitney*, the California Supreme Court had applied the public trust doctrine to tideland and lakeshore waters, and determined that the public trust protections include ecological and recreational values, not merely commercial and transportation needs.⁴⁶ The *National Audubon* court adapted the *Marks v. Whitney* holding to waters that flow.⁴⁷ The public trust doctrine therefore protects the environmental values and ecologically vital instream uses of waters subject to diversion. Furthermore, the *National Audubon* court held that the public trust doctrine applies to non-navigable waters, particularly Mono Lake's feeder streams that are non-navigable, to the extent that appropriations of non-navigable waters harm navigable waters, which in this case was Mono Lake itself.⁴⁸

However, the *National Audubon* court did not hold that prior appropriation rights were to be extinguished whenever they were in conflict with public trust principles. The public trust and appropriative rights systems each developed separately from the other with their own set of rules. The California Supreme Court declared itself unable to choose either position that subscribed to only one system or the other.⁴⁹ The court stated,

In our opinion, both the public trust doctrine and the water rights system embody important precepts which make the law more responsive to the diverse needs and interests involved in the planning and allocation of water resources. To

43. *Illinois Central Railroad Company v. Illinois*, 146 U.S. 387, 453-54 (1892).

44. *National Audubon*, 658 P.2d at 718.

45. *Id.*

46. *Marks v. Whitney*, 491 P.2d 374 (Cal. 1971).

47. *National Audubon*, 658 P.2d at 712.

48. *Id.* at 721.

49. *Id.* at 727.

embrace one system of thought and reject the other would lead to an unbalanced structure.⁵⁰

The court noted that the realities of California are such that the state must have the power to allow water to be diverted. The diversions are necessary to sustain the state's economic growth and development and the ability of people to live in a state with extensive areas of aridity.⁵¹ Therefore, the court said that the state must have the power to grant appropriated water rights even where public trust uses may be harmed.⁵²

However, the court noted that California cases do not speak of water ownership; instead, they speak only of the right to use water.⁵³ In the California water rights system, property rights in water appropriations are usufructuary, not possessory, interests. Therefore, as usufructuary rights subject to the public trust, water rights are non-vested rights, according to the court.⁵⁴ Just because water rights can be granted does not mean that they may be granted without first considering the negative impacts on the public trust uses, and where they have been granted without adequate consideration of the public trust, the state has an ongoing duty to reconsider them in light of public trust values.⁵⁵ The state's power to grant appropriative rights in water is conditioned on the positive duty of the state to consider the public trust in planning and allocation of water resources and to protect public trust uses whenever possible, avoiding or minimizing harm to public trust interests to the extent feasible.⁵⁶

The Water Board had declined to consider the public trust impacts of DWP's water diversions when approving DWP's appropriative rights to Mono Lake's feeder streams.⁵⁷ Thus, because no such consideration occurred, the court required a study of the Mono Basin water rights and an assessment of the potential and means to integrate the public trust doctrine and the appropriative rights system.⁵⁸ The court stated that the plaintiffs could rely upon the public trust doctrine to request re-evaluation of the Mono Basin allocations.⁵⁹ However, the key to the eventual success of the public trust doctrine and its use by environmentalists to reduce diversions from the Mono Basin lies in the final words of the court's opinion, "We do

50. *Id.*

51. The Court noted such requirements were those not linked to navigation, commerce, recreation, and ecology. *Id.*

52. *Id.*

53. *Id.* at 724.

54. *Id.*

55. *Id.*

56. *Id.* at 728.

57. *Id.*

58. *Id.*

59. *Id.*

not dictate any particular allocation of water.”⁶⁰ This task was left to the Water Board.

Following the *National Audubon* decision, environmental groups pursued a number of lawsuits with the dual purposes of water level and ecosystem preservation. Although federal litigation over air pollution caused by toxic alkali dust storms blowing from the exposed lake bed was ultimately dismissed for lack of a federal common law action and for preemption by federal environmental statutes, state statutes proved to be a better source of legal claims.⁶¹ The Mono Lake Committee and its allies decided to sue to protect trout in the Mono Lake feeder streams, a strategy assisted by a natural phenomenon. During wet winters in the 1980s, the dams overflowed and allowed previously absent trout to enter the Mono Lake feeder streams. The trout became the object of litigation to ensure continuing adequate water levels in the streams and therefore reduced diversions.

Four lawsuits were brought under two sections of the California Fish and Game Code, each applying to one of the four feeder streams that DWP was diverting. The plaintiffs contended that California Fish and Game Code, sections 5937 and 5946 required DWP to let enough water flow in the streams to maintain the fish populations. These suits were called the California Trout lawsuits, and resulted in two appellate court rulings known as *California Trout I*⁶² and *California Trout II*.⁶³ After a series of trial court denials, the California Court of Appeal directed the trial court to set interim flow releases for the four streams, and directed the Water Board to impose immediate conditions on DWP’s licenses to comply with the Fish and Game Code.⁶⁴

In essence, the successful curtailment of diversions that resulted from this litigation marked another shocking victory for the environmental groups. Another victory helped to lessen the perceived strength of DWP’s position. However, the implementation of the court’s order, which was only temporary pending resolution by the Water Board, proved harder. The trial court ordered the establishment of a technical committee to develop plans for restoration of the four feeder streams. The committee existed for four years, from 1990 to 1994, and came up with a variety of restoration plans, some of which were modified over time. DWP regularly balked at the ef-

60. *Id.*

61. *National Audubon Society v. Department of Water*, 869 F.2d 1196 (9th Cir. 1989). In addition, legal demands that the federal government assert its riparian rights accompanying federal lands bordering Mono Lake did not fare well. See Richard P. Shanahan, *The Application of California Riparian Water Rights Doctrine to Federal Lands in the Mono Lake Basin*, 34 HASTINGS L.J. 1293 (1983).

62. *California Trout v. State Water Resources Control Bd.*, 255 Cal. Rptr. 184 (Cal. Ct. App. 1989).

63. *California Trout v. Superior Court*, 266 Cal. Rptr. 788 (Cal. Ct. App. 1990).

64. *Id.* at 793, 802-04.

forts, citing costs, disagreeing with the science of the restoration, having its workers work on the restoration only part-days, and contending that natural recovery was scientifically and politically preferable to human restoration projects. These delays and obstacles required more judicial intervention, but it was clear that without the commitment of DWP to restoration, progress would be slow and difficult.

The environmentalists' persistent activism and efforts at both public education and problem solving were at least as critical to their success at saving Mono Lake as their legal victories were. The Mono Lake Committee, under the leadership of David Gaines, gradually came to exercise significant influence not only over the use of water in the Mono Basin but also over water usage in Southern California generally.

The Committee achieved public recognition of the Mono Lake problem primarily through the "Save Mono Lake" campaign. The campaign generated thousands of bumper stickers with the slogans "Save Mono Lake," "Long Live Mono Lake," "I Save Water For Mono Lake," "Restore Mono Lake," and "Mono Lake: It's For the Birds." This public education campaign included an information center and bookstore in Lee Vining, California with displays and a slide show, interpretive tours and outdoor programs at Mono Lake, publications and a website, information presentations and traveling slide shows for various groups, and both at-school and outdoor informational programs for Los Angeles area youth and children, including programs at Mono Lake itself.⁶⁵ There was a Mono Lake Committee office set up in the Los Angeles area. Many programs were aimed at inner-city residents, including water conservation assistance programs, and eventually the Mono Lake Committee partnered with organizations like the Mothers of East Los Angeles – Santa Isabel, Iglesia Poder de Dios, Korean Youth and Community Center, the Watts Labor Community Action Committee, and others. In addition, the Mono Lake controversy generated a wide range of national and state media attention. Mono Lake appeared in *Harper's*, *National Geographic*, *TIME*, *Smithsonian*, *Audubon*, and *Sports Illustrated* magazines.⁶⁶

The public education campaign generated an unexpected "rise of the environmental ethic and the force with which that ethic would be brought to bear."⁶⁷ The Committee gained more than 20,000 members. The political

65. In addition to the sources cited in note 38, *supra*, see DAVID M. BOLLING, HOW TO SAVE A RIVER: A HANDBOOK FOR CITIZEN ACTION 13 (1994); Bartshe Miller, *Ten Years Later: An Education Program Grows Up With the Trees*, MONO LAKE NEWSLETTER, Winter 2003, at 6-8; Vanderhoff, *supra* note 41; News Release, *Mono Lake Committee Education Program and Website Win State Awards* (Jan. 25, 1999), available at www.livinglakes.org/news/mono990125.htm (last visited Aug. 18, 2003).

66. See HUNDLEY, *supra* note 3.

67. Koehler, *supra* note 1, at 564.

visibility of Mono Lake, and its prominence in the state and national media, may have contributed to the California Legislature's creation of the Mono Lake Tufa State Reserve in 1981, and congressional establishment of the Mono Basin National Forest Scenic Area in 1984 with the support of President Ronald Reagan at the urging of then-United States Senator Pete Wilson. Significantly, the public education campaign had a substantial impact on the attitudes of Southern California residents, the consumers of water diverted from the Mono Lake tributaries. It is too simplistic to say that "Save Mono Lake" bumper stickers actually saved Mono Lake, but their impact should not be underestimated.

Tragically, in January 1988, both David Gaines and his assistant were killed in a car accident five years after the California Supreme Court decision in *National Audubon*. Gaines' wife Sally and their children survived the accident. His successor, Martha Davis – a Stanford graduate with a master's degree in forest science from Yale – proved to be a major force, continuing the work of the Committee's founder. The Committee devoted attention not only to saving Mono Lake but also to seeking creative solutions to the growing demand for water in Southern California, out of concern that reduced diversions from Mono Lake merely would be replaced by harmful diversions from another equally important water basin.

At first, DWP tried to ignore the Mono Lake Committee with its highly educated leaders, graduate students, summer interns, and other activists. Just a month before Gaines' death, in December 1987, DWP finally agreed to work with the Mono Lake Committee to reach a long-term preservation solution. Beginning in 1989, city officials publicly began to acknowledge the group's strength and victories.

For a long time, "DWP portrayed the fight as 'win-lose' – if Mono Lake won, L.A. would lose."⁶⁸ In May 1991 Martha Davis, executive director of the Mono Lake Committee, perceived that this attitude was changing. She believed a compromise could be reached that would make certain Los Angeles receive water it required, while Mono Lake was preserved. The Mono Lake Committee wisely acknowledged early in the conflict that it would not be effective to argue whether Los Angeles had the rights to the water. The Committee instead focused on ways to achieve protection of both Mono Lake and other water sources, while finding ways to address Southern California's water needs. It was also critical to the Committee that reduced diversions from Mono Lake not simply be replaced by water from another ecosystem-supporting body of water and that a solution not trade the health of one ecosystem for the health of another.

68. Dan Morain, *Mono Lake Supporters Raise Wineglasses to Toast a Victory Over L.A.*, LOS ANGELES TIMES, May 12, 1991, at A27.

The previously discussed factors – litigation victories, jeopardy to DWP’s water rights, persistent activism, and shifting public opinion among DWP’s customers and Los Angeles’ voters – had a significant impact in moving the parties toward cooperation because they each chipped away at the strength of DWP’s position. DWP, a powerful entity with a strong organizational culture of aggressive acquisition of water rights, had long been entrenched in its position that it was entitled to water from the Mono Basin. DWP and its officers and managers exhibited classic signs of overestimation of their own position (both strength and rightness) and underestimation of the Mono Lake Committee’s position (again, both strength and rightness). This type of judgment or perception bias results from phenomena like narrow framing of the problem, the endowment effect, positional thinking, emotion, and the role of group norms and processes (i.e., group-think).⁶⁹ DWP failed to anticipate the potential for a decision like *National Audubon Society*, holding that the public trust doctrine (and the environmental values it protects) limited well-established prior appropriation rights. However, more importantly, DWP took a long time to recognize the potential cumulative impact of the Mono Lake Committee’s multiple strategies and efforts. Although DWP remained recalcitrant for over a decade, eventually the strength of its position had been so undermined on so many different fronts that it had to sit down at the bargaining table with the Mono Lake Committee and to consider conservation and reclamation programs.

One significant factor in motivating Los Angeles to consider conservation measures was a drought beginning in 1986. Another important factor in moving the parties toward cooperation was 1989 state legislation that conditionally set aside sixty million dollars to help pay for a substitute supply of water for Los Angeles.⁷⁰ The legislation provided an incentive for cooperation. To qualify for the funds, Los Angeles was required to reach agreement with the Mono Lake Committee concerning the source of the substitute water. The legislation reflected the environmentalists’ concerns about protecting other watersheds from excessive diversions that might substitute for the reductions in diversions from Mono Lake’s tributaries. Fur-

69. See generally Arnold, *supra* note 32; ROBERT H. MNOOKIN ET AL., BEYOND WINNING: NEGOTIATING TO CREATE VALUE IN DEALS AND DISPUTES 156-72 (2000); JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (Daniel Kahneman et al. eds., 1982); Jeffrey J. Rachlinski, *The Uncertain Psychological Case for Paternalism*, 79 NW. U. L. REV. 1165, 1170-73 (2003); Jeffrey J. Rachlinski, *Remedies and the Psychology of Ownership*, 51 VAND. L. REV. 1541 (1998). For examples of public water agencies resisting change and taking rigid, positional, and aggressive approaches with respect to water use, see ROBERT GOTTLIEB & MARGARET FITZSIMMONS, THE THIRST FOR GROWTH: WATER AGENCIES AS HIDDEN GOVERNMENT IN CALIFORNIA (1991); Thompson, *supra* note 26, at 759-61. For discussions of framing and reframing of environmental conflicts, see MAKING SENSE OF INTRACTABLE ENVIRONMENTAL CONFLICTS: CONCEPTS AND CASES (Roy J. Lewicki et al. eds., 2003); Arnold, *supra* note 32, at 12-13.

