Shaping the Future: The Dialectic of Law and Environmental Values

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TABLE OF CONTENTS

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INTRODUCTION

Law professors and legal practitioners are professionally conditioned to think of law primarily as a tool for changing behavior, and indeed as the primary tool for doing so. Over the past generation, we have expanded our vision somewhat as theorists have reminded us of the expressive and symbolic role of law,[1] and the law and economics movement has presented law as just one among an array of incentives for behavior.[2] Nonetheless, we remain rather strongly focused on law as a key mediator of human behavior.

With respect to long-term problems like those posed by environmental policy, I submit that a broader focus is appropriate. The importance of law in this context turns as much on its ability to help our successors share our values, and to help both ourselves and our successors actually put those values into practice, as on its direct impact on current behavior. I therefore look to work on value development and the translation of values into behavior for lessons for environmental law and policy. I conclude that, in order to maximize the likelihood that our present policies will promote the development of a future society with the desire and capacity to protect the environment, we should: 1) give high priority to physically and socially structuring our world so that nature is a routine part of people's daily lives; 2) encourage a vigorous public discussion of the values served by our environmental policies; 3) to the extent possible, tailor our law to require the collection and disclosure of information that highlights individual responsibility for environmental harm and the availability of individual actions to reduce that harm; and 4) think carefully about how we use market mechanisms to encourage environmental protection.

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[1] *See, e.g.*, Elizabeth S. Anderson & Richard H. Pildes, *Expressive Theories of Law: A General Restatement*, 148 U. PA. L. REV. 1503 (2000); Richard H. Pildes, *Why Rights Are Not Trumps: Social Meanings, Expressive Harms, and Constitutionalism*, 27 J. LEGAL STUD. 725 (1998); Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021 (1996).

[2] Often traced to the influence of Nobel-prize winning economist Ronald Coase and his famous paper, Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960), the field of law and economics has spawned, and continues to spawn, innumerable articles and books. *See, e.g.*, DAVID D. FRIEDMAN, LAW'S ORDER: WHAT ECONOMICS HAS TO DO WITH LAW AND WHY IT MATTERS (2000); CASS R. SUNSTEIN, ED., BEHAVIORAL LAW AND ECONOMICS (2000); RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW (6th ed., 2003); David A. Hoffman & Michael P. O'Shea, *Can Law and Economics Be Both Practical and Principled?*, 53 ALA. L. REV. 335 (2002); William M. Landes, *The Empirical Side of Law and Economics*, 70 U. CHI. L. REV. 167 (2003); Louis Kaplow & Steven Shavell, *Fairness Versus Welfare*, 114 HARV. L. REV. 961 (2001).

I am not arguing here that we should seek to change values in order to alter behavior. Rather, I focus on the desirability of encouraging future generations to perpetuate values we currently hold,[3] so that they may be inclined to support and perpetuate the policies we have already chosen to implement. In addition, under the rubric of value implementation, I contend that our policies should be designed to increase the likelihood that our successors (and indeed the current generation) will actually implement their environmental values through behaviors that protect nature.

I. THE LAW-VALUE DIALECTIC

It seems clear that law alone cannot solve our environmental problems. Many observers recognize that law will not be effective unless it is reasonably aligned with societal values; it is hardly surprising that law cannot force an unwilling society to protect the environment. As Alyson Flournoy writes, "environmental law cannot and will not succeed unless there is strong public commitment to conserving nonhuman nature."[4] Although the general point is hardly controversial, it is worth exploring in a bit more detail precisely why law falls short. There are two distinct reasons why law cannot be the only answer. First, law is an incomplete tool for regulating environmental behavior. Second, law is necessarily always subject to change. As a result, both current and future societal values play a crucial role in the success of environmental protection efforts.

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[3] I assume that American society in general currently values nature protection. That assumption rests both on the policies we currently maintain and on polling data which continues to show strong majority support for nature protection. *See, e.g.*, Mark Z. Barabak, *Bush Criticized as Fear for Environment Grows*, L.A. TIMES, Apr. 30, 2001, at A1 (reporting that in nationwide poll, 90% of respondents believed it was important to protect wilderness and open space, "58% - 34% majority said that protecting plants and animals should take priority over preserving personal property rights," and 53% - 36% majority supported reintroduction of wolves and grizzly bears in West); Darcy H. Kishida, *Safe Harbor Agreements Under the Endangered Species Act: Are They Right for Hawai'i?* 23 U. HAW. L. REV. 507, 523 n.135 (2001) (citing 1999 poll in which 84% of respondents supported ESA); John W. Ragsdale, Jr., *Alternative Communities for the High Plains: An Exploratory Essay on Holistic Responses to Issues of Environment, Economy, and Society*, 34 URB. LAW. 73, 92 n.32 (2002) (asserting that in summer 2001 poll, 75% of respondents wanted conservation to be part of any farm bill).

[4] Alyson C. Flournoy, *Building an Environmental Ethic from the Ground Up*, 37 U.C. Davis L. Rev. 53 (2003), *simultaneously published in* 27 ENVIRONS ENVTL. L. & POL'Y J. 53 (2003).

A. The Importance of Values

Law is an imperfect tool for environmental protection because it does not shape every decision with environmental consequences. For one thing, law cannot be perfectly enforced. Not all violations will be detected and sanctionable. In the endangered species context, the phrase is familiar: shoot, shovel, and shut up.[5] That may not be either as easy or as common as is sometimes claimed, but it seems clear that it can happen in some situations. Otters,[6] condors,[7] wolves[8] and other creatures protected by the Endangered Species Act (ESA)[9] meet violent ends at human hands and the assailants sometimes escape detection and prosecution. Perceived enforcement difficulties may well stand in the way of adoption of other laws that target individual behavior, such as restrictions on nonpoint source water pollution.

Even if it were perfectly enforceable, law does not address every decision that affects the environment. Although we have a range of environmental laws, the vast majority do not require that people take affirmative action to restore degraded environments.[10] Instead, they concentrate solely on slowing or halting additional degradation. That

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[5] *See, e.g.*, Shi-Ling Hsu, *A Game-Theoretic Approach to Regulatory Negotiation and a Framework for Empirical Analysis*, 26 HARV. ENVTL. L. REV. 33, 58 (2002).

[6] *See* William Booth, *Reintroducing a Political Animal*, 241 SCI. 156, 157 (1988); Neil Farrell & Kathe Tanner, *Officials Seek Suspect in Sea Otter Shooting*, TRIB. (San Luis Obispo), Mar. 26, 2003 (reporting "the sixth incident in three years of a sea otter shooting on the Central Coast"), *available at* http://www.tmmc.org/learning/comm/tribune_seek_suspect.asp (last visited Oct. 9, 2003).

[7] *See* Ken McLaughlin, *Condor's Death Sparks Outrage*, SAN JOSE MERCURY NEWS, Feb. 22, 2003, at A19 (noting that five condors have been shot to death since federal reintroduction program began in 1992); Don Thompson, *Hunter Faces Prison Sentence for Killing Endangered Condor*, SAN DIEGO UNION-TRIB., May 15, 2003, at A5.

[8] *See Second Idaho Wolf Found Shot*, U.S. NEWSWIRE, Dec. 12, 2000; Jim Erickson, *Gray Wolf Pup is Dead Six Days After Its Release*, ARIZ. DAILY STAR, Mar. 23, 1999, at B1 ("Five of the first 11 Mexican gray wolves released into the wild last year died of gunshot wounds.").

[9] 16 U.S.C. §§ 1531-1544 (2000).

[10] The conspicuous exception is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675 (1994), and its state analogues. CERCLA makes property owners and those responsible for hazardous material spills liable for the cost of cleanups. That liability rests in part on the understanding that hazardous materials in the environment can pose a hidden human health threat. Even with that understanding, though, enforcement of CERCLA and state superfund laws is often quite controversial, particularly when responsibility seems attenuated. *See* Gary Delsohn, *State is Suing Ex-Dry Cleaners*, SACRAMENTO BEE, Apr. 28, 2003, at A1 (noting that people who were in dry cleaning business many years ago, as well as current owners of warehouse once used by dry cleaners, had been sued by state for costs of cleaning up contamination of local water supply with perchloroethylene).

balance is not likely to shift radically in favor of enforced restoration because of the perception that it would be unfair to require environmental restoration without a clear showing of responsibility for the degradation. Even with respect to the environmentally destructive activities law does regulate, there is frequently a period of time before the legal prohibition applies when its future impact can be preempted by quick destructive action. Lueck and Michael, for example, have demonstrated that pine forests in the southeast are harvested at earlier ages in areas near the habitat of the endangered red-cockaded woodpecker.[11] They speculate that timber owners are motivated to remove trees before the woodpeckers move in, bringing with them regulations that could prevent harvest. Along the same lines, there have been several reports of habitat destruction in advance of impending listings under the ESA.[12]

Given these shortfalls, it is apparent that if a substantial portion of the population (and perhaps even if a small group concentrated in a particularly sensitive or important area) is resistant to environmental protection, that group can undermine society's ability to achieve its environmental goals notwithstanding the existence of tough environmental laws. One answer to that problem, often suggested by economists, is to emphasize economic incentives to encourage environmentally responsible behavior, rather than regulatory mandates.[13] That tends to worry environmentalists in ways they may not always effectively articulate. It can be easy to portray concerns about using economic incentives as antidemocratic, showing that environmentalists do not believe people care enough about the environment to shoulder the costs of its protection.[14] More charitably,

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[11] Dean Lueck & Jeffrey A. Michael, *Preemptive Habitat Destruction Under the Endangered Species Act*, 46 J.L. & ECON. 27 (2003).

[12] *See* Hsu, *supra* note 5, at 58-59.

[13] *See, e.g.*, TERRY L. ANDERSON & DONALD R. LEAL, FREE MARKET ENVIRONMENTALISM (2001); Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 COLUM. J. ENVTL. L. 171 (1988); Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era from an Old Idea*, 18 ECOLOGY L.Q. 1 (1991); Robert N. Stavins, *Policy Instruments for Climate Change: How Can National Governments Address a Global Problem?*, 1997 U. CHI. LEGAL F. 293; Richard B. Stewart, *Controlling Environmental Risks Through Economic Incentives*, 13 COLUM. J. ENVTL. L. 153 (1988); Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 YALE L.J. 677 (1999).

