

## Chapter 13

# Social Climate Change: A Sociology of Environmental Philosophy

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Democracy demands that public policy ultimately reflect evolving social thought. However, in the nonmarket realm of public land management, and environmental policy more broadly, where price signals that drive the free-market economy are generally lacking, this requires a concerted effort on the part of social science to measure and monitor societal values and related thinking in ways that will facilitate their integration into policy making. In fact, application of social science to environmental thought has been an ongoing project since the emergence of the environmental movement in the 1960s.

For example, economists have developed and applied methods to assign monetary values to environmentally related, nonmarket goods and services (see the chapter by David N. Bengston and David C. Iverson in this volume). Moreover, sociologists have measured public attitudes toward an array of environmental issues.<sup>1</sup> Geographers and others have studied the “sense of place” ascribed to significant environmental locations.<sup>2</sup>

Recent research by the author and others has become more interdisciplinary and has focused on more fundamental environmentally related values and ethics.<sup>3</sup> This research applies sociological methods to philosophical concepts and ideas—a “sociology of philosophy”—and is designed to measure public environmental values and ethics in ways that will monitor their distribution over space and time—“social climate change”—and that will ultimately inform public land management and environmental policy.

Study findings suggest that public environmental values and ethics can be widely *pluralistic*, manifesting a diverse array of environmental philosophies ranging from anthropocentric to ecocentric. However, these values

and ethics tend to be ordered in ways that can *converge* on policies that support ecologically informed and farsighted public land management approaches and that enjoy broad public support. Moreover, evidence suggests that these pluralistic environmental values and ethics are applied to environmental policy in a *contextual* manner that recognizes and respects the ecological significance of place and the sociopolitical importance of community and related social institutions.

### Study Methods

The data described in this chapter are derived from two surveys that focused on national forests in New England. The first survey examined the Green Mountain National Forest (GMNF) in Vermont and was administered by mail to a representative sample of 1,500 Vermont households randomly chosen from all telephone directories covering the state. The second survey focused on the White Mountain National Forest (WMNF) in New Hampshire and Maine and was administered to a representative sample of 1,000 households randomly chosen from all telephone directories covering the six New England states. In both cases, the surveys were administered following procedures recommended by Don A. Dillman (1978)<sup>4</sup>. Initial mailing of questionnaires and cover letters was followed one week later by a postcard reminding the recipients to complete and return the questionnaire. If completed questionnaires had not been returned within three weeks of the initial mailing, a second questionnaire and cover letter was sent.

In the GMNF study, 272 questionnaires were returned as undeliverable, reducing the sample size to 1,228. Six hundred twelve completed questionnaires were returned, yielding a response rate of 50 percent. In the WMNF study, 167 questionnaires were returned as undeliverable, reducing the sample size to 833. Three hundred forty-four completed questionnaires were returned, yielding a response rate of 41 percent. Both surveys included batteries of questions designed to measure environmental values, environmental ethics, and attitudes toward national forest management. A follow-up telephone survey of nonrespondents was conducted for both surveys, and few statistically significant differences were found between respondents and nonrespondents.

### ***Environmental Values***

As might be expected, human values have been the subject of considerable attention across a variety of academic disciplines.<sup>5</sup> Although several theoretical dimensions of value have been identified, the studies described in this chapter focus on preference-based held values. Held values have been defined as “an enduring conception of the preferable which influences choice and action.”<sup>6</sup> In relation to forests, Bengston defines a held value more specifically as “an enduring concept of the good related to forests and forest ecosystems.”<sup>7</sup> The preference-based component of this concept of value signifies that value is assigned through human preference as opposed to social obligation (e.g., societal norms that suggest what people should value) or physical or biological function (e.g., the ecological dependence of tree growth on soil nutrients). Recent commentary suggests that preference-based held values are the appropriate focus of research on forest values.<sup>8</sup>

Several classifications of forest and related environmental values have been proposed.<sup>9</sup> On the basis of this literature, eleven potential values of national forests were identified, as shown in table 13.1. This set of environmental values was designed to be as comprehensive as possible. Survey respondents were asked to rate the degree of importance they attached to the GMNF as a place to attain these values. A six-point response scale was used, ranging from “not at all important” to “extremely important.”