70. Environmental Water Act of 1989, CAL. WATER CODE §§ 12929–12929.47.

thermore, in 1992, Congress authorized federal funds for reclamation of 120,000 acre-feet of water to offset reduced diversions from Mono Lake.⁷¹

The available funding did not force the parties to agreement quickly, however. The parties did not reach agreement for four years after the legislation. California Assemblyman Phillip Isenberg, a Democrat from Sacramento who co-authored the legislation, was quoted as saying, "Frankly, I never expected it to take so long to give away this money."⁷² To help make the compromise happen, Governor Pete Wilson promised that the State of California would match twenty million dollars in funds beginning in the 1994-1995 fiscal year.

Cooperation finally occurred after Los Angeles Councilwoman Ruth Galanter brokered the negotiations. Ms. Galanter described the negotiations as overcoming paranoia by two groups that distrusted and were openly hostile to one another. Additionally, Los Angeles Mayor Richard Riordan replaced four DWP commissioners with new appointees that were eager to leave the past behind and cooperate. Thus, in addition to the other previously discussed factors, the passage of time and new faces at the negotiation table were important to a resolution of the conflict.

In December 1993, the parties finally reached an agreement. Martha Davis, the Executive Director of the Mono Lake Committee called the agreement "the political equivalent of the Camp David accord."⁷³ The City of Los Angeles agreed to erect a fifty million dollar water reclamation plant, eliminating the need for almost one-half of the water normally withdrawn from the Mono Lake feeder streams. This agreement marked the first time that Los Angeles voluntarily relinquished any of its water rights in favor of an alternate source. In 1997, the representatives of both DWP and the National Audubon Society signed a memorandum agreement for the construction of the water reclamation plant in the San Fernando Valley with an eventual capacity to recycle 35,000 acre-feet of water.

The agreement reached by DWP and the environmentalists facilitated a decision by the Water Board concerning the amount of water that DWP was entitled to divert from the Mono Basin. The decision was made eleven years after the California Supreme Court directed the Board to balance the public trust with DWP's water rights and determine the diversions permitted. Following forty-four days of hearings before the Water Board, the Board – by unanimous vote – required Los Angeles to significantly reduce diversions from the Mono Basin to no more than 12,000 acre-feet per year, graduated over time, until the Mono Lake water level rose sixteen feet.

71. 43 U.S.C. § 390h-11; H.R. CONF. REP. No. 102-1016, at 183 (1992).

72. Marla Cone, *DWP Agrees to Take Less Mono Lake Water Resources: City Plans to Make Up Loss in Reclamation Effort*, LOS ANGELES TIMES, Dec. 14, 1993, at A1.

73. *Id.*

The Water Board decision, known as Decision 1631,⁷⁴ allowed an increase in diversions to 25,000 acre-feet per year once the water level rose by sixteen feet – a level that both sides predicted would take between twenty-five and thirty years to occur.

The Water Board established minimum flow rates for each feeder stream for various yearly precipitation scenarios. The Water Board relied primarily on California Department of Fish and Game recommendations for the flow rates. The Water Board concluded that these feeder stream flows would cause Mono Lake to rise to roughly 6390 feet. However, to comply with federal air quality standards, the Water Board set the required average lake level at 6,392 feet to reduce the blowing of particulates. This level was also chosen to protect public trust resources including the California gull and other migratory birds' nesting habitats, brine shrimp productivity, public access to the lake's tufa towers, compliance with water quality standards, and enhancement of the aesthetic values of the lake. A graduated diversion system was created to meet the average lake level.

Furthermore, the Water Board supplemented Decision 1631 with an order in 1998 establishing stream and waterfowl habitat restoration plans pursuant to the parties' agreement. This 1998 order was designed to effectuate Decision 1631 with ecosystem restoration and monitoring measures, and effectively ended the courts' jurisdiction over the Mono Lake controversy.

Decision 1631 ended the fifteen-year battle the environmental groups launched to stop the negative impacts on Mono Lake when DWP indicated it would not appeal the Water Board's decision. Both the National Audubon Society and the Mono Lake Committee were extremely pleased by the Water Board's decision. The National Audubon Society described the decision as "an environmental victory of lifetime proportions" and the Mono Lake Committee described it as "the breakthrough environmental decision on water," protecting Mono Lake and prompting Los Angeles to find local sources to replace the distant diversions.⁷⁵

An important aspect of the compromise between DWP and the environmentalists was a major reclamation and conservation program. The program was designed to replace reduced diversions from Mono Lake with reduced demand for water appropriations, instead of diversions from other water bodies that would harm the ecosystems and public trust values associated with those water bodies.

74. In the Matter of Amendment of the City of Los Angeles' Water Right Licenses for Diversion of Water From Streams Tributary to Mono Lake City of Los Angeles, Licensee (Cal. State Water Res. Control Bd., Sept. 28, 1994) (Decision 1631).

75. Eric Brazil, *Environmentalists Hail Ruling on Mono Lake Water Use: L.A. Won't Appeal Decision Cutting Draw*, SAN FRANCISCO EXAMINER, Sept. 28, 1994, at A6.

In June 1990, the Los Angeles City Council approved a recycling goal of forty percent of Los Angeles' wastewater by 2010. The East Valley Water Recycling Project will begin distributing water to spreading grounds in Los Angeles which would in turn, within five years, pass through into groundwater basins in the city. This was DWP's biggest water recycling project and would eventually meet almost half of Los Angeles' 2010 recycling goal. An added benefit to this project was that it would also serve irrigation and industrial customers that lie along the route of the Recycling Project pipeline. According to the Mono Lake Committee, the capacity to recycle 35,000 acre-feet of water per year was enough to support 200,000 families per year, helping to offset some of the 78,000 acre-feet reduction in Mono Lake diversions required by the Water Board.

Recent conservation, including the efforts by Los Angeles residents, has allowed the existing Los Angeles water supply to stretch further. In fact, even though an additional one million people moved into Los Angeles between 1975 and 1995, the city's water usage did not change. Other projects including the West Basin and East Valley reclamation facilities, other reclamation sources, and other conservation efforts are expected to recycle 141,250 acre-feet per year. In addition, the California Urban Water Conservation Council has developed a list of water conservation "Best Management Practices" expected to save 700,000 acre-feet of water annually in Southern California.

DWP has undertaken numerous other aggressive conservation strategies. To encourage conservation, Los Angeles' water rates are about twenty percent higher during the summer – a high water use season. DWP also provides Los Angeles residents with water conservation tools. For example, a Los Angeles resident may request free water conservation kits that include low-flow showerheads, water displacement bags for toilets, and dye tablets to help detect water leaks. A Los Angeles resident may also receive up to one hundred fifty dollars in rebates from DWP for purchasing and installing a high-efficiency washing machine. Similarly, DWP's Ultra-Low-Flush toilet rebate program provides a Los Angeles resident up to one hundred dollars for replacing a regular toilet.

The most important facet of these reclamation and conservation programs is that the programs do not draw new water from other sources. The programs reuse, recycle, and conserve used water. This is a major achievement for the environmentalists. Not only did they achieve preservation of the aesthetic and ecological values at Mono Lake, as a result, the City of Los Angeles did not turn to another water source in the state and also damage that source.

Although it is too soon to make a definitive evaluation of the Mono Lake agreement's effectiveness, there are promising developments in three areas that suggest the outcome of this conflict has had benefits. First, the

level of Mono Lake has risen. As of October 1, 2001, Mono Lake was at 6382.8 feet above sea level, which was a gain of 8.2 feet since the Water Board's Decision 1631 in 1994. Although the lake level experienced some decreases in 2000 and 2001 despite near normal runoffs, higher than normal runoff between 1995 and 1999 has put the lake level ahead of its schedule under normal runoff conditions to reach the target of 6391 feet by 2021 (twenty-six years after Decision 1631). On November 12, 2003, the lake level was at 6,381.3 feet,⁷⁶ which was about one and one-half feet below its October 2001 level, but there are likely to be fluctuations depending on whether the year is wet or dry. Nonetheless, there is progress towards the target lake level. Furthermore, there have been increases in water flows in the four creeks that were subject to the litigation, judicial decisions, and Water Board orders, and efforts are underway to restore stream channels and flows, and riparian habitats and ecosystems, despite the presence of damage from over forty years of excessive diversions.

Second, Southern Californians have changed their water usage practices. The conservation and reclamation programs described above have had an impact. In 1998, the Metropolitan Water District (MWD) service area, which covers a significant portion of Southern California including Los Angeles (DWP), used the same amount of water as it had in 1983, fifteen years earlier, despite a population growth of about thirty percent. Indeed, MWD's water sales dropped from 2.6 million acre-feet of water in 1990 to 1.5 million acre-feet of water in 1993. Perhaps even more significantly, MWD and DWP are engaged in an effort to stabilize their supplies of water and become drought-resistant by pursuing five strategies: (1) conservation, which reduced the usage of water per person or per unit of economic activity; (2) reclamation, which reuses water; (3) storage, which places water in reservoirs when it is readily available for use when it is more scarce; (4) groundwater replenishment and storage programs; and (5) purchases of available water supplies in water markets. It would appear that Southern California water agencies are responding to the potential uncertainty to water supplies posed not only by drought but also by litigation and judicial and administrative decisions limiting water rights to protect the environment. The Mono Lake conflict has contributed to a shift in Southern California water policy from rights-based approaches to management-based approaches.

Third, the Mono Lake Committee and other environmental groups have become active in other water law and policy issues. For example, the Committee works with Los Angeles area government and citizen groups on conservation ideas and policies as part of the Los Angeles Conservation Council. The Committee also has promoted state bonds for parks and water,

76. "The 11/12/03 Level of Mono Lake was 6381.3 feet above sea level . . ." Mono Lake Committee, *Current Lake Level: Tracking the Progress of a Rising Lake*, available at <http://www.monolake.org/live/level.htm> (last visited Nov. 18, 2003).

become involved in multi-stakeholder negotiations over the use and quality of water in the San Francisco Bay Delta (known as the CALFED process), and lobbied for Federal ultra-low flush toilet regulations. The Mono Lake Committee, though, remains active in new issues affecting Mono Lake. These issues include a controversy over use of a local ranch's water supply for stream restoration, the use of boats on Mono Lake including motorized boats from adjoining private lands, threats to the Mono Lake Tufa State Reservation boundaries, and the widening of U.S. Highway 395, which runs alongside Mono Lake, because the widening would threaten both wetlands and the eventual shoreline of Mono Lake.⁷⁷ These conflicts illustrate how the underlying issues of environmental conservation are rarely resolved in a single judicial decision and how the process of working out an environmental ethic in practice is ongoing and never complete.

The last point returns us to the question of just how effective environmental law is. We now turn to the five lessons from the Mono Lake Committee's twenty-five years of work.

IV. LESSONS FROM MONO LAKE

1. *The Ecology and Psychology of Place*

The first lesson is that the pursuit of an environmental ethic, or conservation goals, often begins with the ecology and psychology of a place. A particular place in the natural environment – such as Mono Lake – has ecological features and importance that form an initial point of human connectiveness to the natural environment. Threats to the health and integrity of the place generate concern and activism to protect the place. Abstract principles of environmental ethics and concern for global environmental problems may facilitate an individual's attentiveness to the surrounding natural environment and/or may develop out of points of human connection with specific places. But abstractions and theories do not often motivate behavior in the

77. MONO LAKE COMMITTEE, STAYING ON WATCH: PROTECTING MONO LAKE TODAY (2003) (informational brochure on file with the *Wyoming Law Review*); FRANCES SPIVY-WEBER & GEOFFREY MCQUILKIN, SPECIAL REPORT TO MONO LAKE COMMITTEE SUPPORTERS: WORKING TOGETHER TO PROTECT THE LAKE WE SAVED (2003) (informational brochure on file with the *Wyoming Law Review*); Christina Reed, *Whose Lake Is It, Anyway?: Part Two: Mono Lake Protection, Policy, and Politics*, MAMMOTH TIMES, Sept. 25, 2003; Lee Romney, *The State Highway Proposal Hits Mono Lake Roadblock Protest*, LOS ANGELES TIMES, Aug. 4, 2002, at B6; *Caltrans' Mono Mistake (Editorial)*, LOS ANGELES TIMES, July 8, 2002, at B10; Jane Braxton-Little, *Mono Lake Victory Over Los Angeles Turns Into Local Controversy*, HIGH COUNTRY NEWS, Dec. 9, 1997; Mono Lake Committee, *Mono Lake Tufa State Reserve Threatened*, available at www.monolake.org/newsletter/00wpring/15.htm (last visited Nov. 19, 2003). In addition, the rising lake levels resulted at least initially in a stratification of fresh water and saline water, known as meromixis, which depressed the growth of algae, thus reducing the quantity of brine shrimp and alkali flies, which in turn adversely affected bird feeding and breeding. See Braxton-Little, *supra* note 38.

absence of a concrete, particularistic place-based context for understanding ecology and human relationships with nature.

The starting point of the Mono Lake Committee's formation and work was a place: Mono Lake. Relationships of people with a particular environment, not abstract principles by themselves, led to environmental activism and to the development and pursuit of an environmental ethic.