[14] A number of commentators have argued that "fiscal illusion" may lead the government to demand more than the socially optimal level of conservation if it is able to act by regulation, externalizing the costs of conservation onto landowners. *See* Barton H. Thompson, Jr., *Conservation Options: Toward a Greater Private Role*, 21 VA. ENVTL. L.J. 245,

environmentalists might be worried about the inefficiencies of tax collection and spending[15] or about paying for protective actions that at least some landowners would have undertaken without remuneration. I think, though, that their most fundamental concern is the long-term one that, over time, paying people for environmentally responsible behavior may erode the societal desire to conserve, so that even if we are willing to undertake the burden of environmental protection today, our successors will not willingly do so tomorrow. Some support for this view is found in studies showing that short-term use of economic incentives does not change behavior in the long term[16] and that use of a market framework can encourage self-interested behavior.[17]

The second reason why law alone cannot be the answer is that environmental problems are typically long-term, whereas law by its very nature is necessarily always subject to change. Most environmental problems cannot be solved by isolated action at any one point in time. Typically, they require long-term, continuing efforts; the extent of protective effort needed is likely to escalate over time as population and other pressures grow.[18] At the same time, laws are always subject to modification or repeal by the current generation. We cannot compel our successors to maintain, let alone strengthen, the laws we have adopted. If we are serious about wanting to create a society in which people comfortably coexist with nature, we need to persuade our successors that they should also want that kind of world.

Fear that future generations will not share our commitment to the environment can affect our willingness to make environmentally protective policy choices today. The costs and benefits of environmental protection are often temporally separated, with the costs concentrated in the present and the benefits extending well into the future.[19] Such

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288-89 (2002) (collecting sources of that argument and noting its shortcomings).

[15] *See, e.g.*, Barton H. Thompson, Jr., *The Endangered Species Act: A Case Study in Takings and Incentives*, 49 STAN. L. REV. 305, 354-56 (1997) (explaining inefficiencies that funding conservation through taxes might cause).

[16] *See* Raymond DeYoung, *Expanding and Evaluating Motives for Environmentally Responsible Behavior*, 56 J. SOC. ISSUES 509, 511-12 (2000).

[17] *See* Samuel Bowles, *Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions*, 36 J. ECON. LIT. 75, 87-91 (1998); Robert H. Franks, *Does Studying Economics Inhibit Cooperation?* 7 J. ECON. PERSP. 159 (1993) (reporting that exposure to economic models increases self-interested behavior in prisoners' dilemma game).

[18] Holly Doremus, *Constitutive Law and Environmental Policy*, 22 STAN. ENVTL. L. REV. 295, 327 (2003).

[19] *See, e.g.*, Richard J. Lazarus, *Restoring What's Environmental About Environmental Law in the Supreme Court*, 47 UCLA L. REV. 703, 746-47 (2000) (noting that environmental injuries often occur at considerable temporal remove from actions that cause them, raising issues of

protective measures call for the present generation to sacrifice in favor of our successors. That kind of sacrifice is less likely if we do not believe that our successors will appreciate and continue our efforts. As a result, the values held by future society, as well as those of the present, are highly relevant to the effectiveness of our environmental policy efforts.

B. The Continuing Importance of Law

Law might serve simply as a stopgap, a placeholder to protect nature while society develops ethics that will ensure long-term protection. But we should recognize both a more permanent and a more formative role for law.

Environmental law will continue to matter, even if society develops and maintains strong environmental protection values. Law will always be needed to restrain the actions of deviants who reject societal values, as our current criminal laws show. As a society, we have a strong consensus that actions like murder and kidnapping are seriously wrong. The vast majority of us both share and abide by that consensus; we do not need the threat of imprisonment to dissuade us from committing heinous crimes. That fact, however, does not make a convincing argument for the repeal of our criminal laws. When actions threaten great harm and provide little or no social value, a social consensus may provide strong deterrence but not enough to satisfy us. We adopt penal sanctions to punish and deter those who either do not share the general social consensus or who prove unwilling or unable to govern their behavior according to that consensus.

I am not comparing most environmental violations to murder; obviously environmental transgressions are not subject to the same harsh and near-universal societal condemnation. I am simply suggesting that environmental protection, like other social goals, may require more than a societal consensus. Inevitably, some people will be "environmental deviants." They may disagree with a societal consensus in favor of environmental protection, they may have strong contrary motivations, or they may simply lack an effective self-sanctioning mechanism. At least some actions those "environmental deviants" would commit could cause grievous environmental harm and therefore merit deterrence or

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moral responsibilities to future generations). Lisa Heinzerling reminds us, however, that some environmental harms are less temporally distant than they may appear at first glance. As she points out, actions whose impacts on human health will not become apparent for many years into the future can cause dread, anxiety, and other reactions today. Lisa Heinzerling, *The Temporal Dimension in Environmental Law*, 31 ENVTL. L. REP. 11, 55 (2001).

punishment by legal sanctions.

But in the environmental context there is a stronger and more generally applicable reason why law must persist even if we develop a very firm consensus on societal values. Environmental problems are typically collective action problems that cannot be solved without the concerted action of a large number of persons. Individual action is futile; it costs the actor some effort or forgone opportunity without bringing the desired environmental gain. Under those circumstances, persons who hold environmentally protective values are likely not to act on those values without assurances that others will follow suit.[20] In theory, informal, non-legal, social sanctions could ensure sufficient compliance to prevent futility. But in our increasingly anonymous world, social sanctions such as shaming or ostracization may not operate very effectively.[21] Legal mandates can provide confidence that environmentally protective action will not be futile and that others will bear their fair share of the burden.

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[20] Evidence that perceptions of futility or helplessness discourage environmentally responsible behaviors supports this suggestion. Stephen Kaplan, *Human Nature and Environmentally Responsible Behavior*, 56 J. SOC. ISSUES 491, 498-99 (2000). A number of variables affect the willingness of rational individuals to participate in collective action. One of those is surely the likelihood that others will also act, increasing the probability of success. "The expected value of environmental activism is reduced if individuals do not trust others to reciprocate with activism of their own. People are only wiling to cooperate if they trust others to cooperate as well." Mark Lubell, *Environmental Activism as Collective Action*, 34 ENVT. & BEHAV. 431, 436 (2002). *See also* Peter H. Huang, *International Environmental Law and Emotional Rational Choice*, 31 J. LEGAL STUD. S237, S247 (2002) ("People with a conscience are willing to do their part but are not willing to be 'suckers.'"). A number of other psychological barriers to the solution of many environmental "commons" problems are detailed in Jeffrey J. Rachlinski, *The Psychology of Global Climate Change*, 2000 U. ILL. L. REV. 299 (2000); and Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENVTL. L. 241 (2000).

[21] In general, social norms have been most studied, and have been thought to operate most effectively, in close-knit groups. For example, publication of the names of those with delinquent parking tickets in the newspaper may be an effective means to encourage payment in a relatively small town but not in a big city. *See* City of Pueblo, Colorado, *Citizens With Outstanding Parking Ticket Violations, at* http://www.pueblogov.com/cgi-bin /gt/tpl_page.html,template=1&content=497&nav1=1& (last visited June 17, 2003). Pueblo is a city of roughly 100,000. The Greater Pueblo Chamber of Commerce, *Relocation Guide, at* http://www.puebloonline.com/about/demographics.htm (last visited Oct. 9, 2003). It may be that social norms and sanctions are more effective in loose-knit groups than has been generally recognized. *See generally* Lior Jacob Strahilevitz, *Charismatic Code, Social Norms, and the Emergence of Cooperation on the File-Swapping Networks*, 89 VA. L. REV. 505 (2003).

C. *Law and Dynamic Values*

Law, therefore, would be an important permanent aspect of environmental policy even if values were static, decided once for all time. But of course values are dynamic, subject to change over time. That means that we should also consider the role of law in the development and transmission of values when choosing our policy strategies.

Law structures society in countless ways, shaping its physical form, interpersonal relationships, institutions and even the capacity of individuals to engage in various actions.[22] Just as values inform and affect law, law informs and affects values; there is necessarily a dialectic between the two. Whether we seek actively to promote certain attitudes in ourselves and our successors,[23] or simply to maintain for them the opportunity to choose values from among a broad range of alternatives, law has a role to play. That role is not unique; social interactions, education and individual introspection all are undoubtedly important in the development of environmental values. But we should not downplay the connections. Law can either facilitate or inhibit the development and maintenance of environmental values and the ability to put those values into practice.

We should, therefore, plan our policies and build our institutions with an eye to their role in building the values of present and future generations and in translating those values into environmentally protective actions. In order to do that, we need to know more about how values develop and how they are transformed into behaviors.

II. VALUE DEVELOPMENT

For purposes of this paper, I use the term "values" in distinction to ethics or morals. By values, I mean the attitudes toward things and people that provide the underlying motivations for human behavior.[24]

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[22] Doremus, *supra* note 18, at 302-07.

[23] The ability to create and reinforce desirable character traits in the citizenry was an explicit justification for development of the national park system in the early Twentieth Century. *See* Holly Doremus, *Nature, Knowledge and Profit: The Yellowstone Bioprospecting Controversy and the Core Purposes of America's National Parks*, 26 ECOL. L.Q. 401, 441-42 (1999).

[24] Milton Rokeach has defined a value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence." MILTON ROKEACH, THE NATURE OF HUMAN VALUES 5 (1973). For purposes of this paper, the key point is that values seem to be arrived at internally, and largely through emotional rather than rational processes.

Ethics or morals, on the other hand, I take to mean considered reflection on how people should behave. Philosophers, despite their concentration on the rational arguments that construct ethics, have long recognized that emotional responses and intuitions are more powerful motivators of behavior. As Jennifer Welchman puts it: "No amount of argumentation, however well intentioned, will move people to act for the sake of 'values' about which they do not care."[25]

A. Development of General Moral Capacity

There is surprisingly little literature on precisely how people arrive at the scope of their moral concern. Quite a bit has been written on development of the capacity to behave morally but that literature largely takes the content of morality as a given, essentially assuming that morality means treating other persons as ends rather than means.

Nonetheless, while it does not precisely address the point I am interested in here, the moral development literature provides clues about both the development of values and their translation into behaviors that have relevance for environmental policy decisions. Lawrence Kohlberg, the leading theorist, argues that moral character development requires both a certain level of cognitive development and practice in taking the perspective of others. He suggests that moral character is not fixed in childhood but develops gradually throughout life.[26] Kohlberg has

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[25] Jennifer Welchman, *The Virtues of Stewardship*, 21 ENVTL. ETHICS 411, 413 (1999); *see also* Norman S. Care, *Future Generations, Public Policy, and the Motivation Problem*, 4 ENVTL. ETHICS 195, 202 (1982) ("It is one thing to understand what morality requires and another thing to be moved to do what morality requires."); Thomas Heyd, *The Case for Environmental Morality*, 25 ENVTL. ETHICS 5, 13 (2003) (observing that ethical "arguments cannot replace the *motivating* power represented either by a sense of personal responsibility or by societal demands to take certain responsibilities"); David W. Orr, *Political Economy and the Ecology of Childhood*, *in* PETER H. KAHN, JR., & STEPHEN R. KELLERT, CHILDREN AND NATURE 279, 299 (2002) ("We are likely to save, as Stephen Jay Gould notes, only what we have first come to love."). The role of emotions in moral action was recognized as early as Hume, who wrote: "[M]orality is determined by sentiment. It defines virtue to be whatever mental action or quality gives to a spectator the pleasing sentiment of approbation; and vice the contrary." DAVID HUME, AN INQUIRY CONCERNING THE PRINCIPLES OF MORALS 107 (1957); *see also* SIDNEY CALLAHAN, IN GOOD CONSCIENCE: REASON AND EMOTION IN MORAL DECISION MAKING 115-42 (1991) (advocating integrated form of moral decisionmaking that uses reason, intuition, and emotions). Interestingly, magnetic resonance imaging has shown that areas of the brain associated with emotions are activated when people are asked to reason through certain kinds of moral dilemmas. *See* Laura Helmuth, *Moral Reasoning Relies on Emotion*, 293 SCI. 1971 (2001).