### ***Environmental Ethics***

Ethics have likewise received considerable academic attention, particularly in the discipline of philosophy. Ethics can be defined as the “study or discipline which concerns itself with judgements of approval and disapproval, judgements as to the rightness or wrongness, goodness or badness, virtue or vice, desirability or wisdom of actions, disposition, ends, objects, or states of affairs.”<sup>10</sup> Environmental ethics deal more specifically with human conduct toward the natural environment. It is inevitable that humans interact with the natural environment. But what ideas govern or structure this interaction? What is the appropriate relationship between humans and the natural environment? For the purposes of this study, environmental ethics are defined as the diversity of ideas that drive human relationships with the natural environment. Examples include stewardship of nature as a religious duty and intrinsic rights of nature. As used in this study, environmental

Table 13.1

**Importance of Environmental Values of the  
Green Mountain National Forest**

Value	Statement	Average Importance Rating <sup>a</sup>
Aesthetic	The opportunity to enjoy the beauty of nature	4.97 <sup>ab</sup>
Ecological	The opportunity to protect nature in order to ensure human well-being and survival	4.95 <sup>a</sup>
Recreational	The opportunity to camp, hike, and participate in other recreational activities in nature	4.83
Educational	The opportunity to learn more about nature	4.68 <sup>c</sup>
Moral/ethical	The opportunity to exercise a moral and ethical obligation to respect and protect nature and other living things	4.53 <sup>d</sup>
Historical/ cultural	The opportunity to see and experience nature as our ancestors did	4.40 <sup>e</sup>
Therapeutic	The opportunity to maintain or regain physical health or mental well-being through contact with nature	4.35 <sup>e</sup>
Scientific	The opportunity for scientists to study nature and ecology	4.30 <sup>e</sup>
Intellectual	The opportunity to think creatively and be inspired by nature	3.93 <sup>f</sup>
Spiritual	The opportunity to get closer to God or obtain other spiritual meaning through contact with nature	3.81 <sup>g</sup>
Economic	The opportunity to get timber, minerals, and other natural resources from nature	2.98 <sup>h</sup>

<sup>a</sup>The value 1 = "not at all important"; 6 = "extremely important."

<sup>b</sup>Letters indicate statistically significant difference using paired students' t-tests.

ethics are broader and more abstract constructs than values, and they apply to human relationships with the environment generally rather than with national forests specifically.

There is a rich literature in history, philosophy, and other environmentally related fields of study regarding environmental ethics, and much of this literature is reviewed in contemporary texts.<sup>11</sup> On the basis of this literature, seventeen environmental ethics were identified, as shown in table 13.2. This set of environmental ethics was designed to be as comprehensive as possible.

Table 13.2

<b>Environmental Ethics</b>		
<b>Category</b>	<b>Ethic</b>	<b>Representative Statement</b>
Anti-environment	Physical threat	Nature is a threat to human survival.
	Spiritual evil	Nature is evil.
Benign indifference	Storehouse of raw materials	Nature is a valuable storehouse of raw materials.
	Religious dualism	Humans were created as fundamentally different from the rest of nature.
	Intellectual dualism	The ability to think makes humans fundamentally different from the rest of nature.
Utilitarian conservation	Old humanism	Human cruelty toward animals is wrong because it could lead to cruelty toward people.
	Efficiency	Humans should manage nature as efficiently as possible.
	Quality of life	Nature is important because it adds to the quality of our lives.

(Continued)

Table 13.2. Continued

Category	Ethic	Representative Statement
Utilitarian conservation	Ecological survival	Protecting ecological processes is important to human survival.
	Stewardship	Religious/spiritual duty Future generations God's creation Mysticism
Radical environmentalism	Humanitarianism	Humans should not cause needless pain and suffering to animals.
	Animism/organicism	Nature should be protected because all living things are interconnected.
	Pantheism Liberalism/ natural rights	All living things have a spirit. Nature should be protected because all living things have a right to exist.

The seventeen environmental ethics were further classified into five broad categories based on conceptual similarities. Survey respondents were asked to rate the extent to which they agreed or disagreed with statements expressing the seventeen environmental ethics. An eleven-point response scale was used, anchored at "strongly agree" and "strongly disagree."