The founders – and later, to varying degrees, a multitude of supporters – of the Mono Lake Committee developed a holistic set of intertwined connections to the Mono Lake environment. David Gaines began his activism by studying birds at Mono Lake. Other founding members did field studies on birds (their quantities, species diversity, feeding patterns, migration patterns, nesting patterns, and the like), lake levels, water chemistry, brine shrimp, alkali flies, the role of the feeder streams, and other ecological features.⁷⁸ Over time, the founding members of the Mono Lake Committee came to understand the ecology of Mono Lake, the impact of DWP's diversions, the losses to nature and to society that were in the process of occurring, and the value of saving Mono Lake. They gathered data that were essential in making the case to save Mono Lake. But they came to connect with the Mono Lake ecosystem in deep, multidimensional ways:⁷⁹ sensory experience, study and cognition, emotion and passion, social group processes and cultural influences, behavior and action, and that dimension that involves volition, commitment, faith, and trust.⁸⁰ What started as an ecology of place quickly became for most, perhaps all, of the Mono Lake activists a psychology of place. They became attached to Mono Lake as a place of beauty and wonder as well as ecological function, and as a threatened place worth saving. Moreover, the leaders of the Mono Lake Committee helped others, including many urban residents in Southern California and inner-city children specifically, to develop points of connection and relationships with the Mono Lake ecosystem, through educational programs, literature, mass media features, a visitors' center at Mono Lake, guided tours, and similar

78. See McQuilkin, *supra* note 40.

79. For discussions of multi-dimensional ways in which people connect to the environment, see, e.g., PERSPECTIVES ON ENVIRONMENT AND BEHAVIOR: THEORY, RESEARCH, AND APPLICATIONS (Daniel Stokols ed., 1997); READINGS IN ENVIRONMENTAL PSYCHOLOGY: LANDSCAPE PERCEPTION (Anita Sinha ed., 1995); E.N. ANDERSON, ECOLOGIES OF THE HEART: EMOTION, BELIEF, AND THE ENVIRONMENT (1996); ERAZIM KOHAK, THE EMBERS AND THE STARS: A PHILOSOPHICAL INQUIRY INTO THE MORAL SENSE OF NATURE (1984); CLAUDE LEVY-LEBOYER, PSYCHOLOGY AND ENVIRONMENT (David Canter & Ian Griffiths trans., 1982); EUGENE VICTOR WALTER, PLACEWAYS: A THEORY OF THE HUMAN ENVIRONMENT (1988); Fred R. Myers, *Ways of Placemaking*, in CULTURE, LANDSCAPE, AND THE ENVIRONMENT 72-110 (Kate Flint & Howard Morphy eds., 2000).

80. I do not mean to make any kind of theological statement that faith is purely a matter of human will. See, e.g., MARTIN LUTHER, BONDAGE OF THE WILL (J.I. Packer & O.R. Johnston trans., 1957) (1525). I mean merely to indicate that matters of faith, belief, trust, commitment, and the like are not purely subsets of human cognition and logic or of human emotion. Often, one's commitments and beliefs exist despite cognitive and emotional processes.

efforts. As the public's experiences with Mono Lake grew, so did support for saving Mono Lake even at the cost of less water for Los Angeles.

The role of place in the development and pursuit of an environmental ethic is hardly surprising in light of insights from psychology, philosophy, and other disciplines about the nature and process of moral development, emphasizing concrete, contextual, particularistic experiences and relationships in the real world, not abstract logic. The traditional understanding of moral development as stages of movement toward hierarchical, abstract reasoning about moral principles, which was advanced most completely by psychologist Lawrence Kohlberg, has been both challenged by evidence that moral commitments develop contextually, concretely, and relationally.⁸¹ In particular, psychologist Carol Gilligan's work on the ethic of care based on "a web of relationships" emphasizes context and particularity,⁸² but other psychologists document the importance of concrete experiences in the development of ethics and morality.⁸³ Furthermore, according to the philosopher Georg Wilhelm Friedrich Hegel, people develop their personhood and identity as a free and ethical being by interacting with, and exercising their will with respect to, both the physical world and the social community.⁸⁴ Another philosopher, Max Horkheimer, asserts that human relationship with nature is critical to valuing nature as a meaningful end in itself, and that both abstract reason and utilitarian treatment of nature alienate humans from nature.⁸⁵ The theologian Dietrich Bonhoeffer, famous not only for his writings on ethics but also for acting on his faith at great cost (ultimately his execution by Nazi German officials), rejects an abstract theoretical or systematic ethics for a concrete, formative ethics in the real world (i.e., "the concrete place").⁸⁶

81. LAWRENCE KOHLBERG, *THE PHILOSOPHY OF MORAL DEVELOPMENT: MORAL STAGES AND THE IDEA OF JUSTICE* (1981); LAWRENCE KOHLBERG ET AL., *MORAL STAGES: A CURRENT FORMULATION AND A RESPONSE TO CRITICS* (1983); LAWRENCE KOHLBERG, *THE PSYCHOLOGY OF MORAL DEVELOPMENT: THE NATURE OF MORAL STAGES* (1984). See also LAWRENCE KOHLBERG, *CONSENSUS AND CONTROVERSY* (Sohan Modgil & Celia Modgil eds., 1985).

82. CAROL GILLIGAN, *IN A DIFFERENT VOICE: PSYCHOLOGICAL THEORY AND WOMEN'S DEVELOPMENT* 32 (1982). See also *MAPPING THE MORAL DOMAIN* (Carol Gilligan et al. eds., 1988); *MAKING CONNECTIONS* (Carol Gilligan et al. eds., 1990); SUSAN J. HEKMAN, *MORAL VOICES, MORAL SELVES: CAROL GILLIGAN AND FEMINIST MORAL THEORY* (1995).

83. *MORAL DEVELOPMENT THROUGH SOCIAL INTERACTION* (William M. Kurtines & Jacob L. Gewirtz eds., 1987); Elliot Turiel et al., *Social Contexts in Social Cognitive Development*, in *HANDBOOK OF MORAL BEHAVIOR AND DEVELOPMENT, VOLUME 2: RESEARCH* 307-32 (William M. Kurtines & Jacob L. Gewirtz eds., 1991).

84. See GEORG WILHELM FRIEDRICH HEGEL, *HEGEL'S PHILOSOPHY OF RIGHT* (T.M. Knox trans., 1967) (1821); PAUL FRANCO, *HEGEL'S PHILOSOPHY OF FREEDOM* 173-74 (1999); MARGARET JANE RADIN, *REINTERPRETING PROPERTY* (1993) (developing a personhood theory of property drawn primarily on the philosophy of Hegel, but also that of Immanuel Kant).

85. MAX HORKHEIMER, *ECLIPSE OF REASON* 92-127 (Continuum Books 1985) (1947).

86. DIETRICH BONHOEFFER, *ETHICS* 64-88, 85 (Eberhard Bethge ed., Neville Horton Smith, trans., First Collier Books 1985) (1949).

More specifically, there is a growing body of theoretical and empirical work on the importance of an individual's concrete experience with particular natural environments to the development of an environmental ethic. An extensive empirical study of children's development of environmental attitudes and morality by psychologist Peter H. Kahn, Jr. describes the critical importance of direct, concrete experiences with nature to the development of an environmental ethic and to a healthy human relationship with nature.⁸⁷ Kahn's work is just one of many studies in psychology, philosophy, planning, geography, anthropology, political science, and even evolutionary biology about the human sense of place and affinity for nature arising out of experience with nature.⁸⁸ A recent empirical study of environmental activism in California documents the rise of watershed-based organizations pursuing conservation and restoration of watersheds in what the authors call "place-based activism."⁸⁹ In the Intermountain West, there are scores of place-based environmental groups like the Powder River Basin Resource Council, Weber County River Keeper, San Luis Valley Ecosystem Council, Clark Fork Coalition, and Friends of the Animas River.⁹⁰ Furthermore, legal scholars like Charles Wilkinson and Eric Freyfogle have used case studies to show that the pursuit of an environmental ethic in practice frequently involves conscious human connections to particular places like landscapes, watersheds, and patches of wildlife habitat, usually in the par-

87. PETER H. KAHN, JR., *THE HUMAN RELATIONSHIP WITH NATURE: DEVELOPMENT AND CULTURE* (1999). For his discussion of the role of experience with nature and his call for a "constructivist environmental education," see *id.* at 213-27. "[E]nvironmental education . . . must invite students to look and see, not so as to acquire another 'fact' about nature but rather to value it, through experiences lived and intimacy felt." *Id.* at 222. However, Kahn adopts Kohlberg's hierarchical concept of moral development as the theoretical foundation of his study. See *id.* at 53-58.

88. See *THE BIOPHILIA HYPOTHESIS* (Stephen R. Kellert & Edward O. Wilson eds., 1993); *PERSPECTIVES ON ENVIRONMENT AND BEHAVIOR*, *supra* note 79; *READINGS IN ENVIRONMENTAL PSYCHOLOGY*, *supra* note 79; TIMOTHY BEATLEY & KRISTY MANNING, *THE ECOLOGY OF PLACE: PLANNING FOR ENVIRONMENT, ECONOMY, AND COMMUNITY* (1997); THOMAS R. HUFFMAN, *PROTECTORS OF THE LAND AND WATER: ENVIRONMENTALISM IN WISCONSIN, 1961-1968* (1994); KOHAK, *supra* note 79; LEVY-LEBOYER, *supra* note 79; ROBERT J. MAXWELL, *CONTEXTS OF BEHAVIOR: ANTHROPOLOGICAL DIMENSIONS* (1983); PHILIP SHABECOFF, *EARTH RISING: AMERICAN ENVIRONMENTALISM IN THE 21ST CENTURY* 76-81 (2000); MITCHELL THOMASHOW, *BRINGING THE BIOSPHERE HOME: LEARNING TO PERCEIVE GLOBAL ENVIRONMENTAL CHANGE* 73-103 (2002); WALTER, *supra* note 79; EDWARD O. WILSON, *BIOPHILIA* (1984); Myers, *supra* note 79; Nancy Perkins Spyke, *The Land Use-Environmental Law Distinction: A Geo-Feminist Critique*, 13 *DUKE ENVTL. L. & POL'Y F.* 55, 89-94 (2002).

89. John T. Woolley et al., *The California Watershed Movement: Science and the Politics of Place*, 42 *NAT. RESOURCES J.* 133 (2002).

90. See the American Rivers website, available at www.amrivers.org/groups (last visited Oct. 28, 2003).

ticular social community that exists in that place.⁹¹ Writing about the Intermountain West, Wilkinson asserts:

We need to develop an ethic of place. It is premised on a sense of place, the recognition that our species thrives on the subtle, intangible, but soul-deep mix of landscape, smells, sounds, history, schools, storefront, neighbors, and friends that constitute a place, a homeland. An ethic of place respects equally the people of a region and the land, animals, vegetation, water, and air.⁹²

It is interesting to note that courts deciding environmental law issues frequently give in their legal opinions detailed descriptions of the special characteristics and features of the place in question, including its ecological qualities and social meanings, as was evident in how the California Supreme Court began its *National Audubon Society* opinion.⁹³

91. WILKINSON, *THE EAGLE BIRD*, *supra* note 15, at 132-61 (1992); FREYFOGLE, *BOUNDED PEOPLE, BOUNDLESS LANDS*, *supra* note 15, at 151-70. For a more theoretical discussion of concrete person-nature relationships and the development of an ethic of environmental stewardship, see Arnold, *supra* note 15, at 305-06. For a concrete example of the role of place in achieving environmental conservation, consider the contention that overnight float trips on the Rio Chama for City of Albuquerque officials convinced them to abandon plans for a reservoir that would have destroyed Rio Chama ecosystems and rapids. See BOLLING, *supra* note 65, at 72.

92. WILKINSON, *supra* note 15, at 137-38.

93. *National Audubon Society v. Superior Court*, 658 P.2d 709, 710-11 (Cal. 1983).

Mono Lake, the second largest lake in California, sits at the base of the Sierra Nevada escarpment near the eastern entrance to Yosemite National Park. The lake is saline; it contains no fish but supports a large population of brine shrimp which feed vast numbers of nesting and migratory birds. Islands in the lake protect a large breeding colony of California gulls, and the lake itself serves as a haven on the migration route for thousands of Northern Phalarope, Wilson's Phalarope, and Eared Grebe. Towers and spires of tufa on the north and south shores are matters of geologic interest and a tourist attraction.

Although Mono Lake receives some water from rain and snow on the lake surface, historically most of its supply came from snowmelt in the Sierra Nevada. Five freshwater streams—Mill, Lee Vining, Walker, Parker, and Rush Creeks—arise near the crest of the range and carry the annual runoff to the west shore of the lake. . . .

As a result of . . . diversions [by Los Angeles Department of Water and Power], the level of the lake has dropped; the surface area has diminished by one-third; one of the two principal islands in the lake has become a peninsula, exposing the gull rookery there to coyotes and other predators and causing the gulls to abandon the former island. The ultimate effect of continued diversions is a matter of intense dispute, but there seems little doubt that both the scenic beauty and ecological values of Mono Lake are imperiled.

Behind the emphasis on the specialness of a particular place lurks three dangers, though. The first is a consumer attitude towards the place: to treat it as if it exists for human enjoyment and satisfaction, or more selfishly, for the personal enjoyment and satisfaction of the person who is developing a relationship with the place. There is plenty of evidence that Americans treat the natural environment as a recreational or aesthetic commodity, and overexploit places of striking natural wonder like Yellowstone, Yosemite, or the Grand Canyon with human presence and consumptive experiences.⁹⁴ These experiences do not necessarily result in a meaningful environmental ethic. The renowned ecologist Aldo Leopold, whose land ethic is a pillar of environmental ethics today, not only wrote of specific places of ecological value but also of people who treated specific places as outdoor recreation trophies to be possessed, consumed, and exploited. He argued that a true land ethic requires society-wide changes in both attitudes and behaviors that internalize the lessons of conservation ecology, not merely good intentions and superficial appreciation of nature.⁹⁵

The second danger is to see only the place and not its part in the larger web of ecological processes and relationships or in the larger work of conservation. Many of our most critical environmental problems are not place-based but instead have global dimensions.⁹⁶ For example, global warming, overexploitation of fisheries, or worldwide loss of biodiversity are not readily addressed with an ethic of place. And what about the places that do not have a David Gaines or Martha Davis or Mono Lake Committee to champion them? What kind of environmental ethic do we have if for every Mono Lake that we save, we let dozens of watershed ecosystems suffer and decline?