[26] Lawrence Kohlberg, *The Development of Moral Judgment and Moral Action*, *in* CHILD PSYCHOLOGY AND CHILDHOOD EDUCATION: A COGNITIVE-DEVELOPMENTAL VIEW 259, 269 (1987).

identified three stages of moral development. In the first stage, dubbed the pre-conventional, the actor simply seeks to avoid punishment. In the second, the conventional, she follows societal rules, evidencing concern about both social approval and the welfare of others. In the highest stage of moral development, the post-conventional, she recognizes and acts on moral principles when those principles conflict with the rules, taking personal responsibility for her actions rather than deflecting that responsibility onto the architects of society's rules.[27]

Kohlberg has studied progress through those stages primarily in children and young adults. In his view, many adults never make it to the third, post-conventional, stage. He finds that external conditions, not just internal or autonomous development, influence the rate of moral progress. Active participation in a peer group, which provides opportunities both to take the perspective of others and to engage in discussions in which one's views are seriously considered, promotes moral growth.[28] He also concludes that moral development is enhanced by the perception that the rules are fair, by a process of rule development that includes opportunities for discussion and exchange about what fairness requires, and by a sense of responsibility for the group's welfare.[29]

Another leading student of the psychology of moral development, Norma Haan, puts even greater emphasis on the role of social interaction.[30] Engaging in and coping with moral disagreements among peers, she believes, helps children or young adults learn to understand and respect the views of others. She concludes that the emotional experience of such conflict, rather than the cognitive experience of simple exposure to another's moral reasoning, produces moral development.[31] Under either Kohlberg's or Haan's interpretation, exposure to role models — persons who behave morally and who explain their conduct — would play an important role in moral development.[32]

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[27] *Id.* at 283-87.

[28] *Id.* at 313.

[29] *Id.* at 315.

[30] *See* Norma Haan, *Processes of Moral Development: Cognitive or Social Disequilibrium?*, 21 DEVELOPMENTAL PSYCH. 996 (1985).

[31] *Id.* at 1005.

[32] *See also* Wendy A. Horwitz, *Developmental Origins of Environmental Ethics*, 6 ETHICS & BEHAV. 29 (1996).

B. Development of Environmental Values

Environmental values can be direct or indirect. By direct environmental values I mean attitudes of caring or respect for some elements of the nonhuman world. Indirect environmental values are attitudes that are consistent with the kinds of action needed to protect the environment but that do not necessarily rest on an attitude of caring for the environment. I discuss the development of the two separately below.

1. Direct Environmental Values and Affection for Nature

Development of direct environmental values apparently requires the formation of emotional connections with nature. People may well be hardwired to be susceptible to those kinds of connections[33] but there is wide agreement that direct personal experience of nature promotes, and isolation from nature inhibits, their development.[34] There is considerable anecdotal evidence of the role of personal experience in the outdoors as a foundation for enduring fascination with and love of nature.[35] Despite

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[33] *See, e.g.*, Ernest Partridge, *Ecological Morality and Nonmoral Sentiments*, 18 ENVTL. ETHICS 149, 159 (1996) (arguing that "among those genes that hard-wire our nervous system, are a few that dispose us toward having positive 'natural sentiments' toward undisturbed nature, and conversely, to suffer when deprived of our primeval landscapes"). For general discussions of this "biophilia hypothesis," see EDWARD O. WILSON, BIOPHILIA (1984); THE BIOPHILIA HYPOTHESIS (Stephen R. Kellert & Edward O. Wilson eds., 1993); STEPHEN R. KELLERT, KINSHIP TO MASTERY: BIOPHILIA IN HUMAN EVOLUTION AND DEVELOPMENT (1997).

[34] There are those who argue that contact with nature is essential to healthy human development. *See, e.g.*, RACHEL KAPLAN & STEPHEN KAPLAN, THE EXPERIENCE OF NATURE: A PSYCHOLOGICAL PERSPECTIVE (1989); Stephen R. Kellert, *Experiencing Nature: Affective, Cognitive, and Evaluative Development in Children*, *in* KAHN & KELLERT, *supra* note 25, at 117, 139 ("What seems evident . . . is that direct experience of nature plays a significant, vital, and perhaps irreplaceable role in affective, cognitive, and evaluative development") [hereinafter Kellert, *Experiencing Nature*]; PAUL SHEPARD, NATURE AND MADNESS (1982). For purposes of this paper, I need not go that far. I argue only that contact with nature appears to greatly enhance the chances of development of the kind of affectionate relationship with nature I see as essential to firm support of environmentally protective policy measures.

[35] *See, e.g.*, ROBERT PYLE, THE THUNDER TREE (1993); Lisa Heinzerling, *Minnesota Wild*, 87 MINN. L. REV. 1139 (2003). Although advocates for nature may be the most likely group to recite such anecdotes, the influence of experiences in nature seems to extend far more broadly. His recent study of the Supreme Court's treatment of environmental cases leads Richard Lazarus to conclude that: "The extent to which a person, including a Supreme Court Justice, cares about environmental protection seems especially susceptible to being defined by their own personal experiences with the natural environment. A Justice's affinity for the natural environment, in turn, influences his or her conceptualization of the legal issues presented in an environmental protection setting." Richard J. Lazarus,

its anecdotal nature, that evidence is highly persuasive to many of us who count love of nature among our own personal values, because we recall our own childhood experiences in the natural world sparking or feeding that love.

In addition, considerable empirical work has confirmed the role of direct experience of nature in the development of pro-environment attitudes. Environmental attitudes and preferences for nature have been shown to be strongly influenced by the extent to which children have actual, direct experience in natural settings.[36] For example, in interviews with environmental activists in Norway and Kentucky, researchers found that the most frequently mentioned sources of commitment to environmentalism were "positive experiences of natural environments in childhood" and family role models.[37] In Singapore, only those who had childhood opportunities to enjoy nature confessed to an intrinsic appreciation of natural areas.[38]

It is unclear whether these direct experiences with nature *must* take place during childhood in order to be effective. Most of the investigations have concentrated on the experiences of children, and most of the memoirs focus on that time in the authors' lives, but there has been little exploration of that focus. Perhaps children are more sensitive and open to building emotional connections as a result of their

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Restoring What's Environmental About Environmental Law in the Supreme Court, 47 UCLA L. REV. 703, 766 (2000). Widespread direct personal experience in nature, therefore, may not only increase the chances that legislatures will adopt environmentally protective legislation but also the chance that judges (and presumably regulatory agencies) will interpret that legislation in an environmentally protective manner.

[36] Judith H. Heerwagen & Gordon H. Orians, *The Ecological World of Children*, *in* KAHN & KELLERT, *supra* note 25, at 29, 55; *see also, e.g.*, Heyd, *supra* note 25, at 19-21; Kathleen A. Hoyt & Linda P. Acredolo, *How Do Childhood Experiences Influence Environmental Attitude Formation?*, *in* EQUITABLE AND SUSTAINABLE HABITATS: PROCEEDINGS OF THE TWENTY-THIRD ANNUAL CONFERENCE OF THE ENVIRONMENTAL DESIGN RESEARCH ASSOCIATION 221, 226 (Ernesto G. Arias & Mark D. Gross eds., 1992) (noting that development of "pastoralism," implying high value placed on nature, in children was correlated with residence in rural rather than urban location). There is also indirect evidence for this proposition. In a 1984 study, Stephen Kellert found that suburban residents had significantly greater knowledge of wildlife and the environment than residents of large cities and that the suburban residents were significantly more likely to hold "naturalistic" views of the environment, defined as attitudes of "primary interest and affection for wildlife and the outdoors." Stephen R. Kellert, *Urban American Perceptions of Animals and the Natural Environment*, 8 URB. ECOL. 209, 213-15 (1984). It seems quite likely that the suburban residents had more frequent direct contact with nature than the city dwellers.

[37] Louise Chawla, *Spots of Time: Manifold Ways of Being in Nature in Childhood*, *in* KAHN & KELLERT, *supra* note 25, at 199, 212-13.

[38] *Id.* at 217. Chawla reports that British and German studies have produced similar data. *Id.*

experiences, with nature and other stimuli.[39] Or perhaps childhood is just when people tend to have time for such experiences.[40] Nonetheless, childhood does not appear to be the only relevant time frame; at least one study suggests that adult emotional connections with nature are a function of both present and childhood experiences in nature.[41]

Although any experience in nature may be better than none, the type of experience seems to strongly affect the likelihood that it will lead to a caring relationship with nature. Nature must be experienced, at least initially, in ways that do not pose a threat to physical safety; early experience in nature should be comfortable and relaxing, not frightening.[42] The circumstances should promote non-utilitarian enjoyment or appreciation; rural residents who strongly perceive that their income depends upon exploitation of nature often develop only utilitarian attitudes toward nature.[43] It also appears that natural interactions which engage the mind are more effective than others in building the kind of affectionate attitude that makes people want to protect nature. In other words, it is not enough simply to pass through the outdoors on our trips from home to job or school and back. The nature experiences that build emotional connections are those that encourage attempts to understand what is happening in the natural

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[39] Some data suggests that people tend to become "more pragmatic in their attitudes toward the natural world" as they age and take on the responsibilities of work and family. Kellert, *supra* note 36, at 217; *see also* Hoyt & Acredolo, *supra* note 36, at 227 ("it appears that childhood may be a 'sensitive period' for developing place attachment and environmental empathy"); Rachel Sebba, *The Landscapes of Childhood: The Reflection of Childhood's Environment in Adult Memories and in Children's Attitudes*, 23 ENV'T & BEHAV. 395 (1991) (suggesting that unstructured interaction with natural environment has special power to engage children).

[40] In these days of highly structured childhood activity, and parents unwilling to leave their children to their own devices, we might well worry whether, even if we aggressively protect nature where people live, children will be given the time and freedom to experience it on terms likely to develop affectionate relationships.

[41] Elisabeth Kals et al., *Emotional Affinity Toward Nature as a Motivational Basis to Protect Nature*, 31 ENV'T & BEHAV. 178, 191-93 (1999).