### *Attitudes toward National Forest Management*

Research on attitudes has been a long-standing focus in sociology and psychology. In general terms, attitudes are measures of how people feel about issues. More specifically, an attitude can be defined as "an orientation toward certain objects or situations that is emotionally toned and relatively

persistent. An attitude is learned and may be regarded as a more specific expression of a value or belief in that an attitude results from the application of a general value to concrete objects or situations."<sup>12</sup> A considerable amount of research has been conducted on attitudes toward environmental issues in general (a recent review of this research is presented by Riley Dunlap),<sup>13</sup> and some of these studies have focused on national forest management.<sup>14</sup> This study builds on this literature by focusing specifically on public attitudes toward the evolving concepts of sustainability and ecosystem management as applied to management of national forests.

Attitudes toward national forest management were measured by a battery of statements describing alternative national forest management policies. Twelve statements were adopted from an earlier study conducted by Bruce Shindler, Peter List, and Brent Steel,<sup>15</sup> and three statements were added that addressed issues more specific to the GMNF and the WMNF. These fifteen statements concerned a variety of national forest management issues, including single versus multiple uses, material versus nonmaterial values, holistic versus single-species management, use versus ecological protection, current versus future generations, and maintenance of biodiversity. These issues are broadly reflective of some of the basic principles or issues of the evolving concepts of ecosystem management and sustainability.<sup>16</sup> Respondents were asked the extent to which they agreed or disagreed with each statement. A five-point response scale was used, anchored at "strongly agree" and "strongly disagree." The fifteen statements are shown in table 13.3.

Table 13.3

<b>Attitudes toward Management of the Green Mountain National Forest</b>	
<b>Statement</b>	<b>Average Agreement Score<sup>a</sup></b>
1. Greater protection should be given to fish and wildlife habitats on the Green Mountain National Forest.	1.86
2. Greater efforts should be made to protect the remaining undisturbed forests on the Green Mountain National Forest.	1.83
3. Management of the Green Mountain National Forest should emphasize a wide range of benefits and issues rather than timber and wood products alone.	1.84

*(Continued)*

Table 13.3. Continued

Statement	Average Agreement Score <sup>a</sup>
4. Management of the Green Mountain National Forest should focus on the forest as a whole and not on its individual parts (such as bears and trees).	2.20
5. Logging on the Green Mountain National Forest should not be allowed to disrupt the habitat of animals such as bears.	2.18
6. The Green Mountain National Forest should be managed to protect basic ecological processes and not to favor individual plant or animal species.	2.52
7. The Green Mountain National Forest should be managed to meet human needs and desires as long as the basic ecological integrity of the forest is protected.	2.36
8. Human and economic uses of the Green Mountain National Forest should be managed so that they are sustainable over the long term.	1.86
9. The Green Mountain National Forest should be managed as a complete ecosystem and not as a series of towns or other political jurisdictions.	1.92
10. The Green Mountain National Forest should be managed to protect the natural diversity of plant and animal life.	1.79
11. The Green Mountain National Forest should be managed to meet the needs of this generation while maintaining the options for future generations to meet their needs.	2.02
12. Management of the Green Mountain National Forest should emphasize production of timber and lumber products	3.28
13. Clearcutting should be banned on the Green Mountain National Forest	1.77
14. Mineral exploration and extraction should be encouraged on the Green Mountain National Forest	3.76
15. Some existing wilderness areas on the Green Mountain National Forest should be open to logging	3.37

<sup>a</sup>The value 1 = "strongly agree"; 5 = "strongly disagree."

## Study Findings

Findings from the two studies are highly comparable. Data from the study of the GMNF will be used to illustrate the issues of pluralism and convergence, and findings from the study of the WMNF will be used to illustrate the issue of contextualism.

### *Value and Ethical Pluralism*

Study findings suggest that respondents embrace a wide diversity of environmentally related values and ethics. Table 13.1 shows that most potential values of the GMNF were judged as relatively important by respondents. In fact, eight of the eleven potential values received an average rating of at least “moderately” important. However, there were statistically significant differences among most of the values. For example, aesthetic and ecological values were rated as most important, and economic values were rated as least important.

Most environmental ethics also received some degree of support from respondents. Figure 13.1 shows that nearly all ethics elicited mean agreement responses on the positive end of the scale, and most drew at least “moderate” agreement ratings. Clearly, some environmental ethics enjoy especially high levels of support. All four environmental ethics in the “utilitarian conservation” category received high mean agreement ratings, particularly the “ecological survival” and “quality of life” ethics. Stewardship ethics were also widely embraced by respondents, with three of the four ethics in this category receiving strong support and the “future generations” ethic receiving the highest support of all ethics included in the study. A number of “radical environmentalism” ethics, which center on a set of arguments for the intrinsic value of nonhuman nature, were embraced by respondents, especially “animism/organicism,” “humanitarianism,” and “liberalism/natural rights.” Environmental ethics in the “benign indifference” category, which represent views of the human–nature relationship that set nature apart from human moral and intellectual life, received an equivocal response from the study sample. Finally, “anti-environment” ethics, the most robustly anthropocentric of all categories, received the lowest agreement scores of all the ethics in the typology, suggesting that their currency among respondents is weak.