The third danger of a place-based environmental ethic is to focus on saving the extraordinary or the special, instead of embracing the need to save the ordinary. Holly Doremus has insightfully identified the problems of the psychological and institutional bias towards saving special places and spe-

Id. See also *Just v. Marinette County*, 201 N.W.2d 761, 766 (Wis. 1972) (describing the geography, trees and vegetation, and hydrology of wetlands subject to regulation preserving their natural and indigenous uses); *City of Monterey Dunes v. Del Monte Dunes at Monterey, Ltd.*, 526 U.S. 687, 694-95 (1999) (describing the environmentally degraded and marginal ecological characteristics of an ocean-front parcel that the city had taken by continually refusing development permits of any sort); *Palazzolo v. Rhode Island*, 533 U.S. 606, 611-13 (2001) (describing the characteristics of land containing undeveloped coastal wetlands that were subject to development prohibition that did not constitute a per se taking).

94. See generally BENTON & SHORT, *supra* note 14, at 196-204; Sarah Krakoff, *Mountains Without Handrails . . . Wilderness Without Cellphones*, 27 HARV. ENVTL. L. REV. 417 (2003).

95. LEOPOLD, *A SAND COUNTY ALMANAC*, *supra* note 13, at 165-87.

96. See, e.g., CHRISTOPHER D. STONE, *THE GNAT IS OLDER THAN MAN: GLOBAL ENVIRONMENT AND HUMAN AGENDA* (1993). But see Thomashow, *supra* note 88, at 105-90 (discussing places as starting points that can be transcended to develop a perception of the entire biosphere).

cies of charismatic appeal, which is at odds with achieving biodiversity, requiring strategies to save places and species that seem ordinary to us.⁹⁷ Is it possible that efforts to saving the distinctive and special Mono Lake serve as a poor example of what pursuing an environmental ethic should represent? There is an appeal to save a place as awe-inspiring as Mono Lake, but it may be much harder to make the case to save other, less striking places and ecosystems.

The Mono Lake Committee largely avoided or minimized these three dangers of place-based environmental ethics in several ways. First, the Committee began with concern for a place but translated this connectedness to Mono Lake itself into broader environmental goals and values. For example, Mono Lake Committee leaders did not simply declare victory when it became clear under *National Audubon Society* and the California Trout litigation that DWP would have to reduce its diversions. Instead, the Committee leaders were concerned that DWP would find water from another ecologically valuable watershed. They worked with DWP to find non-consumptive solutions so that the greater environmental values of conservation, not just protection of Mono Lake, would be served. Similarly, Mono Lake Committee leaders have become involved in water conservation and environmental conservation issues that do not directly affect Mono Lake, such as the CALFED process. Second, the Committee is concerned about the ecological health and integrity of Mono Lake and has attempted to balance the public enjoyment of the lake that is necessary to build public support, involvement, and connectedness, with limits on human use and enjoyment of the lake that disrupts wildlife or harms the lake's ecology. Third, the Mono Lake Committee's educational programs have been designed to increase the public's overall ecological awareness and commitments to environmental ethics, not just build support for protecting Mono Lake. For example, there are anecdotal stories of inner-city Los Angeles school children who increased their awareness of watershed environments in their own communities and interest in protecting the environment because of the Committee's educational programs. Finally, it is not so clear from a public policy or legal perspective that Mono Lake was considered special or extraordinary until the Mono Lake Committee scientists and activists began to call attention to its features and values. Whether a place or thing in the natural environment is "ordinary" or "special" often has socio-cultural meaning, and is not static.⁹⁸ What is considered ordinary or even undesirable at one point in time may be seen as quite special or desirable at a later point in

97. Holly Doremus, *Biodiversity and the Challenge of Saving the Ordinary*, 38 IDAHO L. REV. 325 (2002).

98. See generally MAX OELSCHLAEGER, *THE IDEA OF WILDERNESS* (1991). See also Eeva Berglund & David G. Anderson, *Introduction: Towards an Ethnography of Ecological Privilege*, in *ETHNOGRAPHIES OF CONSERVATION: ENVIRONMENTALISM AND THE DISTRIBUTION OF PRIVILEGE* 1-15 (David G. Anderson & Eeva Berglund eds., 2003).

time, as is evident from historical changes in attitudes towards wetlands in the United States.⁹⁹

2. *The Roles and Limits of Law*

The second lesson from Mono Lake is that legal doctrines and environmental litigation are often necessary but insufficient means of achieving environmental conservation.¹⁰⁰ This is what I call “law’s bounded effectiveness”¹⁰¹ – effective in a limited, or bounded, way. In general, environmental law does not – of its own force and operation – resolve environmental disputes, protect the natural environment from human harm, or implement an environmental ethic. Instead, environmental law is a tool to shift or restructure power and expectations in environmental disputes and to facilitate solutions and conservation-regarding behaviors in non-judicial and non-legal arenas.

Only infrequently do courts actually mandate exactly what has to be done to protect the environment. Environmental law is largely administrative law – judicial review of regulatory agencies – and except in areas like toxic torts and contamination cleanup actions, differs significantly from other areas of the law in which courts award specific amounts of damages, enjoin precise behaviors, quiet title to property, or impose criminal sanctions. Instead, in environmental litigation courts usually validate or invalidate action taken by a regulatory agency, or declare that the regulatory agency violated its duty to take action when it did not do so.¹⁰² Where the regulatory agency’s decision is overturned, the court often does not substitute its own decision but instead mandates the agency to use different standards, information and evidence, and/or processes in proceeding further to address the dispute or problem. The new agency action (or sometimes inaction) may return to the court for review and evaluation in light of the prior decision, but it takes a bold judge to create a specific, detailed plan of how the natural environment shall be managed by government and private sector parties.¹⁰³

99. Robert E. Beck, *The Movement in the United States to Restoration and Creation of Wetlands*, 34 NAT. RESOURCES J. 781, 781-89 (1994); Daryn McBeth, *Wetlands Conservation and Federal Regulation: Analysis of the Food Security Act’s “Swampbuster” Provisions as Amended by the Federal Agriculture Improvement Act of 1996*, 21 HARV. ENVTL. L. REV. 201, 214-18 (1997). *But see* Fred P. Bosselman, *Limitations Inherent in Title to Wetlands at Common Law*, 15 STAN. ENVTL. L.J. 247 (1996) (documenting the historical protection of wetlands in England).

100. Arnold, *supra* note 32, at 2; Arnold & Jewell, *supra* note 1, at 4, 21.

101. *Cf.* Arnold & Jewell, *supra* note 1 (“litigation’s bounded effectiveness”).

102. For discussions of the administrative law characteristics of environmental law, *see* Sive, *supra* note 29; Tarlock, *Rule of Law I*, *supra* note 12, at 575-85.

103. For an example of litigation’s limits, *see* BRUCE A. ACKERMAN & WILLIAM T. HASSLER, *CLEAN COAL, DIRTY AIR* 21-25 (1981) (demonstrating how environmental litigation

The *National Audubon Society* case is a perfect example of the tendency of courts to announce broad rules of law but leave the specifics of implementation, conflict resolution, and problem solving to the parties and regulatory agencies. The California Supreme Court did not mandate any particular water level for Mono Lake, stream flows of the four feeder streams, or quantity of water that DWP was entitled to appropriate. The Court did not even declare that prior appropriation rights were void when they adversely affect public trust values, or alternatively that the public trust doctrine does not apply to prior appropriation rights. Instead, the Court declared that the state has a fiduciary duty to balance the benefits of settled rights to appropriate water with the public interest protected by the public trust values. The Court further directed the State Water Resources Control Board to reevaluate DWP's appropriation rights in light of the state's public trust duties, but left the ultimate resolution to the Water Board. The decision paved the way to a negotiated solution.¹⁰⁴

Even when environmental litigation results in a mandate of a specific action or outcome, generally the underlying problems or issues are much larger and more complex than the legal issues that were litigated and decided.¹⁰⁵ Furthermore, the losing party often has many options for resisting, delaying, avoiding, or limiting compliance with the judicially mandated outcome, despite our society's general respect for the rule of law. Typically the broader and deeper conflicts underlying environmental litigation persist long after judicial opinions and orders that were first perceived as definitive resolutions of disputes. DWP's dilatory tactics and resistance to court-mandated feeder stream restoration illustrate this point.

Therefore, parties using litigation to address environmental problems and conflicts would be well advised to keep the functions, benefits, limits, and costs of litigation and judicial "resolution" in perspective. Similarly, judges tempted to mandate specific outcomes might consider that such orders might be ineffective and actually impede more durable and creative solutions to the problem that bridge its legal and non-legal dimensions. Environmental litigation and judicial decisions can serve valuable functions in the pursuit of an environmental ethic and efforts to achieve environmental conservation when they: (1) readjust the relative bargaining power of the

fails to achieve long-range environmental planning and even detracts from it by allow agencies to evade compliance with court orders, focusing on narrow issues and small victories, and involving a seemingly endless series of procedures and hearings). *See also* Arnold, *supra* note 32 (summarizing case studies in water rights disputes documenting that judicial decisions rarely resolved the conflicts).

104. Jewell & Arnold, *supra* note 1, at 173-74; Arnold & Jewell, *supra* note 1, at 14.

105. Arnold, *supra* note 32. *See also* ACKERMAN & HASSLER, *supra* note 103, at 21-25; Cole, *supra* note 31, at 651-52, 663-67; David J. Hayes, *Land Conservation and Restoration: Moving to the Landscape Level*, 21 VA. ENVTL. L.J. 115 (2002) (arguing for place-based innovations in environmental conservation and restoration to achieve ecosystem health that is not possible solely by law and legal solutions).

parties by upsetting the status quo and encourage both negotiation and innovation by adding a moderate degree of outcome-uncertainty to the conflict at hand; (2) facilitate innovative and flexible problem solving by the dispute participants, whose problems are complex, involve both legal and non-legal dimensions and institutions, while also setting, from the outset, very broad but very clear boundaries on the type and range of solutions that will be considered legitimate; and (3) affirm the reasonable results of legitimate collaborative problem-solving processes, thus discouraging participants from “opting out” of problem-solving efforts by coming back to court. Thus, for example, litigation under the Endangered Species Act has in a number of situations served its purpose well to facilitate regional habitat conservation planning efforts or watershed planning by which participants sought creative and workable solutions to conserve valuable and threatened habitat and ecosystems.¹⁰⁶ Furthermore, courts have tended to reject post-negotiation challenges by both environmentalists and resource-users to the negotiated results of open and fair multi-stakeholder processes in these situations.¹⁰⁷ In contrast, there has been a tendency by courts to accept legal challenges to negotiated solutions to groundwater overdraft problems, thus resulting in continued aquifer degradation and instability in addressing groundwater conservation problems that are larger than the legal issues decided by the courts.¹⁰⁸

106. David H. Getches, *The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States' Role?*, 20 STAN. ENVTL. L.J. 3 (2001); Bradley C. Karkkainen, *Collaborative Ecosystem Governance: Scale, Complexity, and Dynamism*, 21 VA. ENVTL. L.J. 189, 229-30 n.92; A. Dan Tarlock, *The Creation of New Risk Sharing Water Entitlement Regimes: The Case of the Truckee-Carson Settlement*, 25 ECOLOGY L.Q. 674 (1999). For discussions of regional habitat conservation planning, see Craig Anthony (Tony) Arnold, *Conserving Habitats, Building Habitats: The Emerging Impact of the Endangered Species Act on Land-Use Development*, 10 STAN. ENVTL. L.J. 1 (1991); JUDITH A. LAYZER, *THE ENVIRONMENTAL CASE: TRANSLATING VALUES INTO POLICY* 319-47 (2002). A significant example of environmental law and litigation resulting in multi-stakeholder negotiation and collaborative problem-solving is the famous CALFED process to solve water use problems affecting water quality and threatened species in the San Francisco Bay-Delta system. See HUNDLEY, *supra* note 3, at 398-425; SAX ET AL., *supra* note 8, at 55-65; Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341 (1996); Patrick Wright, *Fixing the Delta: The CALFED Bay-Delta Program and Water Policy Under the Davis Administration*, 31 GOLDEN GATE U. L. REV. 331 (2001). But for an example of a struggling effort at collaborative problem-solving in the shadow of endangered species, water supply, and water quality legal controls, see John D. Echeverria, *No Success Like Failure: The Platte River Collaborative Watershed Planning Process*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 559 (2001).

107. See, e.g., *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976 (9th Cir. 1985); *W.W. Dean & Assoc. v. City of S. San Francisco*, 236 Cal. Rptr. 11 (Cal. App. 1987); Tarlock, *Rule of Law I*, *supra* note 12, at 601-03 (discussing ineffective litigation “success” of environmental groups challenging U.S. Fish and Wildlife Service’s failure to designate critical habitat for California Gnatcatcher because of alternative negotiation of “Natural Communities Conservation Plan” for Orange County area). But see Tarlock, *Rule of Law II*, *supra* note 12 (discussing examples of cases striking down negotiated conservation plans for wildlife habitat that were insufficiently funded and purely voluntary).

108. See, e.g., *City of Barstow v. Mojave Water Agency*, 5 P.3d 853 (Cal. 2000) (striking down applicability of negotiated solution to opt-out groundwater user); *South Plains Lamesa*

The former is an example of environmental litigation that plays its proper role, whereas the latter is an example of environmental litigation that overextends the role of law.

There is no doubt that the contention that the role of environmental law is not to resolve disputes but instead to upset the status quo is controversial. The use of environmental regulation to upset well-settled expectations protected by long-established property rights has been criticized as economically inefficient – i.e., as undermining wealth maximization or optimal outcomes in society.¹⁰⁹ The Mono Lake case itself has been used as an example of this inefficiency.¹¹⁰ However, as the Mono Lake case study illustrates, it would be the judicial protection – or perhaps ossification – of historic expectations that would be inefficient or suboptimal in four respects.

First, long-standing property rights were often acquired without the property owner paying their true cost. In particular, often the property owner did not internalize the negative externalities associated with the use of the property.¹¹¹ In the case of Mono Lake, the DWP acquired prior appropriation rights, economic benefits recognized and protected by law, without considering or bearing the costs to the Mono Lake ecosystem, neighboring communities, or public from ultimate destruction of the lake by water diversion.