[42] Heyd, *supra* note 25. This does not appear to be a problem for most Americans today. *See* Ben A. Minteer & Robert E. Manning, *Pragmatism in Environmental Ethics: Democracy, Pluralism, and the Management of Nature*, 21 ENVTL. ETHICS 191, 201 (1999) (presenting data showing that very few Americans see nature as threat).

[43] *See, e.g.*, 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, 437-451 (2003) (collecting and describing some of Kellert's work on attitudes of rural groups); Kellert, *supra* note 36, at 215; Kathryn H. Williams & John Cary, *Landscape Preferences, Ecological Quality, and Biodiversity Protection*, 34 ENV'T & BEHAV. 257, 272 (2002) ("Rural landholders described vegetation largely in terms of its value for their stock, a major source of income, and prefer those landscapes that provide grass for stock feed.").

world, fully engaging our attention.[44] That may be because people inherently are motivated to learn, or because they are uncomfortable when they are confused or do not understand what is going on around them.[45]

The nature in which these experiences occur need not take the form of large, pristine wilderness areas. Vacant lots, barely recognizable streams, old fields in the process of returning to woodland, and other environments we typically think of as degraded can nonetheless provide the intimacy and nature literacy that seem to key affection.[46] More important than the undisturbed quality of the location is the form, or rather formlessness, of the experience. It should be unstructured, not controlled by a walk leader or constrained by narrow trails;[47] it should engage the participant intellectually as well as emotionally, encouraging her not only to observe nature but to interact with it;[48] and it should be repeated regularly, which tends to require that the place experienced be highly accessible to the participant's daily life. The right kind of experience with anything recognizable as "nature," that is any place obviously not under complete human control, can serve as a gateway to greater interest in and learning about ecological processes, and to involvement in conservation issues at a local and perhaps even a larger level.[49]

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[44] One recent study found that, of a series of qualities people might find in landscapes, "fascination" was the only one with a statistically significant causal link to ecological behavior. They described fascination as "effortless attention engaged by objects in the environment or the process of making sense of the environment." Terry Hartig et al., *Psychological Restoration in Nature as a Positive Motivation for Ecological Behavior*, 33 ENV'T & BEHAV. 590, 592-93, 598 (2001).

[45] Kaplan, *supra* note 20, at 498.

[46] Robert Michael Pyle, *Eden in a Vacant Lot: Special Places, Species, and Kids in the Neighborhood of Life*, *in* KAHN & KELLERT, *supra* note 25, at 305, 312.

[47] Pyle suggests that nature reserves are, in fact, less effective than vacant lots as the springboard to a lifetime affectionate relationship with nature. Children, he contends, must be able to leave the trail, and allowed to do some damage to the area in the course of their exploration. *Id.* at 319; *see also id.* at 323 ("Our cities need to maintain the natural habitats of children-undedicated, unmanaged, undeveloped ground where unplanned, unsupervised, and unexpected discovery can take place.").

[48] *See* Raymond Chipeniuk, *Childhood Foraging as a Means of Acquiring Competent Human Cognition About Biodiversity*, 27 ENV'T & BEHAV. 490 (1995) (finding that people who had "foraged" as children, finding natural objects and putting them to some use, such as playing with them or using them for decoration, later showed greater understanding of biodiversity than others who had simply observed nature).

[49] James R. Miller & Richard J. Hobbs, *Conservation Where People Live and Work*, 16 CONSERVATION BIOL. 330, 334 (2002).

The experience of "virtual nature" mediated through television, film, or computers, is widely available but not a good substitute for direct experience. Virtual nature simply does not provide the same immediacy or intimacy. Worse, nature documentaries tend (for obvious reasons) to focus on the dramatic, unusual and attention-grabbing, and to compress long hours of observation into short moments on screen. Exposure to too much of the spectacular, rapidly moving virtual world may interfere with the ability to nurture a relationship with nature in the local, less dramatic, slower-paced forms children are likely to directly experience.[50] Some commentators worry that even direct experiences mediated by adults, such as those that children receive in zoos, may not have the intended effect, presumably because they are not as personally engaging and do not offer the same opportunities for personal exploration.[51]

Affection for nature, although it is a foundational environmental value, is not an indispensable element of all environmentally protective behavior. Human material self-interest can motivate environmental protection, as the current wave of "ecosystem services" literature reminds us.[52] I am unwilling to rely solely on that motivation for nature protection, however, because it does not go nearly far enough to satisfy me. While I do not doubt that we need to maintain at least minimal ecological processes for our own material good, I would like to see us preserve far more than that.[53] It seems that I am not alone in that view; our current policies do in fact go much further than the ecosystem services argument would justify. It would be hard to make an ecosystem services case, for example, for protection of the Delhi sands flower-loving fly from extinction[54] or of the scenery in Mineral King valley from

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[50] Daniel Levi & Sara Kocher, *Virtual Nature: The Future Effects of Information Technology on Our Relationship to Nature*, 31 ENV'T & BEHAVIOR 203 (1999); Pyle, *supra* note 46, at 318-19.

[51] Kellert, *supra* note 34, at 144-45.

[52] *See, e.g.*, Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253 (1997); GRETCHEN C. DAILY, ED., NATURE'S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS (1997); James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309 (2001); Barton H. Thompson, Jr., *Markets for Nature*, 25 WM. & MARY ENVTL. POL'Y REV. 261 (2000).

[53] *See* Holly Doremus, *The Rhetoric and Reality of Nature Protection: Toward a New Discourse*, 57 WASH. & LEE L. REV. 11, 46-49 (2000) (explaining how little protection will result from focus solely on human material well being).

[54] *See* Nat'l Ass'n of Home Builders v. Babbitt, 130 F.3d 1041 (D.C. Cir. 1997) (holding that Commerce Clause supports ESA prohibition on taking fly, which lives only in small area of California); *see also* GDF Realty Investments, Ltd. v. Norton, 326 F.3d 622 (5th Cir. 2003) (upholding constitutionality of ESA as applied to six cave-dwelling invertebrate species found only in two counties of Texas).

a Disney ski resort,[55] yet we have elected to protect both. Love or respect for nature, independent of material benefits (which is not to say independent of all anthropocentric benefits), must motivate that sort of policy. I am convinced that only personal experience with nature can bring robust awareness of those nonmaterial benefits and consequently the affection for and interest in nature needed to justify substantial amounts of nature protection.

2. Indirect Environmental Values

Although direct, personal affection for nature is the core environmental value, there are a number of other conventional values[56] which are consistent with, and may even be required for, effective environmental protection. These conventional values include, at least: unselfishness or concern for others; concern for future generations and respect for the past; and moderation, self-control, or frugality. Development of these values seems to have been less studied than love of nature, but we can expect that their development, too, depends more on emotional connections than on reason.

Unselfishness is shorthand for concern for the interests of others, both individuals and the larger community. It encompasses the willingness to act cooperatively to address problems and the ability to see community demands as more important than one's individual preferences in at least some contexts. Given the collective action nature of environmental problems, unselfishness is almost by definition an essential aspect of their effective resolution. Empirical observations confirm that, in fact, strongly individualistic orientations are negatively associated with environmentally responsible behavior[57] and environmental concern is stronger among those with a deeper community orientation.[58]

Undoubtedly socialization plays a strong role in the development of cooperative values. The most interesting phenomenon for

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[55] *See* Sierra Club v. Morton, 405 U.S. 727 (1972) (holding that Sierra Club lacked standing to challenge issuance of federal permit to develop ski resort at Mineral King). On remand, Sierra Club revised its pleadings to meet the Court's requirement that it show that individual members used the affected area and added a NEPA count to its claims. Eventually, political action produced victory for the Sierra Club; the Mineral King valley was added to Sequoia National Park, putting it beyond the reach of such development. Oliver A. Houck, *Unfinished Stories*, 73 U. COLO. L. REV. 867, 919-20 (2002).

[56] By conventional, I mean that I assume these are among the values most American parents would like their children to develop.

[57] Paul C. Stern, *Toward a Coherent Theory of Environmentally Significant Behavior*, 56 J. SOC. ISSUES 407, 414 (2000).

[58] *Id.*

environmental policy, however, is that it appears that unselfishness can be undermined by the use of market frameworks, at least under certain circumstances. In experimental simulations, games framed as market transactions yield more self-interested behavior than those framed as cooperative exercises.[59] Markets may also act as "cognitive simplifiers," encouraging people to view the disparate things exchanged in markets as generic and fungible, rather than as unique and tied to social relationships.[60] The evidence on this point is not one-sided; context is apparently quite important. The outcome depends not just on whether market framing is used but also on the number of participants and the extent of anonymity in the market.[61] In some circumstances, creating a market that requires payment for things once made freely available can increase the respect with which those goods are treated.[62]

Concern for the future and respect for the past are additional conventional values that can contribute to environmental protection. I have found little information about how people develop concern for future generations. Today, that concern appears to be so widely shared that there may be little need to worry about promoting it or ensuring that it develops; perhaps any well-socialized human being has at least some concern for the next few generations. A recent study, for example, reports strong agreement in surveys of American adults with the statement that we have obligations to future generations. In fact, those obligations are cited as the single strongest influence on positive attitudes toward environmental protection.[63] Of course, the details of concern for the future may vary and may be quite important for environmental policy. People may readily empathize with and care about the next generation or two, members of which they know or expect to know personally, but find it more difficult to care about more distant generations. Historically, the Iroquois apparently managed to extend their concern at least seven generations[64] but probably very few of

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[59] Bowles, *supra* note 17, at 87-90 reviews much of the empirical evidence for this point. *See also* John Thogersen, *Recycling and Morality*, 28 ENV'T & BEHAV. 536 (1996); Robert H. Franks et al., *Does Studying Economics Inhibit Cooperation?*, 7 J. ECON. PERSP. 159 (1993) (observing that exposure to economic models of self-interested behavior increases self-interested behavior in a prisoners' dilemma game).

[60] Bowles, *supra* note 17, at 90.

[61] *Id.* at 89.

[62] *See* Lior Jacob Strahilevitz, *How Changes in Property Regimes Influence Social Norms: Commodifying California's Carpool Lanes*, 75 IND. L.J. 1231 (2000).

[63] Minteer & Manning, *supra* note 42 at 201.

[64] Larry Echohawk, *Child Sexual Abuse in Indian Country: Is the Guardian Keeping in Mind the Seventh Generation?*, 5 N.Y.U. J. LEGIS. & PUB. POL'Y 83, 83-84 (2001-2002).

us today could imagine or care about our descendants fifty generations hence.[65] Perhaps a general sense that we are engaged in a common project with the future,[66] that they will share our devotion to the environment and continue and extend our protective initiatives, can motivate strongly future-directed environmental action. Alternatively, our ability to care about our grandchildren and great-grandchildren, who are not faceless or impersonal, may be enough. If we care about our great-grandchildren and understand that they will care about theirs, that can motivate action directed at the reasonably distant future.