Further analysis suggests that there are relatively few differences in environmental values and ethics when tested by socioeconomic and cultural

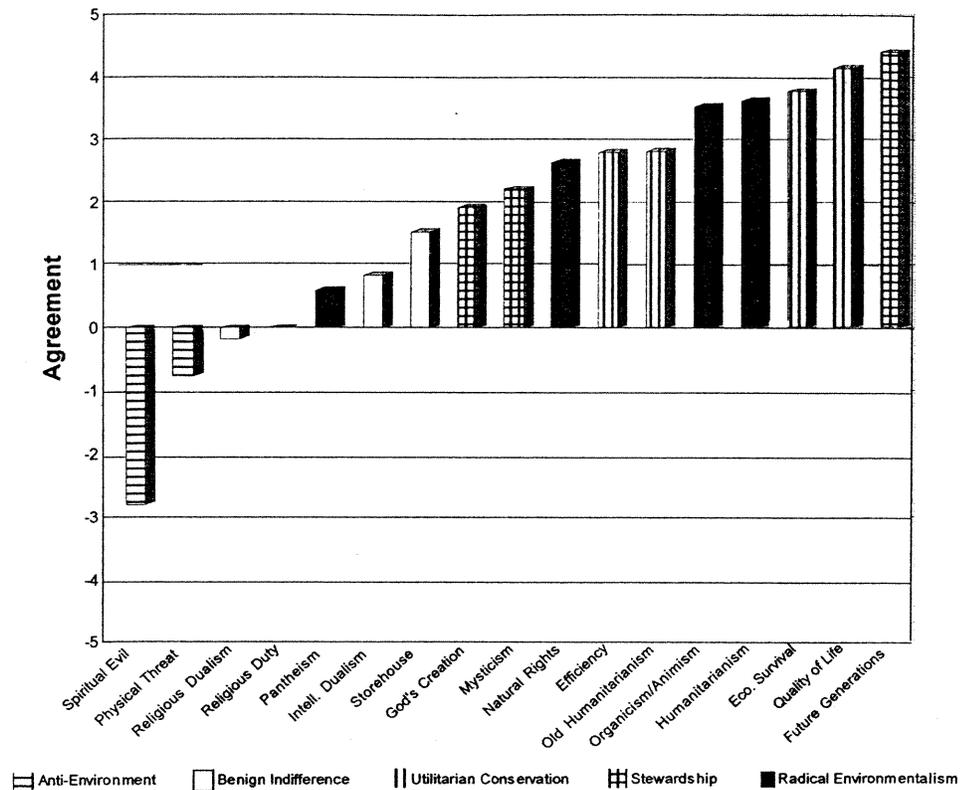


Figure 13.1

### Support for Environmental Ethics

characteristics of respondents.<sup>17</sup> For example, when the New England sample was subdivided into residential (urban and rural) and racial (white and nonwhite) categories, statistically significant differences were found on only three of the eleven environmental values and six of the seventeen environmental ethics for residential subgroups, and on one of the eleven environmental values and three of the seventeen environmental ethics for racial subgroups.

Another analytic approach found statistically significant relationships between environmental values and ethics and attitudes toward alternative national forest management policies. Using regression analysis, environmental values and ethics explained nearly 60 percent of the variance in attitudes toward national forest management.

### *Convergence on Policy*

The pluralistic nature of public environmental values and ethics might suggest that it would be difficult to reach consensus on resolution of environmental issues. However, Bryan Norton has suggested that both anthropocentrists (particularly those who rely on a sufficiently broad and temporally extended range of human values) and nonanthropocentrists (those who embrace a consistent notion of the intrinsic value of nature) may tend to endorse similar environmental policies in particular situations.<sup>18</sup> This overlapping of human and nonhuman concerns is to be expected, since in order to adequately sustain a broad range of human-oriented environmental values over time, the ecological contexts on which these values depend must also be sustained—a goal accomplished through the formulation of farsighted, multi-value environmental policy. Study data provide insights into the validity of Norton's "convergence hypothesis."