Second, rigid judicial protection of settled expectations and entitlements often inhibits wealth-maximizing innovation and change by the property owner.¹¹² Both theoretical and empirical work in psychology and organizational behavior show us that a variety of judgment biases in both individuals and organizations result in an irrational, or at least inefficient, risk-

R.R. v. High Plains Underground Water Conserv. Dist. No. 1, 52 S.W.3d 770 (Tex. App. 2001) (holding that conservation districts created by state legislature in compromise attempt to manage and prevent groundwater mining could not prohibit groundwater withdrawals under absolute rule of capture).

109. See Arnold, *supra* note 15, at 327-31 (describing expectations concepts of property); Paul B. Stephan, *Redistributive Litigation—Judicial Innovation, Private Expectations, and the Shadow of International Law*, 88 VA. L. REV. 789, 799-802 (2000); Barton H. Thompson, Jr., *Judicial Takings*, 76 VA. L. REV. 1460-63 (1990). But see Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509 (1986) (questioning typical economic thinking about the impact of uncertainty and change in the law).

110. TERRY L. ANDERSON & PAMELY SNYDER, *WATER MARKETS: PRIMING THE INVISIBLE PUMP* 58-59 (1997).

111. FREYFOGLE, *THE LAND WE SHARE*, *supra* note 15, at 157-78, 190-91, 221-22; A. DAN TARLOCK, *THE LAW OF WATER RIGHTS AND RESOURCES* § 2.05[2] (1993); WILKINSON, *EAGLE BIRD*, *supra* note 15, at 45-60; Lynda L. Butler, *The Pathology of Property Norms: Living Within Nature's Boundaries*, 73 S. CAL. L. REV. 927 (2000).

112. See Kaplow, *supra* note 109. For contrasts between the innovative efficiency of markets (providing incentives to invest in innovation) and the allocative efficiency of markets (marginal-cost pricing), see Joseph F. Brodley, *The Economic Goals of Antitrust Efficiency, Consumer Welfare, and Technological Progress*, 62 N.W. U. L. REV. 1020, 1032-34 (1987); F.M. Scherer, *Antitrust, Efficiency, and Progress*, 62 N.Y.U. L. REV. 998, 998-1002 (1987).

aversion and adherence to the status quo.¹¹³ While extreme instability may discourage investment, a moderate degree of both legal and market instability will generally facilitate wealth-maximizing innovation and operational efficiencies. In the Mono Lake case study, it was only after DWP's water rights were going to be reduced drastically that DWP – with the help of the Mono Lake Committee – found that it could use water more efficiently through conservation and reclamation and that federal and state governments were willing to invest in these efficiency efforts. Furthermore, a survey showed that consumers were willing to pay between forty-two dollars and ninety-four dollars more per year per household for water in order to save Mono Lake.¹¹⁴ No one seriously believes that DWP ever was going to offer its consumers this utility-maximizing (or optimal) choice in the absence of legal threats to DWP's water rights in the Mono Lake feeder streams. It simply was not in DWP's organizational culture or the mental schema of DWP's managers to do so.

Third, a high degree of legal security in property rights can inhibit wealth-maximizing transactions, in other words, win-win negotiations.¹¹⁵ Although economists focus on transaction costs as barriers to optimal negotiated bargains, psychologists study the barriers to win-win negotiations created by the endowment effect, which is a cognitive bias by which people irrationally prefer retaining something they already have to obtaining something of equal or perhaps even greater worth.¹¹⁶ Furthermore, there is some evidence that both psychological effects and information asymmetries cause people to overestimate the strength of their own position and underestimate

113. RICHARD H. AXELROD, *TERMS OF ENGAGEMENT: CHANGING THE WAY WE CHANGE ORGANIZATIONS* (2000) (contrasting organizations that adapt to new conditions with those hampered by obstacles to change); GOTTLIEB & FITZSIMMONS, *supra* note 69 (discussing barriers to innovation and resistance to change within public agencies with institutional missions of obtaining water rights and promoting growth and consumption); ROBIN HOGARTH, *JUDGMENT AND CHOICE* 216-22 (2d ed. 1987) (discussing judgment biases generally); Andrew J. Hoffman, *The Importance of Organizational Change Management for Environmental Decision Making*, in *BETTER ENVIRONMENTAL DECISIONS: STRATEGIES FOR GOVERNMENTS, BUSINESSES, AND COMMUNITIES* 245, 262-64 (Ken Sexton et al. eds., 1999) (discussing examples of organizational inertia in addressing environmental problems); John Troast, Jr. et al., *Institutions as Barriers and Enablers to Negotiated Agreements: Institutional Entrepreneurship and the Plum Creek Habitat Conservation Plan*, in *ORGANIZATIONS, POLICY, AND THE NATURAL ENVIRONMENT* 235-55 (Andrew J. Hoffman & Marc J. Ventresca eds., 2002); Thompson, *supra* note 26, at 759-61 (discussing a bias against conservation in the organizational culture of public water institutions).

114. BOLLING, *supra* note 65, at 88.

115. The classic work on win-win or principled negotiation, in contrast to positional bargaining, is ROGER FISHER & WILLIAM URY, *GETTING TO YES: NEGOTIATING AGREEMENT WITHOUT GIVING IN* (1981). See also LAWRENCE SUSSKIND & JEFFREY CRUIKSHANK, *BREAKING THE IMPASSE: CONSENSUAL APPROACHES TO RESOLVING PUBLIC DISPUTES* (1987); Kaplow, *supra* note 109; Troast, *supra* note 113.

116. MNOOKIN ET AL., *supra* note 69, at 164-65; Rachlinski, *The Psychology of Ownership*, *supra* note 69.

the strength of the other side – a sort of outcome optimism.¹¹⁷ When legal institutions upset settled expectations about property rights, they undermine the negotiation-inhibiting effects of the endowment effect, force the participants to reevaluate the strengths and weaknesses of their respective positions, and actually shift the parties' relative bargaining power in favor of the non-owner, who previously had relatively weak bargaining power. In the Mono Lake case study, it was only after a series of litigation defeats and the legal uncertainty of DWP's water rights in light of the public trust doctrine that DWP came to the bargaining table with the Mono Lake Committee. The result was a win-win outcome, arguably a wealth-maximizing or optimal result.

Fourth, the stability of law to protect settled expectations and investments in property is in tension with the flexibility of law to adapt to changing conditions in society.¹¹⁸ Often property owners will seek from legal institutions protection against social change. But the use of legal institutions as obstacles to change or as insurance mechanisms is inefficient. Instead, property owners can manage and insure against the risk of legal change, and the potential for legal change – just like the potential for any loss – creates incentives for private market innovations in risk management and insurance.¹¹⁹ And in the case of Mono Lake, DWP should have reasonably anticipated that water law might change of the life of its appropriation rights. Water law is characterized by what I call a principle of legal fluidity: water law changes as needed to adapt to changing social and natural conditions. For example, the first landowners in the Western United States would have expected that the riparian doctrine of water rights would apply, just as it did in the Eastern United States and in the English common law.¹²⁰ However, a change in the status quo was needed if the arid West was

117. JUDGMENT UNDER UNCERTAINTY, *supra* note 69; HOGARTH, *supra* note 113, at 216-22; Linda L. Putnam & Tarla L. Peterson, *The Edwards Aquifer Dispute: Shifting Frames in a Protracted Conflict*, in MAKING SENSE OF INTRACTABLE CONFLICTS, *supra* note 69, at 127-58; Rachlinksi, *Paternalism*, *supra* note 69, at 1170-75.

118. FREYFOGLE, *THE LAND WE SHARE*, *supra* note 15, at 203-27; GILLILAN & BROWN, *supra* note 37, at 9-43; WILKINSON, *THE EAGLE BIRD*, *supra* note 15, at 45-60; Mark W. Cordes, *Property Rights and Land Use Controls: Balancing Private and Public Interest*, 19 N. ILL. U. L. REV. 629, 643-45 (1999); Freyfogle, *Context and Accommodation*, *supra* note 15; Kaplow, *supra* note 109; Joseph William Singer, *The Reliance Interest in Property*, 40 STAN. L. REV. 611, 674-75 (1988); Stephan, *supra* note 109, at 802; Thompson, *supra* note 26, at 680.

119. Steve P. Calandrillo, *Eminent Domain Economics: Should "Just Compensation" Be Abolished, and Would "Takings Insurance" Work Instead?*, 64 OHIO ST. L.J. 451 (2003). *Cf.* Francis J. Mootz III, *Insurance Coverage of Employment Discrimination Claims*, 52 U. MIAMI L. REV. 1 (1997) (exploring insurance as a response to legal uncertainty and change). *But see* Lawrence Blume & Daniel L. Rubinfeld, *Compensation for Takings: An Economic Analysis*, 72 CAL. L. REV. 569 (1984) (considering insurance as a response to regulatory risk but asserting that the market fails to provide insurance and just compensation by the government is the best alternative).

120. In fact, many western states expressly adopted the riparian doctrine before rejecting it for the prior appropriation doctrine. GILLILAN & BROWN, *supra* note 37, at 15-21, 24-31;

to be settled and made economically productive.¹²¹ Likewise, in the East, the traditional natural flow doctrine had to give way to the doctrine of reasonable use in light of changing economic and social needs.¹²² And principles of absolute ownership of groundwater by the surface owner became obsolete everywhere but Texas, when the physical characteristics of aquifers and groundwater hydrology became understood and it became clear that the lack of some sort of correlative rights or limits on pumping would result in wasteful overdrafts.¹²³ And although the public trust doctrine is ancient and theoretically has always limited water rights in California, new ecological knowledge and changing social needs dictate that prior appropriation rights cannot be so immutable as to allow destruction of an essential ecosystem and habitat.

3. Public Participation

The third lesson from Mono Lake is that an effective pursuit of environmental conservation and an environmental ethic requires public participation and engagement. The public's support will often be needed to achieve the specific goal at the time, even if the environmentalists win an important legal victory. In addition, the particular controversy at one point in time will often undergo metamorphosis into a whole myriad of related issues, new issues and problems, and follow-up decisions that must be made. The environmental movement needs the public's ongoing, engaged, and active commitment to environmental ethics in practice. It needs to build support for environmental conservation policies, basic understanding of commitments to environmental ethics and ecology, and actual individual and institutional behaviors that respect and promote ecological health. Otherwise, a legal victory or momentary political victory is likely to unravel.

What is fascinating about the Mono Lake Committee is that its leaders understood and valued the role of the public on several different levels. The Mono Lake Committee engaged in widespread, award-winning educational programs about Mono Lake and efforts to persuade people to seek to save Mono Lake. But the Committee also promoted public discourse and deliberation about the benefits and costs of saving Mono Lake, public values and ethics, and the future of water use in California. And the Mono Lake Committee reached out to low-income communities of color in Los Angeles, bridging the typical divide between the conservation of the natural environment and the social justice concerns of urban residents.

TARLOCK, *supra* note 111, §§ 5.01-5.02. See, e.g., Coffin v. Left Hand Ditch Co., 6 Colo. 443 (1882).

121. GILLILAN & BROWN, *supra* note 37, at 16-34; WILKINSON, THE EAGLE BIRD, *supra* note 15, at 45-50.

122. TARLOCK, *supra* note 111, §§ 3.12[1], [2], [4]. See, e.g., Pyle v. Gilbert, 265 S.E.2d 584 (Ga. 1980).

123. TARLOCK, *supra* note 111, §§ 4.01, 4.04; Thompson, *supra* note 26, at 684-86.

There are three specific trends in United States society today into which the work of the Mono Lake Committee integrated itself. First, democratic theory has turned towards a deliberative model, emphasizing dialogue or discourse, reasoned but diverse communication, and public participation and engagement.¹²⁴ There are a growing number of studies or theories about the critical role of democratic deliberation and participation in environmental policy.¹²⁵ The rise in local watershed-based or landscape-based collaborative planning efforts that involve all stakeholders, including the local public, is a concrete manifestation of this model in practice.¹²⁶

Second, the environmental justice movement has called attention to the white upper- and middle-class biases of environmental law and policy with their attention to conservation of natural environments and inattention to the disproportionately burdened human environments in low-income communities of color.¹²⁷ Nonetheless, despite some rhetoric to the contrary, environmental justice groups have expressed interest in conservation of natural environmental features in which their communities have an interest.¹²⁸ The Mono Lake Committee's educational programs for inner-city Los Angeles children have helped to build the children's connections to, and understanding of, the natural environment. While the programs emphasize

124. JOHN S. DRYZEK, *DELIBERATIVE DEMOCRACY: LIBERALS, CRITICS, CONTESTATIONS* (2000); JOHN FORESTER, *THE DELIBERATIVE PRACTITIONER: ENCOURAGING PARTICIPATORY PLANNING PROCESSES* (1999); JURGEN HABERMAS, *BETWEEN FACTS AND NORMS: CONTRIBUTIONS TO A DISCOURSE THEORY OF LAW AND DEMOCRACY* (William Rehg trans., 1996) (1992); JURGEN HABERMAS, *THE INCLUSION OF THE OTHER: STUDIES IN POLITICAL THEORY* 237-64 (Ciaran Cronin & Pablo De Greiff eds., 1998) (1996). For an argument for discursive morality, see HEKMAN, *supra* note 82, at 113-63.

125. *DEMOCRACY AND THE CLAIMS OF NATURE: CRITICAL PERSPECTIVES FOR A NEW CENTURY* (Ben A. Minteer & Bob Pepperman Taylor eds., 2002); ROBERT J. BRULLE, *AGENCY, DEMOCRACY, AND NATURE: THE U.S. ENVIRONMENTAL MOVEMENT FROM A CRITICAL THEORY PERSPECTIVE* (2000); JOHN DEWITT, *CIVIC ENVIRONMENTALISM: ALTERNATIVES TO REGULATION IN STATES AND COMMUNITIES* (1994); ADOLF GUNDERSON, *THE ENVIRONMENTAL PROMISE OF DEMOCRATIC DELIBERATION* (1995); WILLIAM A. SHUTKIN, *THE LAND THAT COULD BE: ENVIRONMENTALISM AND DEMOCRACY IN THE TWENTY-FIRST CENTURY* (2000); BRUCE A. WILLIAMS & ALBERT R. MATHENY, *DEMOCRACY, DIALOGUE, AND ENVIRONMENTAL DISPUTES: THE CONTESTED LANGUAGES OF SOCIAL REGULATION* (1995); Walter F. Baber & Robert V. Bartlett, *Toward Environmental Democracy: Rationality, Reason, and Deliberation*, 11 KAN. J.L. & PUB. POL'Y 35 (2001).