In a similar vein, Welchman suggests that the backward-looking virtue of loyalty to the persons and things that have played important roles in the formation of our characters or identities, the kind of loyalty that could bind succeeding generations to a common project, can be a pro-environmental value. The preservation of certain natural landscapes and their biota can be a means to "honor and renew our identification with past generations and attempt to extend their influence into the future"[67] and to transmit the values and virtues of those generations to the future.[68] By analogy to affection for nature, emotional ties to the past seem likely to be promoted by knowledge of the past, awareness of how it has shaped us, and awareness of how the surrounding environment shaped it. Obviously we cannot directly experience the past, but histories that carry personal salience for present generations should promote connections. Personal experience with the landscapes that shaped those histories — following or understanding that one has intersected the Oregon Trail or the path of Lewis and Clark, for example — can surely increase their salience.

Another conventional value with positive consequences for nature protection is that of moderation, self-control, or frugality. Light consumption (by Western standards at least) can make sustainability seem realistic, whereas unending escalation of consumption levels is hard to reconcile with any vision of environmental protection.[69]

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[65] *See* Norman S. Care, *Future Generations, Public Policy, and the Motivation Problem*, 4 ENVTL. ETHICS 195 (1982) (arguing that because those who will live many generations in future are faceless and impersonal to present generation, there is no possibility of sort of bonding or concern needed to motivate future-directed behavior).

[66] *See* Michael Mackenzie, *A Note on Motivation and Future Generations*, 7 ENVTL. ETHICS 63 (1985) (suggesting that "common-project community bond" can motivate action for benefit of future generations).

[67] Welchman, *supra* note 25, at 418.

[68] *Id.* at 419.

[69] *See, e.g.*, Anne H. Ehrlich & James Salzman, *The Importance of Population Growth to Sustainability*, 32 ENVTL. L. REP. 10,559, 10,559-61 (2002) ("[U]sing per capita energy use as a

Frugality strikes me as perhaps the most difficult of the indirect environmental values to develop in today's America. Indeed, I wonder whether today it is properly considered "conventional" at all,[70] in the wake of the "greed is good"[71] 1980s, with conspicuous consumption considered nearly patriotic and the Vice-President arguing publicly that while energy conservation may be a "personal virtue" it is not one the government should encourage.[72] Nonetheless, frugality is not an entirely forgotten value. A movement has developed to celebrate and encourage "voluntary simplicity,"[73] and prominent commentators have argued that

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rough index, it is estimated that one American consumes 45 times as much as the average sub-Saharan African, 17 times as much as the average Indian, and 9 times as much as the average Chinese. Furthermore, the U.S. population is growing more rapidly today than that of China."); John C. Dernbach, *Sustainable Development: Now More Than Ever*, 32 ENVTL. L. REP. 10,003, 10,012 (2002) ("With only 5% of the world's population, the United States in 1993 was responsible for 24% of the world's energy consumption and almost 30% of the world's raw materials consumption."); Lynn Price & Mark D. Levine, *Sustainable Production and Consumption of Energy: Developments Since the 1992 Rio Summit*, 33 ENVTL. L. REP. 10,033, 10043-44 (2003) (noting that U.S. remains more "energy-intensive," using more energy per dollar of gross domestic product, than other industrialized countries).

[70] As one commentator puts it, "[i]t may prove hard for Americans, brought up in a growth-oriented, pro-consumption society, to easily adopt a lifestyle emphasizing reduced consumption." Raymond DeYoung, *Some Psychological Aspects of Reduced Consumption Behavior: The Role of Intrinsic Satisfaction and Competence Motivation*, 28 ENV'T & BEHAV. 358, 358 (1996).

[71] That was the most famous line delivered by Gordon Gekko, the ruthless financier played by Michael Douglas, in the 1987 movie WALL STREET (20th Century Fox 1987). Reportedly real-life trader Ivan Boesky actually did say something much along those lines at a business school graduation ceremony. DOUGLAS FRANTZ, WALL STREET'S INSIDER TRADING SCANDAL, 145 (Levine & Co., 1987).

[72] *See, e.g.*, Mike Allen & Dana Milbank, *Cheney's Role Offers Strengths and Liabilities*, WASH. POST, May 17, 2001, at A1. Asked shortly after Vice-President Cheney's statement whether the President believed the American people should conserve energy, Press Secretary Ari Fleischer reportedly replied, "That's a big no. The president believes that it's an American way of life and that it should be the goal of policymakers to protect the American way of life. The American way of life is a blessed one. And we have a bounty of resources in this country." Transcript of Ari Fleischer's May 7 Daily Press Briefing, U.S. NEWSWIRE, May 7, 2001, *available at* 2001 WL 4143026.

[73] *See, e.g.*, DUANE ELGIN, VOLUNTARY SIMPLICITY: TOWARD A WAY OF LIFE THAT IS OUTWARDLY SIMPLE, INWARDLY RICH (1981). Voluntary simplicity reportedly was one of the top ten trends in the United States in the late 1990s. *See* Richard E. Roy, *The Lawyer's Lament*, OREGON ST. B. BULL. June 1997, at 9. "Voluntary simplicity . . . has two complementary concepts. To live voluntar[il]y means to consciously live more deliberately, intentionally, purposefully. Simplicity is not to run from progress; it is crucial to progress. It is choosing a pattern or level of consumption that fits within the confines of living on the planet that has grown by 450 million since the Earth Summit." Kristina M. Tridico, *Sustainable America in the Twenty-First Century: A Critique of President Clinton's Council on Sustainable Development*, 14 J. NAT. RESOURCES & ENVTL. L. 205, 241 (1998-1999). The Simple Living Network offers a web site which details the tenets of simplicity, provides advice for achieving the simple life, and includes links to discussion forums and

endless consumption, far from proving satisfying, is a barrier to a happy, fulfilling life.[74] For those who adopt it, frugality can apparently provide considerable personal satisfaction[75] and can encourage environmentally responsible behavior.[76]

III. VALUE IMPLEMENTATION: BUILDING A SENSE OF INDIVIDUAL CAPACITY AND RESPONSIBILITY

Values may be necessary to motivate behavior but they are not sufficient. Turning values into actions (a process described as "norm activation" in the behavioral psychology literature)[77] requires several factors: awareness that the things one cares about may suffer harm, knowledge that one has the ability to intercede effectively, and a sense of personal responsibility or obligation to intercede.[78] The ordinary human propensity toward denial can interfere with any of those elements and self-interest can overcome the motivation to act according to one's values.[79] Those pressures can be at least partly counteracted by publicly confronting people with discrepancies between the values they claim to hold and their actions.[80]

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resources for simplicity. The Simple Living Network, *Tools, Examples, and Contracts for Conscious, Simple, Healthy, and Restorative Living, at* www.simpleliving.net (last visited Oct. 10, 2003). The web site describes simplicity in the following terms: "Simplicity is not about poverty or deprivation. It is about discovering what is 'enough' in your life — based upon thoughtful analysis of your lifestyle and values — and discarding the rest." *Id.* In a clear demonstration that nothing is simple in the world of the American consumer, the simple living movement has spawned commercial spin-offs and magazines. *See, e.g.*, SimpleLiving.com, *at* http://www.simpleliving.com (last visited Sept. 20, 2003), The Best of Simplicity and More, *at* http://www.simpleliving.com (last visited Sept. 20, 2003). James Salzman notes that although the vast majority of Americans recognize that Americans consume more than they need, shopping remains the favorite activity of almost all teenage girls. James Salzman, *Sustainable Consumption and the Law*, 27 ENVTL. L. 1243, 1269 (1997).

[74] *See, e.g.*, ROBERT H. FRANK, LUXURY FEVER: WHY MONEY FAILS TO SATISFY IN AN ERA OF EXCESS (1999); JOHN DE GRAAF ET AL., AFFLUENZA: THE ALL-CONSUMING EPIDEMIC (2001).

[75] DeYoung, *supra* note 70, at 371-77.

[76] DeYoung, *supra* note 16, at 517-20 (reporting that those who exhibit environmentally responsible behavior derive considerable satisfaction from frugality).

[77] *See generally* Shalom H. Schwartz, *Words, Deeds, and the Perception of Consequences and Responsibility in Action Situations*, 10 J. PERSONALITY & SOC. PSYCH. 232 (1968); Russell Blamey, *The Activation of Environmental Norms: Extending Schwartz's Model*, 30 ENV'T & BEHAV. 676 (1998).

[78] Blamey, *supra* note 77 .

[79] *See, e.g.*, JOAN E. GRUSEC & HUGH LYTTON, SOCIAL DEVELOPMENT: HISTORY, THEORY, AND RESEARCH 346 (1988).

[80] Kohlberg, *supra* note 26, at 317. According to Kohlberg, this sort of public

In the context of environmental values, norm activation would appear to depend upon: 1) an understanding of what harms may threaten the environment, 2) awareness of actions one could take to address those harms, and 3) a sense of personal obligation to take those actions. People need to be made aware of both *why* they should act — that is, what problem they will be addressing and why it is important — and *how* they should act — that is, what steps they personally can take to make a difference.[81] People who believe they do not know how to act will do nothing, even if they are convinced that the problem is serious and they bear some responsibility for it.[82] Denial will be strongest when people feel they are not competent to deal with a situation and do not see how they might develop the ability to handle it.[83] In addition, because most environmental problems cannot be resolved without collective action, the sense of personal ability and obligation to act are likely to be greatest when others are also perceived as doing their part.[84] Because a sense of futility dampens norm activation, the traditional rhetoric of environmentalism, which has often centered on impending catastrophe,[85] may be counterproductive.[86] People who believe they can make a difference will be more strongly motivated to act than those who believe nature is doomed no matter what they do.[87]

Emotional ties to nature can play a direct role in the implementation, as well as the development, of environmental values. A study in Germany found that emotional affinity with nature was a good predictor of willingness to act privately to protect nature, and of actual protective

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confrontation or challenge can also promote moral development. *Id.*

[81] DeYoung, *supra* note 70, at 399.

[82] *Id.* That may in part explain the results of a study which found that energy use in Holland was far more strongly related to household income than to professed environmental values or awareness. Birgitta Gatersleben et al., *Measurement and Determinants of Environmentally Significant Consumer Behavior*, 34 ENV'T & BEHAV. 335 (2002). People may not have been aware of ways that they could reduce energy use in their larger homes. Indeed, for some categories of activity, the authors found clear evidence of that kind of lack of awareness. *Id.* at 351.

[83] Gatersleben, *supra* note 82 at 521 ("People find unpleasant and thus avoid situations in which they cannot advance or utilize their competence. When people are not sure how to proceed with a new behavior, they are easily overwhelmed.").

[84] Blamey, *supra* note 77, at 679.