As described earlier, study questionnaires included a battery of questions about attitudes toward management policy of national forests. These questions focused on a variety of ecosystem-based goals and objectives. Study findings for the GMNF are shown in table 13.3. Taken as a whole, these data map out the sort of farsighted and multi-value environmental policies suggested by Norton. For example, the vast majority of respondents "agree" or "strongly agree" that (1) management of the GMNF should emphasize a wide range of benefits and issues rather than timber and wood products alone, (2) the GMNF should be managed to meet human needs and desires as long as the basic ecological integrity of the forest is protected, and (3) the GMNF should be managed to meet the needs of this generation while maintaining the options for future generations to meet their needs. Thus, despite the wide spectrum of environmental values and ethics embraced by the representative sample of Vermonters, there is overwhelming support for managing the GMNF to protect species diversity, wildlife habitat, and the overall ecological and social sustainability of this area. In other words, there is strong public support for the principles that underlie contemporary environmental paradigms such as sustainability and ecosystem management, and this support is drawn from a wide range of environmental values and ethics.

### *The Role of Contextualism*

How can a community of people representing a wide range of environmental values and ethics converge on shared environmental policy? The answer may lie in the character or context of the environmental policy under study. That is, the problem at hand may suggest as much about its resolution as the range of environmental values and ethics that might be applied. The case of the GMNF, described earlier, may be suggestive. The GMNF is *public* land and represents the largest ownership of such land in Vermont. Moreover, much of this land is ecologically sensitive. The ecological and institutional character of this land may lead Vermonters to support management policies that emphasize maintenance of natural processes and that respect the need to protect this land for future generations.

To further explore this issue, the study of the WMNF included a battery of questions that posed three related scenarios, as follows:

This question asks your opinions about a potential management issue within the White Mountain National Forest and surrounding lands. The issue concerns beavers that live in this area. Beavers cut down trees and build dams. These dams cause local flooding, which can kill more trees. Should any action be taken to control the number of beavers and their actions? We would like you to answer this question as it applies to three different locations. The first location is an official "wilderness area" within the White Mountain National Forest. The second location is a "non-wilderness area" within the White Mountain National Forest. This area has been designated by Congress to provide for multiple uses, including sustainable timber production and outdoor recreation. The third location is "private land" outside the White Mountain National Forest. This land is owned by a commercial timber company. Please indicate the extent to which you think beavers should be managed in each of the three locations described above.

A five-point response scale was used, anchored at 1 ("the beavers should be left alone") and 5 ("the beavers should be eliminated or removed"). The midpoint of the scale, 3, was "beaver dams should be breached to minimize local flooding." Respondents were also asked to indicate the importance of each of the seventeen environmental ethics addressed in the study in influencing their answers to this question. A six-point re-

Table 13.4

Attitudes toward Management of Beavers	
Land-Use Scenarios	Mean Scale Value <sup>a</sup>
Wilderness area	1.82
Non-wilderness area	2.66
Private land	2.86

<sup>a</sup>The value 1 = "the beavers should be left alone"; 5 = "the beavers should be eliminated or removed."

sponse scale was used, anchored at 1 ("not at all important") and 6 ("extremely important").

Study findings are suggestive of the role of context in resolving environmental problems. As shown in table 13.4, average scale values for the three management scenarios differed to a statistically significant degree. Respondents were more inclined to leave the beavers alone in the wilderness scenario and were more inclined to eliminate or remove the beavers in the private land scenario. Moreover, as shown in figure 13.2, respondents were remarkably consistent in their rating of particular environmental ethics as