126. David Getches, *Grassroots v. Waterlogging*, 4 GREAT PLAINS NAT. RESOURCES J. 1 (1999); Getches, *Western Water Policy*, *supra* note 106; Karkkainen, *Collaborative Ecosystem Governance*, *supra* note 106; Tarlock, *Truckee-Carson Settlement*, *supra* note 106; A. Dan Tarlock, *Putting Rivers Back in the Landscape: The Revival of Watershed Management in the United States*, 6 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 167 (2000); Woolley et al., *supra* note 89.

127. See *supra* note 29. See also Berglund & Anderson, *supra* note 98, at 5 (contending that U.S. environmentalism is based on a culture of privilege and "bourgeois ideologies").

128. See, e.g., JUSTICE & NATURAL RESOURCES: CONCEPTS, STRATEGIES, AND APPLICATIONS (Kathryn M. Mutz et al. eds., 2002); Arnold, *Planning Milagros: Environmental Justice and Land Use Regulation*, 76 DENV. U. L. REV. 1, 12-13 (1998). See also *infra* note 160 and accompanying text.

Mono Lake and water conservation, they also consider how the children, their families, and their communities can connect to the natural features and processes in the Los Angeles area. These educational programs, as well as the Committee's partnerships with local environmental justice and social justice groups in making water conservation tools available at low- to no-cost to inner city residents, have helped to bridge the divide between environmental conservation efforts and social justice concerns.

Third, all of the Mono Lake Committee's educational and public relations programs have attempted to build among the California public the same type (even if not same intensity) of connectedness to Mono Lake that the founder of the Mono Lake Committee had developed. As discussed above in Lesson One, an environmental ethic often develops out of the ecology and psychology of a place. Place-based conservation efforts are an important and growing part of the environmental movement. If the public is to develop an active environmental ethic, the public will generally need to encounter ways of connecting to particular places of ecological value.

4. Politics

The fourth lesson from Mono Lake is that environmental issues are always political issues, no matter how much they are framed as legal issues. The vast bulk of environmental law is based in federal and state legislation (and increasingly local ordinances and regulations), which are the result of environmental groups' lobbying and political activism and legislators' political motivations. Despite the widespread reliance on rule of law litigation by environmental groups, analyses of the environmental movement in the United States reveal that the movement is highly political in nature.¹²⁹

Furthermore, even when legislation strongly mandates environmental protection and courts strictly enforce these mandates, the exercise of political power can undermine them. For example, the Endangered Species Act (ESA),¹³⁰ as initially passed, prohibited federal, state, local, and private actions that harm endangered species and their habitats¹³¹ and was interpreted by the United States Supreme Court in broad, sweeping, mandatory terms.¹³² However, the history of the ESA has been one of political backlash

129. See HUFFMAN, *supra* note 88; LAYZER, *supra* note 106, at 348-55; JOHN M. MEYER, *POLITICAL NATURE: ENVIRONMENTALISM AND THE INTERPRETATION OF WESTERN THOUGHT* (2001); ROSENBAUM, *supra* note 14; Coglianese, *supra* note 29, at 99-108; Nathaniel P. Reed, *The Conservation Movement as Political Force*, in *VOICES FROM THE ENVIRONMENTAL MOVEMENT: PERSPECTIVES FOR A NEW ERA* 41-51 (Donald Snow ed., 1992). *But see* SHABECOFF, *supra* note 88, at 111-36 (lamenting the ineffectiveness of the environmental movement in elections).

130. Endangered Species Act, 16 U.S.C. §§ 1531-1544 (2000).

131. See generally Arnold, *supra* note 106.

132. *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978); *Babbitt v. Sweet Home Chapter*, 515 U.S. 687 (1995).

and weakening or even overriding of its strong prohibitions, and Professor Zygmunt Plater, who was a driving force behind the ESA, has remarked on the environmental movement's over-reliance on law and underestimation of politics.¹³³ Powerful, successful political forces operating against the ESA's underlying principles include interest groups representing developers, landowners, industries, and other economic interests constrained by the ESA's strong prohibitions, members of Congress whose pork-barrel projects were threatened by the ESA or whose constituencies howled when they found the ESA a barrier to their goals and interests, and Presidents and United States Department of Interior officials who have feared political repercussions of field-agent strict enforcement of the ESA. Examples of the effects of political backlash include congressional amendment of the ESA to create a "God Squad" with the power to override the ESA's prohibition on federal actions that threaten recovery of an endangered species, a short-term congressional moratorium on the listing of any new endangered species in the early 1990s, and the United States Department of Interior's adoption of various practices designed to accommodate landowners and developers, such as the "no surprises policy" and the use of regional or local conservation planning as a way of avoiding the listing of species or designation of critical habitat.¹³⁴ Likewise, a study of the Clean Air Act's implementation shows how political forces and interests undermined the Act's environmental principles and effective enforcement by courts and the EPA.¹³⁵

The Mono Lake Committee recognized the political nature of Mono Lake's problems and DWP's use of Mono Lake feeder stream water, and did not rely primarily on the *National Audubon Society* or California Trout decisions. The Committee lobbied, educated, and persuaded political leaders at all levels of government. The Committee built a strong base of active public support, as discussed in Lesson Three. The Committee made the Mono Lake issue highly visible, not only with its bumper stickers but also with effective media coverage. The support and active involvement from key political leaders like Pete Wilson in his positions as United States Senator and California Governor, Los Angeles Mayor Richard Riordan, and Los Angeles City Council member Ruth Galanter was critical, as was the availability of federal and state funds for conservation and reclamation projects.

From a broader perspective, there were four features that characterized the Mono Lake Committee's political success. One is that the Mono Lake Committee emerged at the right time: When the environmental move-

133. Zygmunt J.B. Plater, *Environmental Law in the Political Ecosystem—Coping with the Reality of Politics*, 19 PACE ENVTL. L. REV. 423 (2002).

134. LAYZER, *supra* note 106, at 322; J.B. Ruhl, *A Manifesto for the Radical Middle*, 38 IDAHO L. REV. 385, 388-98 (2002); Tarlock, *Rule of Law I*, *supra* note 12, at 603-04; Tarlock, *Rule of Law II*, *supra* note 12, at 613-14; Barton H. Thompson, Jr., *The Endangered Species Act: A Case Study in Takings and Incentives*, 49 STAN. L. REV. 305, 313-14, 321-24 (1997).

135. ACKERMAN & HASSLER, *supra* note 103.

ment had emerged as a strong political and social force in the United States and especially in California, and the public was embracing environmental values.¹³⁶ Another critical element was that the Committee's message was essentially one of engaging the public, not admonishing the public. The message was both passionate and knowledgeable, grounded in both persuasion and education. However, it was at its core an invitation to the public to develop connections to Mono Lake and to care about the lake's health, not criticism of selfish, consumptive, environmentally harmful practices in society or apocalyptic predictions that the decline of Mono Lake was the harbinger of destruction of the global environment and civilization. John Hart describes the essence of the Committee's message:

David Gaines used to remark that saving Mono Lake was not his unalterable goal. His real aim was to make people throughout California realize what would be lost if the lake continued to sink. If Californians, and particularly Angelenos, weighed those values, understood them deeply, and decided to sacrifice them for a convenient and inexpensive water supply, Gaines would (so he said) accept that choice. But it had to be a *knowing* choice.¹³⁷

A third feature was the role of policy entrepreneurs, both on the Mono Lake Committee and in government. As political scientist John Kingdon has observed, policy entrepreneurs play a key role in getting issues and policy alternatives onto the public policy agenda.¹³⁸ More specifically in the area of environmental conservation, political scientists Helen Ingram and Kenneth Godwin have used case studies to show that innovative experts are needed to initiate policy change and that risk-taking politicians are needed to achieve policy change.¹³⁹ David Gaines, Martha Davis, Pete Wilson, and Ruth Galanter are only some of the many policy entrepreneurs who worked the conservation of Mono Lake onto the public agenda and the policy agenda, and expended time, resources, and political capital to achieve the lake's conservation. Lastly, wherever politics are, money is close by. It is politically unrealistic to expect that a consumer of the natural environment will completely and solely absorb substantial costs of simply ceasing its consumption of the environment. Instead, environmental conservation policies usually require finding financial resources, incentives, or cost-savings to facilitate major changes in economic behavior. The Mono Lake Committee

136. Robin Brooks, *Book Review, Storm Over Mono: The Mono Lake Battle and the California Water Future*, by John Hart, 2(2) ENVTL. HIST. 227, 228 (1997).

137. HART, *supra* note 1, at 184.

138. JOHN W. KINGDON, AGENDAS, ALTERNATIVES, AND PUBLIC POLICIES (1984).

139. Helen M. Ingram & R. Kenneth Godwin, *Conservation and the Forces of Change*, in PUBLIC POLICY AND THE NATURAL ENVIRONMENT 167, 179 (Helen M. Ingram & R. Kenneth Godwin eds., 1985). For examples of institutions and corporations serving as entrepreneurs of innovative environmental conservation measures, see Troast, *supra* note 113.

was savvy in lobbying for state and federal funds to assist DWP in adopting conservation and reclamation projects, even when DWP was not yet willing to compromise and agree to use the funds to reduce its dependence on Mono Lake feeder stream water.

5. Collaborative and Creative Problem-Solving

The fifth lesson from Mono Lake is that collaborative and creative problem-solving is often critical to achieving effective and lasting environmental conservation outcomes. Specialists in environmental law, policy, and conservation now give considerable interest to collaboration, negotiation, problem-solving methods, innovation, and devolution of planning and management to the level of local communities, watersheds, landscapes, and other ecosystem units.¹⁴⁰ Real-world examples of devolved collaboration, planning, and problem-solving among multiple stakeholders at local or regional levels abound.¹⁴¹ These approaches contrast with traditional top-down command-and-control directives and prohibitions in federal (and state) environmental statutes and regulations and with traditional adversarial litigation that seeks judicial resolution of environmental conflicts. Collaborative problem-solving has two aspects: (1) cooperation or negotiation among interested stakeholders to reach outcomes to which all the parties agree; and (2) a goal of finding solutions to the problems that the parties agree to address or that cause the conflict, problems that are usually broader than solely legal issues.¹⁴²

Collaborative stakeholder problem-solving is controversial. Critics contend that such processes are extra-legal or illegal, not authorized by environmental law. They argue that these processes do not have sufficient controls, safeguards, transparency, and accountability to the public. They question whether all the interested parties are represented adequately in problem-solving processes and whether such processes favor those with greater economic and political power, usually those seeking to minimize limits on environmentally harmful activities. Questions are also raised about whether collaborative problem-solving can really produce win-win gains for both sides or merely distribute losses in a zero-sum game, and whether negotiation and stakeholder problem-solving accomplish better environmental outcomes than legislation, regulation, and litigation. And at the core of their complaints about collaborative stakeholder problem-solving, critics denounce the process as inherently fraught with appeasement, acceptance of environmental

140. See notes 106 and 126, *supra*; ACROSS THE GREAT DIVIDE: EXPLORATIONS IN COLLABORATIVE CONSERVATION AND THE AMERICAN WEST (Philip Brick et al. eds., 2001); JULIA M. WONDOLLECK & STEVEN L. YAFFEE, MAKING COLLABORATION WORK: LESSONS FROM INNOVATION IN NATURAL RESOURCE MANAGEMENT (2000); Arnold, *supra* note 32.

141. See notes 106 and 126, *supra*; COLLABORATIVE PLANNING FOR WETLANDS AND WILDLIFE: ISSUES AND EXAMPLES (Douglas R. Porter & David A. Salvesen eds., 1995).

142. See MNOOKIN ET AL., BEYOND WINNING, *supra* note 69; Arnold, *supra* note 32.

degradation and harm, compromise of core principles, and cooptation of the environmental movement.¹⁴³ One critic has asserted that environmental conservation would be achieved “if only legislators would legislate, judges would judge, and managers would manage in accordance with law.”¹⁴⁴

The criticisms simplistically set collaborative problem-solving in a false dichotomy with legal protections of the environment and naively overestimate the power of legal and regulatory institutions to achieve environmental conservation.¹⁴⁵ Nonetheless, critics offer valuable insights into the limits of collaborative problem-solving and suggestions about how to make these processes better¹⁴⁶ – more accountable, more transparent, more inclusive, more constrained against unprincipled compromise merely to reach a solution, and more carefully used. Collaborative problem-solving is not a panacea alternative to environmental law. Instead, it complements environmental law and can facilitate achievable environmental conservation measures and an environmental ethic that can be practiced “on the ground” or “in the real world.”

The Mono Lake Committee’s work offers some insights into how collaborative problem-solving might work effectively to achieve environmental conservation. In the Mono Lake case study, litigation victories for the Mono Lake Committee under the public trust doctrine and the California Fish and Game Code were necessary to bring DWP to the bargaining table (albeit reluctantly), but problem-solving negotiation was necessary to reach a lasting, implementable solution. If the losing party in environmental litigation or a party subject to regulatory directives under that party’s protest does not have a commitment (or “buy-in”) to complying with or implementing the legal outcome, there is a high likelihood that the legal outcome will be a failure. There are simply too many opportunities for a recalcitrant or uncooperative party to delay, avoid, and resist complying with or implementing the legal or regulatory directive, or to bring subsequent litigation over ancil-

143. For criticisms of collaborative problem-solving, see George Cameron Coggins, *Of Californicators, Quislings, and Crazies: Some Perils of Devolved Collaboration*, in *ACROSS THE GREAT DIVIDE: EXPLORATIONS IN COLLABORATIVE CONSERVATION AND THE AMERICAN WEST* 163-71 (Philip Brick et al. eds., 2001); Douglas S. Kenney, *Are Community-Based Watershed Groups Really Effective?: Confronting the Thorny Issue of Measuring Success*, in *ACROSS THE GREAT DIVIDE*, *id.* at 188-93; Jonathan I. Lange, *Exploring Paradox in Environmental Collaborations*, in *ACROSS THE GREAT DIVIDE*, *id.* at 200-09; Robyn Eckersley, *Environmental Pragmatism, Ecocentrism, and Deliberative Democracy: Between Problem-Solving and Fundamental Critique*, in *DEMOCRACY AND THE CLAIMS OF NATURE*, *supra* note 125, at 49-69; Foster, *supra* note 31.