[85] I have described this rhetorical strain as the "ecological horror story." Holly Doremus, *The Rhetoric and Reality of Nature Protection: Toward a New Discourse*, 57 WASH. & LEE L. REV. 11, 19-23 (2000).

[86] Kaplan, *supra* note 20, at 498.

[87] *See, e.g.*, Lubell, *supra* note 20, at 441 ("People who believe the environment is unhealthy and that they can do something about it are more likely to express intentions to engage in environmental activism and to actually act on those intentions.").

behavior.[88]

A number of studies have undertaken to evaluate the extent to which various interventions produce lasting changes in environmentally relevant behavior. These studies are difficult to evaluate because they tend to focus on a small range of behaviors, especially the recycling of solid waste. Because both the objective environmental value of the most studied behaviors and the subjective understanding of that value by study subjects are open to question, they may not perfectly reflect the challenges of translating environmental values into behavior.[89] Despite this limitation, the studies hold at least tentative lessons for policymakers.

One lesson is that educational approaches or appeals to morality by themselves "have generally disappointing track records."[90] Another is that combinations of interventions are more effective than any single intervention type,[91] presumably because behavior responds to a number of different elements of the context. The key is to choose interventions that address the barrier or barriers that limit environmentally friendly behavior in the particular context. Barriers may come in a variety of forms, including: lack of information about the environmental impacts of actions or about the possible alternatives; lack of resources, such as the money to buy a new, less polluting car or the time to separate garbage for recycling; denial of personal responsibility; or conflicting needs or desires.

Making environmentally responsible actions as apparent, easy, and satisfying as possible should encourage people to undertake them. That may mean providing information about the environmental consequences of actions, developing an infrastructure that supports environmentally responsible behaviors, showing people that they have a constructive role to play in a community that is collectively addressing an important problem,[92] or offering choices and involving people in decisions in ways that increase their sense of autonomy.[93] People must be given

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[88] Kals et al., *supra* note 41.

[89] *See, e.g.*, Gatersleben et al., *supra* note 82, at 337 (questioning environmental impact of behaviors that are frequently studied, such as buying recycled paper); *id.* at 338 (noting that "people may not always be aware of the environmental consequences . . . of their behavior").

[90] Stern, *supra* note 57, at 419. For a similar view, see Ann E. Carlson, *Recycling Norms*, 89 CAL. L. REV. 1231 (2001).

[91] Stern, *supra* note 57, at 419.

[92] DeYoung, *supra* note 16, at 520.

[93] *See* Chantal Seguin et al., *Toward a Model of Environmental Activism*, 30 ENV'T & BEHAV. 628 (1998) (reporting that level of individual autonomy was key determinant of

information at the outset about *how* to engage in the desired behavior and must be assured that their first, tentative, perhaps unsuccessful attempts will not subject them to sanctions or ridicule.[94] It may be useful, therefore, to begin with small, relatively easily accomplished steps that may motivate people to move on to more challenging ones. There is some evidence, for example, that recycling can serve as a "gateway" behavior, meaning that people who take up recycling may then move on to other environmentally responsible behaviors.[95]

IV. LESSONS FOR ENVIRONMENTAL POLICY

Clearly, there is much we do not know about the development and implementation of environmental values. We are not in a position to say with certainty how policy choices will affect future values. More careful empirical study should be a high priority. Nonetheless, even at this stage, I believe we can draw several useful lessons for environmental policy from this brief survey of value development and implementation. I will mention four that strike me as particularly important to the elaboration of policies that will be effective in the long term at protecting more than the minimal amount of nature needed to support human material well-being. We need to provide easy, convenient access to nature for as large a proportion of the population as possible. We need to encourage an honest and robust public discussion of environmental values and of values that may conflict with environmental protection. We should frame our policies in ways that highlight the environmental impacts of individual choices. Finally, we should use market strategies with care, being alert to their potential negative impacts on environmental values.

A. Provide Easy Access to Nature

Fundamentally, if our policies of environmental protection (at least those that go beyond protecting nature for its material benefits) are to

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environmentally responsible behavior); Gatersleben et al., *supra* note 82, at 355 ("studies have shown that information and educations about energy-saving options can result in reductions in household energy use").

[94] DeYoung, *supra* note 70, at 387.

[95] There may need to be a connection between the "gateway" and other behaviors. *See* Ida E. Berger, *The Demographics of Recycling and the Structure of Environmental Behavior*, 29 ENV'T & BEHAV. 515 (1997) (finding that people who recycled were more likely to engage in energy conservation, water conservation and other "consumer environmental" decisions than people who did not, but finding no correlation between recycling behavior and transportation decisions).

survive and succeed over the long run, our descendants must value nature. We cannot and should not force that value on them, but we can and should provide ample opportunities for them to adopt it, and show them why we think it is a desirable element to include in their set of values.

To do that, we should choose policies today that will physically structure the world in ways that will provide as many people as possible with easy access to nature in their daily lives. That means we need to resist the tempting strategy of putting all our nature protection resources into protecting a handful of "hotspots" or special places, especially if those places are distant from population centers and their protection entails stringent restrictions on human use.[96] It means thinking not only about the resources we want to save but about how to make those resources matter to people in ways that will inform their activities. Building awareness of the material benefits nature provides may be part of that process but it should not be all of it. Helping people engage with and develop emotional ties to their local nature should be a high priority. That means concentrating as much on local efforts as on national ones, since local land-use decisions have the strongest structural influence on the availability of nature to the community.

We should seek to make available a variety of nature experiences, ranging in wildness and accessibility. So far, we have tended to concentrate almost entirely on protecting our largest, wildest remaining natural areas. That concentration is understandable and I surely do not mean to suggest that those efforts have been wasted. They have resulted in the protection of, for example, our flagship national parks, places that are crucial to the mission of nature protection because they provide a place for hard-pressed elements of the biota and because they can inspire the kind of interested affection for nature I see as the keystone environmental value. Nor do I think that efforts to expand or improve our existing system of large reserves are misplaced — I am all for the Yellowstone-to-Yukon initiative,[97] for example, and I would very much like to see the Clinton administration's roadless rule remain in effect in our national forests.[98]

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[96] *See* Holly Doremus, *The Special Importance of Ordinary Places*, 23 ENVIRONS ENVTL. L. & POL'Y J. 3 (2000).

[97] For information about this attempt to develop a system of protected core areas and wildlife corridors in the Rocky Mountain region of the United States and Canada, see Yellowstone to Yukon Conservation Initiative, *at* http://www.y2y.net/ (last visited Oct. 20, 2003).

[98] The Ninth Circuit upheld the roadless rule in *Kootenai Tribe of Idaho v. Veneman*, 313

My point here is rather that those efforts should not continue to come at the expense of attention to more local nature. The environmental community should place a higher priority on local efforts lest local nature disappear entirely from our lives and the lives of our children. Engaging experience with local, non-threatening nature can draw people out to wilder areas and can motivate people to accept the trade offs necessary to protect those areas. I am not convinced that the reverse is true.

What we need, I submit, is a nature infrastructure to equal our road and utility systems. Creation of that infrastructure can be fairly straightforward if we focus our efforts and resources in that direction. We can look to the location of this symposium, the city of Davis, California, as a model for some of the easiest steps we might take. Davis has, since the 1970s, made a strong effort to include bicycle/pedestrian pathways separate from the road system as part of the infrastructure demanded with new development.[99] That effort has been successful; it is now possible to travel from one side of town to the other with only minimal contact with the roads. That helps make it easy for people to commute, visit friends, or do their errands without getting in a car, encouraging a slower pace that makes nature observation possible.

Intentionally or not, the bicycle/pedestrian infrastructure also provides corridors where nature can be encouraged to show itself. The pathways are not, of course, particularly wild. They are mostly landscaped and not always with native vegetation. By themselves, they probably cannot support viable populations of very many native species.[100] But that is not their primary purpose. They serve as places that draw people into contact with nature, helping them form an interest in and affection for nature that can last a lifetime. While bicycling to

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F.3d 1094 (9th Cir. 2002). The Bush administration recently announced plans to amend the rule to allow state governors to request exemption of lands from the rule's effect. *Bush to Help States Fight Logging Bans*, SPOKESMAN-REV. (Spokane, Wash.), June 10, 2003, at A1.

[99] Because the city's demands have been measured and uniform and because they have largely been imposed through tax assessments on purchasers of new homes rather than by requiring that the developer dedicate land to the city, Davis has not faced a takings challenge to its demands for bicycle/pedestrian infrastructure. In some circumstances bike path requirements can be vulnerable to takings claims. *See* Dolan v. City of Tigard, 512 U.S. 374 (1994). The Davis experience, however, demonstrates that such requirements can be structured in ways that are both politically and legally acceptable.

[100] There are some situations in which urban greenways and small protected areas can provide significant conservation values for particular species, such as migrating birds, Jean-Pierre L. Savard et al., *Biodiversity Concepts and Urban Ecosystems*, 48 LANDSCAPE & URB. PLAN. 131, 135 (2000), and rare plants, Mark W. Schwartz et al., *Conservation's Disenfranchised Urban Poor*, 52 BIOSCIENCE 601, 603 (2002).

work, I see Swainson's hawks courting and foraging in season. I have stumbled across gopher snakes, hummingbirds, butterflies, and other creatures without making any particular effort to do so. Furthermore, while I am lucky enough to be able to commute by bicycle to my job, it is not just commuters who use the paths. People walk, jog, and bicycle on them for exercise, recreation, and relaxation. Surely that kind of regular, unplanned, unforced contact with nature helps to build and maintain affection for it.

Similar corridors could be routinely designed into our suburban communities and small towns and in many places could even be retrofitted into larger cities. Since intellectual engagement with nature helps build an affectionate relationship, nature corridors should be treated as educational opportunities. Landscaping can be designed to feature native plants,[101] to be appropriate to the climate of the place,[102] and to attract birds, butterflies, and small mammals. The landscaping should allow a clear sense of "wildness," in distinction to the neat, highly manicured gardens that grace most suburban homes.[103] Interpretive signs can be placed at strategic locations, inviting passers-by to learn more about the place and the processes going on around them.

One serious shortcoming of the Davis path system is likely shared in many other places: it provides little opportunity for the kind of free exploration that engages youthful minds and hearts. Where the path abuts the old creekbed, I have seen children and adolescents descending to the creek to explore and build forts. But the city of Davis seems little inclined to permit such activities; it recently posting signs reading: "Wildlife corridor. Please stay on path." If we wish to encourage children to develop an affectionate relationship with nature, we should be careful about such signs. In some places, they may indeed be necessary to protect the biota or the children. But we should try to

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[101] In Davis, for example, the city is making an effort to encourage the growth and spread of native elderberry bushes, which potentially provide habitat for the federally listed valley elderberry longhorn beetle, as well as oaks and buckeyes.