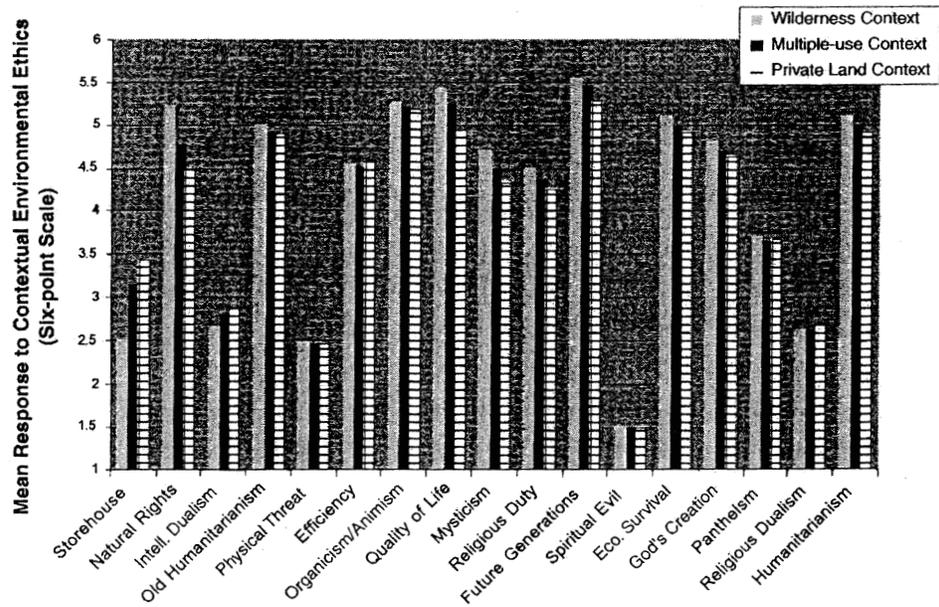


Figure 13.2

Environmental Ethics in Context

more or less important in influencing their decision-making process regarding the beaver dilemma. Thus, although respondents differed significantly in how beavers should (or should not) be managed in the three scenarios, they drew on the same wide-ranging set of environmental ethics. This suggests that respondents' environmental ethics underdetermined their specific management preferences. In other words, when respondents were presented with a real-world management scenario, they seemed to respond more to the empirical details of the problem (i.e., contextual matters such as land use and institutional status) than to the dictates of any universal moral principle.

### **Principles of Environmental Pragmatism**

Study findings suggest that public environmental values and ethics are pluralistic but may converge on shared environmental policy, especially when the contextual details of environmental problems are considered. These findings, in turn, suggest a pragmatic approach to environmental philosophy and policy. Environmental pragmatism focuses on the contextual nature of environmental problems, respecting the ecological and institutional character of place and community and drawing appropriately on the diversity of public environmental values and ethics. Findings from this study are suggestive of an emerging set of principles of environmental pragmatism that might help build a framework for reconstructing conservation in the twenty-first century:

1. Environmental issues have important value and ethical components that must be addressed in the formulation of environmental policy. It is clear from the studies described in this chapter that there is a diversity of public environmental values and ethics and that these values and ethics can be related to alternative environmental policies. Information about public environmental values and ethics can be useful in guiding formulation of environmental policy that ultimately meets the needs of society.
2. Environmental values and ethics should be monitored over time and space. This can be done formally, through studies such as those described in this chapter, or informally, through political institutions

such as public meetings, referenda, and general elections. Research suggests that public environmental values and ethics have evolved over time to be more ecologically informed and more focused on holistic, future-oriented, and nonmaterial benefits, and this "social climate change" should ultimately be incorporated into environmental policy.<sup>19</sup>

3. The diversity of public environmental values and ethics must be respected in deliberations over environmental policy. Public environmental values and ethics range from anthropocentric to biocentric, and this range of values and ethics can be embraced even within an individual. Thus, it may not be productive to advocate any particular environmental value or ethic as a universal principle to be applied across a spectrum of people, places, or environmental problems. Environmental problem solving must be inclusive and democratic, not peremptory.
4. Pluralistic environmental values can converge on selected environmental policies as a function of ecological, cultural, or institutional context. Environmental pragmatism is as much an empirical, applied process as an abstract, philosophical one. Environmental problems have contexts that may shape their solutions as much as a priori philosophical positions. For example, ecological sensitivity, cultural significance, and institutional policy may signal the appropriateness of certain environmental values or ethics and their application to environmental policy.
5. A pragmatic approach to environmental policy suggests a diversity of environmental policies and conservation models. The inclusive, pluralistic, democratic, and contextual nature of environmental pragmatism suggests that environmentalism and conservation may take many forms. Variations in ecological conditions, cultural patterns, and institutional structure may lead to environmental policies and conservation models that vary across the natural and cultural landscape. Public lands in the United States offer a model of this policy structure, varying from the utilitarian philosophy of the national forests to the preservation philosophy of the national parks. Diverse environmental values and ethics offer empirical support for a correspondingly "patchy" natural and cultural landscape and a diverse mosaic of public lands.

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# Reconstructing Conservation

## Finding Common Ground

Edited by  
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and  
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