144. Coggins, *supra* note 143, at 171.

145. See, e.g., Philip Brick, *Of Imposters, Optimists, and Kings: Finding a Political Niche for Collaborative Conservation*, in *ACROSS THE GREAT DIVIDE*, *supra* note 143, at 172-79. For an excellent analysis of criticisms of collaborative problem-solving, see Karkkainen, *supra* note 106.

146. David H. Getches, *Some Irreverent Questions about Watershed-Based Efforts*, in *ACROSS THE GREAT DIVIDE*, *supra* note 143, at 180-87.

lary, new, or imprecisely resolved issues. There can be multiple iterations of a conflict over environmental conservation until the parties find a workable, agreeable solution. The party having an adverse impact on the environment will continue to have impacts – whether harmful or not – on the environment over time. By participating in problem-solving and negotiation processes with that party, an environmental group gains the power, authority, and ongoing involvement of a “participant” or “stakeholder,” not merely an “outsider-challenger.”

In addition, as discussed above in Lesson Two, environmental litigation often does not result in a precise, detailed, implementable solution, but instead in a broad directive for a regulatory agency to consider or apply certain standards and principles when making its decision. The California Supreme Court’s opinion in *National Audubon Society* is a perfect example of this aspect of environmental law, and the State Water Resources Control Board’s failure to take any definitive action over Mono Lake and its feeder streams until the Mono Lake Committee and the DWP reached an agreement illustrates that reliance on regulatory agencies to mandate specific outcomes can be misplaced. Indeed, one of the primary reasons for local watershed-based collaborative problem-solving efforts over environmental conservation, water use, and water quality is that regulatory agencies – with their fragmentation, limited resources, political pressures, and sometimes narrow thinking – have failed to find workable solutions to many watershed-based problems.

Finally, the issues surrounding Mono Lake were not limited to legal issues susceptible of being addressed by the courts or regulators. Although DWP’s rights to divert and use water from Mono Lake’s feeder streams and the legal limits on those rights were important issues, the Mono Lake conflict involved issues of stream restoration, conservation practices and elimination of wasteful uses among DWP’s customers, and the potential threat that reduced diversions from the Mono Basin would be replaced by environmentally harmful diversions from another watershed. These issues required a negotiated resolution and development of creative solutions. Collaborative problem-solving also serves as a means for environmental advocates to continue to educate and persuade the public and the major stakeholders and for those having an impact on the environment to change their values, goals, or priorities as they have to face concretely and directly the impact of their behaviors on the ecological health and integrity of a particular place.

One of the mistakes made about collaborative problem-solving is to romanticize it. The Mono Lake Committee and DWP did not engage in the water-use negotiation equivalent of just joining hands and singing in unison

“We Are the World” in a sentimental display of cooperation.¹⁴⁷ As the Mono Lake Committee case study shows, collaborative problem-solving generally does not begin with cooperation and may not end with warmth and joy even though a negotiated resolution is reached. In addition, solutions do not come easily and cooperation does not come easily. At the same time, an environmental group’s firm adherence to principle and articulation that harm to the health of an ecosystem is unacceptable do not preclude a negotiated solution. Cooperation and cooptation are not the same; cooperation and appeasement are not the same. The Mono Lake Committee’s primary negotiator, Martha Davis, was firm and tough, but seeking solutions. The Mono Lake Committee and its environmental group allies had reached a pre-negotiation agreement among themselves about the desired target level for the lake, from which they would not yield. The Committee’s leaders kept generating and seeking potential solutions, even when DWP would not negotiate. The Committee had to get around DWP’s positional and entitlement mentalities that were barriers to negotiation, and both parties had to overcome the fundamental attribution error, which is a cognitive bias that sees the other side’s non-cooperation or actions as a result of its character (or organizational) traits or flaws and purposeful intentions, instead of its situation or differences of interests.¹⁴⁸ The parties, especially the Mono Lake Committee, had to assess the other parties’ core needs and interests and find creative ways to find solutions – to engage in “creative value creation” that produced a win-win result. In particular, the Committee had to find bargaining “chips” – benefits to trade – that would address DWP’s needs and interests. The Committee traded its political capital for federal and state funding for Los Angeles conservation and reclamation projects that would allow Los Angeles to reduce its diversions from the Mono Basin without suffering direct limits to growth and core water usage needs and without obtaining water from other watersheds. As a result, DWP’s behaviors and operational goals changed, the behaviors of Los Angeles consumers of water changed, the Mono Lake system is making a recovery, and the Mono Lake Committee is now a significant player on issues of water and the environment in California.

Pre-established, pre-authorized, pre-prescribed legal answers to environmental conservation problems can serve as mental and social barriers to creative thinking, innovation, and more effective solutions that do not “fit within the box.”¹⁴⁹ As such, environmental law can be constitutive in a negative or conservative sense.¹⁵⁰ On the other hand, environmental law can

147. Cf. *We Are the World* (song written by Michael Jackson & Lionel Richie & produced by Quincy Jones, for USA for Africa, 1985).

148. See JUDGMENT UNDER UNCERTAINTY, *supra* note 69; MNOOKIN ET AL., *supra* note 69, at 49.

149. See JAMES L. ADAMS, CONCEPTUAL BLOCKBUSTING: A GUIDE TO BETTER IDEAS (3d ed. 1986).

150. See Doremus, *Constitutive Law*, *supra* note 34.

serve to facilitate cooperation and creative problem-solving, as well as to establish limits and accountability to extra-legal processes and outcomes. The implementation of an environmental ethic in practice is not achieved by simplistic admonitions for judges to just judge and legislators to just legislate, but instead by a thoughtful and context-appropriate integration of legal processes with non-legal processes like collaborative problem-solving. The Mono Lake Committee's work serves as one example of such an integration.

V. THE FUTURE: A MULTI-DISCIPLINARY APPROACH

The Mono Lake case study illustrates five lessons:

- (1) The pursuit of an environmental ethic, or conservation goals, often begins with the ecology and psychology of a place;
- (2) Legal doctrines and environmental litigation are often necessary but insufficient means of achieving environmental conservation;
- (3) An effective pursuit of environmental conservation and an environmental ethic requires public participation and engagement;
- (4) Environmental issues are always political issues, no matter how much they are framed as legal issues; and
- (5) Collaborative and creative problem-solving is often critical to achieving effective and lasting environmental conservation outcomes.

These lessons suggest some future directions for environmental law and for environmental conservation efforts. They remind us that environmental law by itself does not shape society, behaviors, values, and institutions, that is, that environmental law is not unilaterally and unidirectionally constitutive.¹⁵¹ Instead, environmental law is shaped by science, politics, social institutions and structures, ethics, psychological phenomena, culture, economic behaviors, media, public policy and planning, and other such forces. And environmental law interacts with each of these forces in influencing social, organizational, and individual actions with respect to the natural environment. The pursuit of environmental conservation occurs in a complex, messy world.

However, the Mono Lake case study does *not* establish a model for working out an environmental ethic in practice. It is just one example. To analogize to ecology, it is like a landscape patch or corridor (an ecotope), where there are identifiable features and processes that are dynamic, complex, nonlinear, and interconnected, but from which patterns of nature do not

151. *See id.*

emerge for hundred, thousands, and perhaps even millions of years of multiple processes in multiple ecotopes.¹⁵² Although we might not need millions of years and countless patches of environmental conservation efforts to discern patterns, we certainly need more than the Mono Lake case study. Other factors and processes might be present in other examples.

The Mono Lake Committee's work has been successful, but the success has not been so unqualified as to serve as a model for all other such efforts. For example, Mono Lake has not yet reached its target level and its feeder streams have not been completely restored, even though the lake level is rising and restoration efforts are making progress. Southern California changed its water consumption patterns in response to the negotiated resolution of the Mono Lake controversy and adopted impressive conservation and reclamation measures. However, the large metroplex of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura Counties continues to grow in a desert climate with limited water supplies, and the urban demand for water is again rising.¹⁵³ Furthermore, the environmental ethic that prompted Los Angeles area residents to want to save Mono Lake did not seem to translate into the same political will to reduce diversions from the Colorado River or other water sources.¹⁵⁴

In addition, the public trust decision in the *National Audubon Society* has influenced law and water policy in other states, as well as some actions by the California State Water Resources Control Board.¹⁵⁵ However,

152. See O.J. REICHMAN, KONZA PRAIRIE: A TALLGRASS NATURAL HISTORY 1-8, 36-57 (1987). See also FRANK B. GOLLEY, A PRIMER FOR ENVIRONMENTAL LITERACY 18-25, 29-36, 90-100 (1998).

153. See HUNDLEY, *supra* note 3, at 558-61 (describing the tension between the demand for water and the public's tendency soon to cease conservation behaviors, on one hand, and Southern California's progress in conservation and reducing water use from threatened watersheds, on the other hand); *Metropolitan Seeks New Concepts in Water Development Through Innovative Supply Program*, available at www.waterchat.com/News/State/03/Q4/state_031024-03.htm (last visited Oct. 29, 2003) (discussing Southern California's search for new water sources).

154. TARLOCK ET AL., *supra* note 8, at 984-91 (exploring issues over use of Colorado River water); *Four Agencies Sign Historic Colorado River Deal*, available at www.waterchat.com/News/State/03/Q4/state_031014-07.htm (last visited Oct. 29, 2003) (reporting agreement to reduce diversions from Colorado River after decades of overdraws and eight years of negotiation). But see HUNDLEY, *supra* note 3, at 560-61 (describing Southern California's plan to reduce use of Colorado River water).

155. See *supra* note 5. See also GILLILAN & BROWN, *supra* note 37, at 153-55 (observing the impacts of *National Audubon Society*, and more importantly the use of public trust principles to protect instream flows, in several western states); TARLOCK ET AL., *supra* note 8, at 421-22 (describing the impact of *National Audubon Society* and the public trust in various states); WILKINSON, THE EAGLE BIRD, *supra* note 15, at 58-59 (asserting the importance of *National Audubon Society* and the public trust, but also noting the limited scope of the doctrine in other states); Blumm & Schwartz, *supra* note 1, at 721-36; Arnold L. Lum, *How Goes the Public Trust Doctrine: Is the Common Law Shaping Environmental Policy?*, 18(2) NAT. RESOURCES & ENVT. 73 (2003). See, e.g., *In re Water Use Permit Applications (Waiahole Ditch)*, 9 P.3d 409 (Haw. 2000).

critics point out that it has not been as influential and useful as public trust advocates and scholars have contended, with only a handful of states using public trust principles to limit water diversions.¹⁵⁶ The lack of widespread use of the public trust doctrine for instream flows may be due to the use of other legal doctrines to provide for instream flows, including the Endangered Species Act, the Clean Water Act, public interest criteria and environmental impact analysis, state ownership doctrines, and state legislation authorizing appropriation for instream flows, among others.¹⁵⁷

Nonetheless, it is clear that the policies underlying the *National Audubon Society* decision and the work of the Mono Lake Committee are part of a larger society-wide interest in protecting and restoring watershed ecosystems that would have been hard to imagine several decades ago. As Marc Reisner wrote in the revised edition of his widely read *Cadillac Desert*:

It didn't seem possible when I began writing this book, but now it is beginning to seem plausible after all. After damming the canyons and dewatering the rivers in order to spill wealth on the land, we are going to take some of the water back, and put it where, one could argue – as more and more Westerners now do – it really belongs. Law has been the ignition, but a great, almost epochal shift in values has worked as the engine of change.¹⁵⁸

If Mono Lake is not a model of environmental ethics in practice, it can at least point us in the right direction. For environmental lawyers, it is a reminder that our work is multi-faceted and that our clients' problems and conflicts have non-legal dimensions as well as legal dimensions.¹⁵⁹ Whether we represent environmental groups, government agencies, or commercial enterprises and resource users, we need to take time to reflect, study, and discuss several key questions. How do we, as environmental lawyers, work effectively and cooperatively on a team with non-lawyers? How does our legal work relate to ongoing and possibly future non-legal activities like political activism and pursuit of political goals, public education, collaborative problem-solving and negotiation, development and implementation of investment and operational strategies, risk management, and the like? To what extent are we involved in non-legal activities, and how do we restrain ourselves from a tendency to take over the entire process or problem? How do legal arguments advance the work occurring outside of legal institutions, and how do non-legal values and facts get presented to legal institutions?

156. See NAGLE & RUHL, *supra* note 6, at 661-65.

157. *Id.* at 664.

158. MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* 513 (rev. ed. 1993).

159. See *supra* notes 31-32 and accompanying text.

One clear need is for case-study-oriented continuing legal education programs featuring panels of lawyers and non-lawyers who worked on the same problem or dispute, talking about the interrelationship of the legal and non-legal dimensions of their work and their successes and failures. The creative and interdisciplinary work of the City Project of Los Angeles' Center for Law in the Public Interest and its lawyer-director Robert Garcia can serve as one such example of environmental lawyering that encompasses more than environmental law.¹⁶⁰

For environmental activists, it is clear that the "old days" in which federal legislation, federal regulatory programs, and citizen suit "rule of law" litigation dominated the environmental movement have given way to a more pluralistic approach to environmental law and environmental activism. Environmental activists now must consider and mix diverse and perhaps context-specific collaborative problem-solving methods and innovations; engagement of the public through education, persuasion, discourse, and moral development; political activity at all levels of government; and multidimensional, effective use of the ecological conditions and psychological attractiveness of specific places of environmental value and wonder. Achieving environmental conservation and an environmental ethic that is actually embraced by people, organizations, and institutions in their behaviors and practices requires a multidimensional approach, beyond primary reliance on environmental law.