[102] Xeriscaping, planting with drought-tolerant species, provides other benefits in arid areas by reducing the demands public spaces place on limited water supplies. Southern California's Metropolitan Water District recently distributed $500,000 to cities and other public agencies to encourage the use of drought-tolerant native species in public landscaping. Fred Swegles, *Casa's Gardens Get Boost with $75,000 Grant*, ORANGE COUNTY REG., May 22, 2003, at 1.

[103] A little conspicuous lack of grooming may be necessary to counteract apparent "cultural norms for neat appearance of landscapes." Kathryn J.H. Williams & John Cary, *Landscape Preferences, Ecological Quality, and Biodiversity Protection*, 34 ENV'T & BEHAV. 257, 259 (2002).

ensure that our nature infrastructure includes at least some areas where children are free to stray off the path and are invited to make their own place in nature.

Nature corridors of this sort cannot be our only strategy. We should continue to protect the larger areas that are more likely to be critical for biodiversity. We should also look for other ways to integrate nature into people's daily experience. Urban parks, for example, should be designed and constructed not just as recreational resources but as areas to experience and learn about nature. We should especially seek places where the experience of nature can be made accessible to poorer or minority communities, as the National Audubon Society has done with its Debs Park project in east Los Angeles.[104]

B. Encourage Robust Public Discussion of Values

Attention to the mechanisms of value development supports Alyson Flournoy's argument for a more robust inquiry into, and public discussion of, the values we seek to serve through environmental law.[105] That inquiry and discussion would serve several purposes.

First, reasoning through moral conflicts appears to build moral capacity.[106] To the extent that members of the public can be involved in the debate about our environmental values, they may become more engaged in moral debate generally and more likely to communicate that engagement and strong values to their children and others in the community.

Second, honest public debate, if it could be achieved, might help bridge some of the current hostility among contending sides in environmental conflicts.[107] We may find that all sides have more values in common than in opposition. The conflicts may be more about the relative priority that should be assigned to particular values, or the extent to which those values are implicated by the circumstances, than

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[104] Debs Park is located in a low-income, primarily Latino/a area of Los Angeles. It was entirely undeveloped until Audubon became interested in it as a site to make nature available to inner-city children. The Park and activities at it are described in Audubon California, *Audubon Center at Debs Park, at* http://www.audubon.org/chapter/ca/ca/debs_park.htm (last visited Oct. 9, 2003).

[105] Flournoy, *supra* note 4, at 53; *see also* Alyson Flournoy, *In Search of an Environmental Ethic*, 28 COLUM. J. ENVTL. L. 63 (2003).

[106] Kohlberg, *supra* note 26, at 315-16.

[107] *See generally* Douglas A. Kysar & James Salzman, *Environmental Tribalism*, 87 MINN. L. REV. 1099 (2003).

about foundational values.[108] That does not mean they can be easily resolved, but if people see that they hold common values, they may be less inclined to demonize one another. Acknowledging some overlap in values would reduce the extreme polarization that currently makes environmental disputes so difficult to address.[109]

Third, honest public statements by public officials about the motivations that they believe underlie environmental law could provide the kinds of role models that can help others adopt similar values. It is troubling, therefore, that environmental advocates and public officials have long underplayed the values that truly underlie their desire to protect nature in favor of materialist arguments.[110] It is possible to persuade others to share one's values but to do so one must be willing to confess those values openly.

Fourth, involving people in the search for solutions can give them a concrete way to contribute, which helps to motivate action in a way that merely bemoaning the current situation cannot. That does not necessarily mean that everyone who is potentially affected must be given a decisive role in determining the goals, but they should have a voice in choosing the steps that will be used to reach those goals.

It is easy to say that we need a more vigorous public discussion of environmental values but much more difficult to offer suggestions as to how that might be achieved. Academic fora like this symposium are a start but hardly sufficient. Much as we might like to think so, we hardly have the ear of the nation here. It is well beyond my expertise to explain how our national political system can be made more honest and direct, but even conceding that Congress is not likely to leap into robust value debates, I can propose a couple of practical, useful steps.

One dovetails neatly with the lesson I drew above about making nature widely available. Concentrating more resources on local decisions will also facilitate value discussions, which are much easier to have in a smaller group whose members already share some sense of community. We can try to structure our local land-use processes to allow room for that kind of discussion. The general plan process,

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[108] *See* Clive Seligman, *Environmental Ethics*, 45 J. SOC. ISSUES 169 (1989) (asserting that most ethical disputes are disagreements about which values are important or applicable in particular context, rather than about validity of values themselves).

[109] *See, e.g.*, David Schmidtz, *Natural Enemies: An Anatomy of Environmental Conflict*, 22 ENVTL. ETHICS 397, 402 (2000) ("If we understood each other, we might have no quarrel whatsoever with each other's values, and might well have taken each other's side if circumstances had been different.").

[110] *See* Doremus, *supra* note 85, at 35-36.

required in many states, provides an obvious forum.

Cooperative federalism can be used effectively in this manner as well. Where we have identified a national goal, such as clean air or preventing extinction, we can engage local people and institutions in working out how best to achieve that goal.[111] At least in some states, the Clean Air Act[112] works relatively well to provide for such involvement. The federal government is responsible for determining acceptable levels of pollution, the National Ambient Air Quality Standards,[113] but has delegated to the states the task of developing localized plans that will achieve those standards.[114] The states, in turn, may devolve the initial responsibility for plan production to the airshed level, as California has done.[115] At that level, people can realistically attend hearings and comment on proposals. Even the supposedly highly prescriptive Endangered Species Act increasingly lends itself to decentralized implementation. Protected species are identified at the national level but there is a decentralized process for determining whether and to what extent development can occur within the habitat of listed species.[116] I have criticized that process as it is currently implemented because it tends to create a one-sided dialogue between developers and the regulatory agency.[117] But if it were mediated through local governments subject to open government laws, the process could facilitate the kind of dialogue that helps people make positive contributions to the solution of environmental problems.

An additional step could help these kinds of localized proceedings fulfill their role in encouraging the development of environmental values

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[111] A. Dan Tarlock has long been an articulate exponent of the role of local communities in environmental protection. *See* A. Dan Tarlock, *The Potential Role of Local Governments in Watershed Management*, 32 ENVTL. L. REP. 11, 273 (2002); A. Dan Tarlock, *Contested Landscapes and Local Voice*, 3 WASH. U. J.L. & POL'Y 513 (2000); A. Dan Tarlock, *Local Government Protection of Biodiversity: What Is Its Niche?*, 60 U. CHI. L. REV. 555 (1993).

[112] 42 U.S.C. §§ 7401-7671q (2000).

[113] 42 U.S.C. §§ 7408, 7409 (2000).

[114] 42 U.S.C. §§ 7407(a), 7410 (2000).

[115] CAL. HEALTH & SAFETY CODE §§ 40000 - 41499 (West 2003).

[116] Interior can grant incidental take permits, authorizing activities that would otherwise violate the ESA's prohibition on take, provided certain conditions are met. *See* 16 U.S.C. § 1539(a)(1)(B) (2000). Permit applications are filed and initial review occurs at the level of the field office, through a process that is highly decentralized. *See* U.S. Fish and Wildlife Service & Nat'l Marine Fisheries Service, *Endangered Species Habitat Conservation Planning Handbook* 2-1 to 2-6 (Nov. 1996). For descriptions of the HCP process, its origin, and implementation, see Jamie Grodsky, *The Paradox of (Eco)pragmatism*, 87 MINN. L. REV. 1037 (2003); Bradley C. Karkkainen, *Adaptive Ecosystem Management and Regulatory Penalty Defaults: Toward a Bounded Pragmatism*, 87 MINN. L. REV. 943 (2003).

[117] Holly Doremus, *Preserving Citizen Participation in the Era of Reinvention: The Endangered Species Act Example*, 25 ECOLOGY L.Q. 707 (1999).

and building the capacity to engage in environmental activity. Federal and state financial and institutional support could help build new local collective institutions capable of supporting the direct debate that seems most promising in value-building.[118]

C. Highlight the Impacts of Individual Choices

The third lesson I draw relates to value implementation rather than value development. Values do not produce behaviors unless people can see that their actions will harm things that they value and that less harmful alternatives are available. Law can be used in a number of ways to generate and distribute this kind of information, helping to counteract the human tendency toward denial and motivating people to turn their values into action. Because the connections between nature protection and individual action are often remote, this strategy has limits but in certain specific contexts may be quite effective.

Information can build individual capacity to engage in environmentally responsible behavior. Labeling of consumer goods, for example, can reveal at least some of the environmental impacts of their production. The law can set standard definitions of marketing terms, such as "dolphin-safe tuna."[119] It can require or facilitate certification schemes, under which consumer goods are labeled in a way that alerts the consumer to salient information about their environmental impacts. Coffee, for example, can be certified as shade-grown, that is grown under a canopy of trees, a method more compatible with habitat for migratory birds than new sun-growing methods.[120] The North American Commission on Environmental Cooperation has been studying the issue of coffee certification[121] and together with the Smithsonian Institution has developed a "bird-friendly" designation.[122] Along the same lines, lumber

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[118] The availability of government resources appears to be a key factor in determining whether local watershed partnerships are formed in response to water pollution problems. Mark Lubell et al., *Watershed Partnerships and the Emergence of Collective Action Institutions*, 46 AM. J. POL. SCI. 148, 158 (2002). Presumably funding could also assist the "special nature districts" Elmendorf proposes in rural areas. Elmendorf, *supra* note 43, at 574-82.

[119] 16 U.S.C. § 1385(d) (2000).

[120] David L. Gorsline, American Birding Association, *Coffee Talk: A Glossary for Birders*, *at* http://www.americanbirding.org/programs/conssbcof3.htm (last visited Oct. 9, 2003).

[121] *See* Commission for Environmental Cooperation, *Coffee Certifications Database* (collecting information about organic, shade, fair trade coffee certification schemes), *at* http://www.cec.org/databases/certifications/Cecdata/index.cfm?websiteID=6 (last visited Oct. 9, 2003).

[122] *See* Smithsonian, *Migratory Bird Center, Coffee*, *at* http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Coffee/default.cfm (last visited Oct. 9, 2003).

may be certified as sustainably harvested. Current forest certification schemes emphasize traditional stand management[123] but there is no obvious reason why certification could not be extended to encompass biodiversity protection and habitat maintenance as well.

Existing certification programs all focus on positive labels. It might also be worthwhile to explore the possibility of mandatory *negative* labeling, especially in the transition period as markets for nature-friendly products develop. Most coffee buyers, for example, are probably simply unaware of the impacts of coffee production on migratory bird populations. If coffee that does not meet shade-grown certification criteria were required to be labeled as "bird unfriendly," that might well catch consumer attention.[124]

Information can also be used effectively at the agency, rather than the individual level. The environmental study and disclosure required by the National Environmental Policy Act[125] and its state analogues have forced governments (and indirectly voters) to confront the environmental impacts of their actions.[126] But far more could be done.

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[123] Robert L. Fischman, *Stumbling to Johannesburg: The United States' Haphazard Progress Toward Sustainable Forestry Law*, 32 ENVTL. L. REP. 10,291, 10,305 (2002).

[124] I concede that under the current rather confused state of commercial speech doctrine it is unclear whether and to what extent the Constitution would permit this kind of compelled labeling. The Second Circuit held in 1996 that a Vermont law requiring labeling of milk from cows treated with a synthetic growth hormone violated the First Amendment because it compelled speech. Int'l Dairy Foods Ass'n v. Amestoy, 92 F.3d 67 (2d Cir. 1996). The court held that "consumer curiosity alone" was not a sufficiently substantial interest to justify the labeling requirement. *Id.* at 74. A vigorous dissent argued that substantial state interests, including concerns about human and animal health, philosophical objections to biotechnology, and worries about the effect of hormone use on the economic well being of the state's dairy industry, supported the regulation. *Id.* at 78 (Leval, J., dissenting). Five years later the same court, noting that "mandated disclosure of accurate, factual, commercial information does not offend the core First Amendment values of promoting efficient exchange of information or protecting individual liberty interests," upheld a Vermont law requiring labeling of fluorescent light bulbs and other products containing mercury. Nat'l Elect. Mfr. Ass'n v. Sorrell, 272 F.3d 104 (2d Cir. 2001). In this case, Vermont's "interest in protecting human health and the environment from mercury poisoning" was deemed sufficient to justify the regulation. *Id.* at 115. To hold otherwise, the court noted, would undermine a host of long-standing disclosure requirements. *Id.* at 116. The U.S. Supreme Court has done little to clarify the law governing compelled commercial speech. *Compare* United States v. United Foods, Inc., 533 U.S. 405 (2001) (ruling that mandatory payments by mushroom handlers into an advertising fund were unconstitutional) *with* Glickman v. Wileman Bros. & Elliott, Inc., 521 U.S. 457 (1997) (upholding mandatory assessments on fruit producers for advertising).

[125] 42 U.S.C. §§ 4321 - 4370f (2003).

[126] The recent approval by the House of a bill that would allow the Forest Service to avoid considering alternatives when it undertakes wildfire risk reduction projects, H.R. 1904, 108th Congress 104(b) (2003), is a troubling attempt to undermine the effectiveness of

More baseline information collection and disclosure should be mandated and funded. Without that information, we are likely to find it easy to ignore environmental impacts notwithstanding the value we sincerely place on the environment. General reports on the status and trends of environmental indicators would be quite useful, forcing us to recognize ways in which the environment is declining. Any number of government agencies are developing or have developed indicator programs.[127] Mandates for indicator or similar reports should be framed with care. If reports are to be prepared by agencies, rather than by independent experts with agency funding, there must be a mechanism to require that they include the best available objective information. In the absence of effective oversight, agencies will surely employ selective editing to serve their own policy ends and biases.[128]

D. Use Market Strategies with Care

Finally, I would suggest that market strategies, despite their political appeal, should be exercised with caution. We clearly need more data on their effects; careful empirical research on the actual impacts of the many market strategies that have been employed over the past ten to twenty years should be a high priority. The evidence at this point is inconclusive and conflicting.[129] Until stronger evidence shows that the use of market mechanisms in actual regulatory circumstances is consistent with the development and maintenance of environmental values, however, I think we should tread lightly.

If not used carefully, market strategies can promote a self-interested mindset and behavior, inhibiting the development of environmental

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NEPA. Information about the environmental impacts of a proposal will not be of much use if those impacts cannot be compared with those of other possible choices.

[127] *See, e.g.*, California Environmental Protection Agency & California Resources Agency, *Environmental Protection Indicators for California* (April 2002), *available at* http://www.oehha.org/multimedia/epic/2002Epicreport.html (last visited Oct. 9, 2003).

[128] The U.S. Environmental Protection Agency, for example, launched an environmental indicators initiative in 2001. A key product of that initiative was to be a comprehensive report on the state of the U.S. environment. *See* EPA, *Environmental Indicators Initiative, at* http://www.epa.gov/indicate (last visited Oct. 9, 2003). The report, however, has been tainted before its release by charges that heavy editing by White House officials had led EPA to remove its detailed discussion of climate change. Andrew C. Revkin & Katherine Q. Seelye, *Report by E.P.A. Leaves Out Data on Climate Change*, N.Y. TIMES, June 19, 2003, at A1.

[129] In his contribution to this symposium, Professor Thompson cites some of the evidence suggesting positive and negative impacts of market-based strategies on environmental values. Barton H. Thompson, *What Good Is Economics*, 37 U.C. DAVIS L. REV. 175 (2003) *simultaneously published in* 27 ENVIRONS ENVTL. L. & POL'Y J. 175 (2003).

values.[130] They can also reduce the sense of personal responsibility, giving people a reason not to act on their environmental values.

That is not to say that I am wholly opposed to market strategies, only that I think they should be carefully framed and confined to certain circumstances. The context is clearly important. The marketing of pollution credits among industrial concerns does not particularly worry me. In our society, companies are supposed to be self-interested actors. They already get that message so strongly in so many different ways that any marginal impact of tradable pollution credits is likely to be small. A well-designed pollution credit scheme, with a strong and constantly decreasing cap, can plug into the strengths of what is already very much a market system, able to respond quickly and innovatively to new incentives.[131] Furthermore, my guess, although I would like to see the data, is that the message a trading system might be thought to send — that pollution is not wrong — is not likely to be particularly salient to the general public.

I worry much more about market-type incentives whose participants are individual citizens, because those messages are much more likely to be salient and to conflict with our desire to promote unselfishness and environmental values. It seems to me that the various conservation

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[130] It should be noted that regulatory sanctions may, in some circumstances, have similar effects. Weak penalty or sanctioning systems can lower cooperation, shifting decision making to a more self-interested mode. Mark Lubell & John T. Scholz, *Cooperation, Reciprocity, and the Collective-Action Heuristic*, 45 AM. J. POL. SCI. 160, 167 (2001). Strong sanctions, on the other hand, produce the highest levels of cooperation. *Id.* They found that the background environment influenced the effect of sanctions. If the players were not already inclined toward cooperation, even weak sanctions pushed them in that direction. In a more reciprocal environment, however, sanctions could actually decrease the extent of cooperation among cooperative players. *Id.* at 173-74. Based on these results, Lubell and Scholz suggest that society should avoid "the high costs of coercive enforcement when contingent compliance already sustains law-abiding activity," *id.* at 176, as it does for example with respect to the payment of taxes. The bottom line is that context and details matter a great deal to the impact of any policy approach.

[131] The sulfur dioxide emission trading program developed under the Clean Air Act to address acid rain, for example, is widely regarded as a success because emissions have been reduced at far lower cost than would have been expected under a command-and-control regime. James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607, 621 (2000); Richard A. Kerr, *Acid Rain Control: Success on the Cheap*, 282 SCI. 1024 (1988). The shortcoming of the acid rain program is that the cap may not be low enough and has proven difficult to reduce. Shi-Ling Hsu, *Reducing Emissions from the Electricity Generation Industry: Can We Finally Do It?*, 14 TULANE ENVTL. L.J. 427, 448 (2001); Kevin Krajick, *Long Term Data Show Lingering Effects from Acid Rain*, 292 SCI. 195 (2001). Many other problems may not be so amenable to cap-and-trade solutions. *See, e.g.*, Richard Toshiyoki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL'Y F. 231 (1999) (criticizing Southern California's RECLAIM emission-trading program).

incentive programs, for example, through which the government pays farmers not to farm in particularly environmentally sensitive areas,[132] can easily be taken too far. We should be careful about allowing those programs to conflict with general conservation obligations that we want society to internalize. If we generally require that wetlands not be filled, or endangered species not be killed, as a matter of social obligation we should not pay one segment of society to observe those obligations.

But even in this context, there is a role for economic incentives. Fairness, and the perception of fairness, are important to value development and implementation. To the extent that our societal debate about values generates agreement that some measures, such as environmental restoration, are societal rather than individual obligations, we should be happy to pay individuals to engage in those activities. The Safe Harbor program under the ESA is an example of such an incentive program.[133] Safe Harbor agreements assure landowners that their regulatory obligations will not increase if they voluntarily improve habitat for endangered species on their lands.[134]

CONCLUSION

Since nature protection is a long-term project, we should consider not only the short-term direct effects of the policy strategies we choose to accomplish that project but also their longer-term effects on the likelihood that our successors will share our desire to protect nature and will be capable of putting that desire into practice. We should, therefore, pay attention to the interaction between law and values. In particular, we should be mindful of the ways that law will shape the world that will shape the values of future generations.

We should try to frame our policies so that they will enable and encourage our successors to develop direct and indirect environmental values. Only those values can ensure that our nature protection policies are continued into the future and perhaps even extended. It is critical for the development of affection for nature that we provide succeeding generations with opportunities for regular and engaging experience with

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[132] *See generally* J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 ECOLOGY. L.Q. 263, 325-26 (2000) (briefly describing variety of conservation incentive programs available to U.S. farmers).

[133] Safe Harbor Agreements and Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32, 706 (June 17, 1999).

[134] *See id.*; Nancy K. Kubasek et al., *Cross-Examining Market Approaches to Protecting Endangered Species*, 30 ENVTL. L. REP. 10,721, 10,726 (2000).

local nature. We should also seek to encourage robust public discussion of the values behind nature protection, even if that seems frightening and fraught with conflict. We must include in that discussion the values that compete with nature protection so that we can understand and make appropriate decisions about value tradeoffs.

In addition to paying attention to future values, we should be mindful of the factors that mediate transformation of environmental values into protective behavior. There are a variety of steps we can take to more closely link societal environmental values with individual behavior. For example, where resistance to endangered species protection is driven by perceived economic dependence on destructive behavior, we can try to reduce that economic dependence. Farmers who depend on water that is also needed by fish, for example, can be encouraged, over time, to develop other means of supporting themselves. Yet the most important role I see for law in making the connection between values and behavior is to require the production or disclosure of information in ways that highlight individual responsibility for the destruction of nature and the availability of less destructive alternative actions.

Finally, we clearly need to learn more about the connections between law, values, and behavior. So far, most of what we know comes from ad hoc, individually chosen academic studies. We could make our learning far more systematic by instituting a general practice of funding careful monitoring of our policy choices. Monitoring should encompass not just the direct impacts of our policies on the natural world but also their impacts on human attitudes and behavior. Resources are always scarce and we typically resist devoting them to monitoring rather than to direct action. We must always keep in mind, however, the long-term nature of our project. Over the long term, resources devoted to learning about the effects of various policy strategies on our values and those of our successors should prove well spent.