Finally, for environmental scholars, we have three tasks for the future. First, we should resist the temptation to engage in dichotomous classifications. The world of environmental conservation and environmental law is not simple or clear. Take the tension between legal centralism and legal peripheralism, for example.¹⁶¹ Environmental law is neither all-important nor unimportant in achieving environmental conservation and resolving environmental conflicts. Likewise, there is no clear-cut choice between top-down approaches and bottom-up approaches. Both are often at work simultaneously for any given environmental issue. Environmental activists are

160. Robert Garcia '78 (BA '74) *Connects the Dots for Environmental Justice*, THE NATURAL RESOURCE (Stanford Law School, Environmental and Natural Resources Law & Policy Program Newsletter), Fall 2003, at 3, 8, 10 (on file with the *Wyoming Law Review*).

161. For evidence that clean dichotomies between legal centralism and either legal peripheralism or legal pluralism often do not occur in the real world, and that both legal and non-legal institutions and forces can be at play in complex, interconnected ways, see EWICK & SILBEY, *supra* note 28, at 34-53; Frank Munger, *Afterword: Studying Litigation and Social Change*, 24 LAW & SOC'Y REV. 595 (1990); Robert E. Scott, *The Limits of Behavioral Theories of Law and Social Norms*, 86 VA. L. REV. 1603 (2000); Jane Kaufman Winn, *Relational Practices and the Marginalization of Law: Informal Practices of Small Businesses in Taiwan*, 28 LAW & SOC'Y REV. 193, 196-97 (1994). See also Arnold, *supra* note 128, at 8 ("The land use planning and regulation model [of environmental justice] . . . reflects the reality that the law is about more than litigation, rights, courts, and jurisprudence. The law is about problem-solving, policy making, participation, and regulation . . .").

not constrained by a Hobson's choice between collaboration that compromises environmental principles and fidelity to environmental principles on an adversarial battleground. Human behavior is sometimes ethical, sometimes selfish, and sometimes a mix of the two; models of environmental problem-solving and conflict resolution built on a unitary view of human nature are far too simplistic and have limited value.¹⁶² The practice of working out an environmental ethic and of achieving environmental conservation is multi-faceted, complex, ongoing, and dynamic.

Second, our task is to map the complex mix of forces, factors, institutions, and processes involved in the pursuit of environmental conservation, and their interrelationships.¹⁶³ The work requires multidisciplinary study: the integration of law, political science and theory, sociology, psychology, economics, anthropology, conservation biology and similar environmental sciences, philosophy, communications, negotiation theory, organizational studies, and planning.¹⁶⁴ Indeed, one commentator has attributed environmentally harmful human action to the fragmentation of disciplines in education today and the failure to educate students in environmental issues across disciplines.¹⁶⁵ The task of multidisciplinary mapping is overwhelmingly difficult. Few – if any – can entirely grasp the tremendous depth and breadth of both knowledge and theory in the world today. Fragmentation among academic disciplines is partially the natural result of an explosion of information and thinking. In addition, we lack rigorous, systematic, comprehensive methods for analyzing complex interconnections of forces, factors, institutions, and processes that may vary with context.¹⁶⁶ Each disci-

162. See, e.g., Jeffrey J. Rachlinski & Cynthia R. Farina, *Cognitive Psychology and Optimal Government Design*, 87 CORNELL L. REV. 549, 608 (2002); Edward L. Rubin, *Putting Rational Actors in Their Place: Economics and Phenomenology*, 51 VAND. L. REV. 1705 (1998); J.B. Ruhl, *Complexity Theory as a Paradigm for the Dynamical Law-and-Society System: A Wake-Up Call for Legal Reductionism and the Modern Administrative State*, 45 DUKE L.J. 849 (1996).

163. For arguments that environmental conservation involves integration of connections and features in nature, diverse disciplines and areas of knowledge, and social and human phenomena, see WILKINSON, *THE EAGLE BIRD*, *supra* note 15, at 111-31. See also Fiorino, *supra* note 14; MAXWELL, *supra* note 88; Errol E. Meidinger, *Law and Institutions in Cross-Boundary Stewardship*, in STEWARDSHIP ACROSS BOUNDARIES 87-110 (Richard L. Knight & Peter B. Landres eds., 1998); Zygmunt J.B. Plater, *Environmental Law and the Three Economies: Navigating a Sprawling Field of Study, Practice, and Societal Governance in which Everything Is Connected to Everything Else*, 23 HARV. ENVTL. L. REV. 359 (1999).

164. Edward O. Wilson has used the term "consilience" to describe and call for this integration of different disciplines and areas of knowledge and theory. EDWARD O. WILSON, *CONSILIENCE: THE UNITY OF KNOWLEDGE* (1998).

165. DAVID W. ORR, *EARTH ON MIND: ON EDUCATION, ENVIRONMENT, AND THE HUMAN PROSPECT* 8, 94 (1994). See also WALTER, *PLACEWAYS*, *supra* note 79, at 2.

166. Nonetheless, a recent book contains a collection of studies using computer-based simulation modeling to integrate ecological dynamics of the natural environment with human and social behaviors related to ecosystems and ecological problems. *INTEGRATING GEOGRAPHIC INFORMATION SYSTEMS AND AGENT-BASED MODELING TECHNIQUES FOR SIMULATING SOCIAL AND ECOLOGICAL PROCESSES* (H. Randy Gimblett ed., 2002).

pline has its own, often self-contained, set of methodologies and theories, and few scholars have sufficient professional incentives to venture into multidisciplinary study.

But there is hope. There is a small but emerging set of studies that venture into multidisciplinary study.¹⁶⁷ While some interdisciplinary work in environmental law is merely dyadic¹⁶⁸ – law and environmental science,¹⁶⁹ law and environmental ethics,¹⁷⁰ environmental law and economics,¹⁷¹ environmental law and psychology¹⁷² – there are some more multidimensional studies. For example, a professor at the Kennedy School of Government at Harvard University recently published a fascinating article in the *University of Pennsylvania Law Review* on the environmental movement from a law and society perspective.¹⁷³ Two books – one on nature restoration efforts in

167. The classic early engagement in multidisciplinary analysis of environmental issues, representing an impressive versatility and rigor of thought across methodological and theoretical boundaries, is GREGORY BATESON, *STEPS TO AN ECOLOGY OF MIND* 496-513 (1972).

168. For examples of triadic works, see Christopher S. Elmendorf, *Ideas, Incentives, Gifts, and Governance: Toward Conservation Stewardship of Private Land, in Cultural and Psychological Perspective*, 2003 U. ILL. L. REV. 423; James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309 (2001); Spyke, *supra* note 88; A. Dan Tarlock, *Environmental Law: Ethics or Science?*, 7 DUKE ENVTL. L. & POL'Y F. 193 (1996); Robert R.M. Verchick, *Steinbeck's Holism: Science, Literature, and Environmental Law*, 22 STAN. ENVTL. L.J. 3 (2003).

169. See, e.g., Fred P. Bosselman, *What Lawmakers Can Learn From Large-Scale Ecology*, 17 J. LAND USE & ENVTL. L. 207 (2002); Fred P. Bosselman & A. Dan Tarlock, *The Influence of Ecological Science on American Law: An Introduction*, 69 CHI.-KENT L. REV. 847 (1994); Holly Doremus, *Nature, Knowledge, and Profit: The Yellowstone Bioprospecting Controversy and the Core Purposes of America's National Parks*, 26 ECOLOGY L.Q. 401 (1999); Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 WASH. U. L.Q. 1029 (1997); Holly Doremus, *Patching the Ark: Improving Legal Protection of Biological Diversity*, 18 ECOLOGY L.Q. 265 (1991); Mark Sagoff, *Ethics, Ecology, and the Environment: Integrating Science and Law*, 56 TENN. L. REV. 77 (1988).

170. See *supra* note 15.

171. See, e.g., TERRY L. ANDERSON & DONALD R. LEAL, *FREE MARKET ENVIRONMENTALISM* (rev. ed. 2001); Jonathan H. Adler, *Free and Green: A New Approach to Environmental Protection*, 24 HARV. J. L. & PUB. POL'Y 653 (2001); Dean Lueck, *Property Rights and the Economic Logic of Wildlife Institutions*, 35 NAT. RESOURCES J. 625 (1995); Barton H. Thompson, Jr., *What Good Is Economics?*, 37 U.C. DAVIS L. REV. 175 (2003); Barton H. Thompson, Jr., *Markets for Nature*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 261 (2000); Barton H. Thompson, Jr., *The Endangered Species Act: A Case Study in Takings and Incentives*, 49 STAN. L. REV. 305 (1997).

172. See, e.g., Bradley C. Bobertz, *Legitimizing Pollution Through Pollution Control Laws: Reflections on Scapegoating Theory*, 73 TEX. L. REV. 711 (1995); Lisa Heinzerling, *Environmental Law and the Present Future*, 87 GEO. L.J. 2025 (1999); Peter H. Huang, *International Environmental Law and Emotional Rational Choice*, 31 J. LEGAL STUD. 237 (2002); Jeffrey J. Rachlinksi, *The Psychology of Global Climate Change*, 2000 U. ILL. L. REV. 299 (2000); Jeffrey J. Rachlinksi, *Perceptions of Fairness in Environmental Regulation*, in STRATEGIES FOR ENVIRONMENTAL ENFORCEMENT 339 (Barton H. Thompson, Jr. ed., 1995).

173. Coglianese, *supra* note 29.

Chicago¹⁷⁴ and the other on environmental ethics in practice¹⁷⁵ – featured chapters by a diverse range of scholars, some of which involved attempts to link multiple disciplines and methods of analysis. Bradley Karkkainen’s legal scholarship on collaborative ecosystem governance¹⁷⁶ and Elinor Ostrom’s non-legal scholarship on common pool resources¹⁷⁷ also have significant multidisciplinary elements. While legal scholars likely do not have the education in methods and theories to engage in high-quality analysis from more than one or two disciplinary approaches, legal scholars are better equipped than one might think to grasp multidimensional aspects of environmental problems. Many legal scholars had some sort of formal education in other disciplines prior to attending law school, and contemporary legal education is now rich with “sampling” of insights from other disciplines like philosophy, economics, psychology, and sociology. Furthermore, thinking like a lawyer requires the mental capacity to consider a wide and complex range of facts, factors, and perspectives on any given problem or issue. All of this means that legal scholars are well-prepared to take leadership in constructing teams of scholars from different disciplines that will work together – not just in a series of different insights but in a set of coordinated and collaborative insights – to map the interconnections of multiple forces, factors, institutions and processes involved in environmental conservation efforts. At the moment, it would seem that qualitative empirical methods – case studies, ethnographies, and histories¹⁷⁸ – offer the best starting point for this research, although I suspect that in only a few decades or less, we will have testable models.

Finally, legal educators have the task of integrating multidisciplinary perspectives into the study of environmental law. The imperative is not to engage in ad hoc sampling of insights from other disciplines or engage in an

174. RECONSTRUCTING NATURE: PERSPECTIVES FROM THE SOCIAL SCIENCES AND HUMANITIES (Paul H. Gobster & R. Bruce Hull eds., 2000).

175. RECONSTRUCTING CONSERVATION: FINDING COMMON GROUND (Ben A. Minteer & Robert E. Manning eds., 2003).

176. Karkkainen, *supra* note 106; Karkkainen, *supra* note 33.

177. ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION (1990); ELINOR OSTROM ET AL., RULES, GAMES, AND COMMON-POOL RESOURCES (1994); Elinor Ostrom, *Reformulating the Commons*, in PROTECTING THE COMMONS: A FRAMEWORK FOR RESOURCE MANAGEMENT IN THE AMERICAS 17-41 (Joanna Burger et al. eds., 2001).

178. See, e.g., ELLICKSON, *supra* note 26, at 6-8; CLIFFORD GEERTZ, THE INTERPRETATION OF CULTURES (1973); CLIFFORD GEERTZ, LOCAL KNOWLEDGE: FURTHER ESSAYS IN INTERPRETIVE ANTHROPOLOGY (3d ed. 2000) (1983); ETHNOGRAPHIES OF CONSERVATION, *supra* note 98; ROBERT K. YIN, CASE STUDY RESEARCH: DESIGN AND METHODS (2d ed. 1994); MICHAEL QUINN PATTON, QUALITATIVE EVALUATION AND RESEARCH METHODS (3d ed. 2000); Lea S. Vanderveelde, *Local Knowledge, Legal Knowledge, and Zoning Law*, 75 IOWA L. REV. 1057 (1990). For interesting and useful applications of case study and ethnographic methods to environmental ethics in practice, see PATTI H. CLAYTON, CONNECTION ON THE ICE: ENVIRONMENTAL ETHICS IN THEORY AND PRACTICE (1998) (case study of the rescue of ice-trapped gray whales off the Alaska coast in 1988).

occasional observation about a non-legal dimension to an environmental problem. Instead, we must engage our students in more systematic considerations of non-legal dimensions of environmental issues. One such way is to offer multi-disciplinary classes and multi-disciplinary joint degree programs. Stanford Law School's Environmental and Natural Resources Law and Policy Program has pioneered with such classes and a new interdisciplinary joint degree program in law and environmental studies.¹⁷⁹ If lawyers are skilled in understanding and relating to the multidimensional aspects of environmental problems, we will likely see more effective use of environmental law and more effective pursuits of an environmental ethic in practice. As the Mono Lake case study demonstrates, environmental law matters but only as a component of a broader whole.

179. *Stanford's New Interdisciplinary Environmental Major*, THE NATURAL RESOURCE (Stanford Law School Environmental and Natural Resources Law & Policy Program Newsletter), Fall 2003, at 7 (on file with the *Wyoming Law Review*).