

# Environmental Values and Ethics

## An Empirical Study of the Philosophical Foundations for Park Policy

Parks occupy a special place in our society. From urban greens to back-country wilderness, the nation's parks provide a rich diversity of opportunities for public use and enjoyment. This diversity is augmented by the multitude of other values that parks might hold for the public. While outdoor recreation is the provision most often associated with parks, other values, ranging from the scientific to the spiritual, may be significant as well. Indeed, it would be difficult to deny the potential ability of parks to provide numerous, and often very different, values to society.

The values the public finds in parks are underpinned by deeper and perhaps more intimate beliefs and feelings about the appropriate relationship between people and the environment. Commonly referred to as "environmental ethics," these beliefs create and express an individual's fundamental worldview of human-nature relationships. They also play a significant yet complex role in the formation of an individual's attitudes and behavior toward the environment.

Taken together, values and environmental values and ethics are revealing social constructs that become highly significant in the discussion of natural resource management issues. For parks, the relevance is especially strong, owing largely to the traditional public character of park resources. The identification of the

public's environmental values and ethics, therefore, becomes an important and enlightening contribution to responsive and effective park policy.

The research described in this paper has three primary objectives. The first is to identify and classify an array of environmental values and ethics which may apply to parks and equivalent reserves. The second is to measure the extent to which park visitors subscribe to those values and ethics. The third objective is to explore the implications of these findings in an effort to begin building an empirically based philosophical foundation for park policy.

### Environmental Values and Ethics

Environmental values and ethics were identified and classified through literature review. There is a rich literature base in history, philosophy,

and a variety of environmentally related fields regarding the potential values of parks and related areas and environmental ethics. Much of this literature is reviewed in contemporary texts, including Bailes (1985), Brennan (1988), Callicott (1995), Des Jardins (1993), Elliot and Gare (1983), Glacken (1956), Hargrove (1989), Merchant (1993), Nash (1983; 1989), Petulla (1988), Rolston (1986; 1988), Simmons (1993), Stone (1987), Taylor (1986), Van DeVeer and Pierce (1994), Worster (1977; 1993), and Zimmerman (1993). Based on this literature, park values were classified along two dimensions. The first dimension concerns the potential direct and indirect uses of parks. Eleven potential park values were identified as shown in Table 1. The second dimension concerns when these values accrue over time. Four temporal values were identified and are also shown in Table 1.

Sixteen environmental ethics were identified as shown in Table 2. The 16 environmental ethics were further classified into five broad categories to provide some additional order. We do not necessarily suggest that these broad categories of ethics are ideas that are clustered together within segments of society. These categories merely represent groups of ideas which appear to have some conceptual commonality.

### **Measuring Values and Ethics**

Measuring the extent to which park visitors subscribe to these values

and ethics involved two principal tasks: developing measurement scales and conducting visitor surveys. Four batteries of questions were developed to measure values for parks and related areas. The first simply asked respondents the degree of importance they attached to parks and related areas as a place to achieve each of the eleven potential use values noted above. These statements are shown in Table 1. A six-point response scale was used, ranging from "not-at-all" to "extremely" important. The second battery of questions asked respondents the extent to which they agreed with four statements concerning the importance of the four potential temporal values of parks. These statements are also shown in Table 1. A four-point response scale was used, ranging from "strongly agree" to "strongly disagree." The third battery of questions asked respondents to allocate on a percentage basis their total willingness to pay for parks and related lands among the potential use values of state parks. The fourth battery of questions asked the same type of question for the four potential temporal values of state parks.

For environmental ethics, a battery of statements was developed which attempted to capture alternative dimensions of each of the 16 environmental ethics. An eleven-point response scale was used which was anchored at "strongly agree" and "strongly disagree." An initial battery of 104 statements was pre-tested on a group of 150 undergraduate students who were asked to comment on any

Table 1. Park Values.

Value	Statement <sup>1</sup>
<b>Use Values</b>	
Aesthetic	Parks are places to enjoy the beauty of nature.
Education	Parks are places to learn how things are connected ecologically.
Recreation	Parks are places to enjoy outdoor recreation activities.
Therapeutic	Parks are places to regain and/or maintain one's health and mental well-being.
Ecological	Parks are places to protect the environment in order to ensure our own survival.
Scientific	Parks are places to conduct scientific studies on the natural environment.
Intellectual	Parks are places to go to think because civilization cannot interrupt.
Historical/Cultural	Parks are places that is important to the history of this country.
Moral/Ethical	Parks are places to express our moral or ethical obligation to protect other living things
Spiritual	Parks are places to get closer to God.
Economic	Parks are places to get raw materials for society to grow in the future.
<b>Temporal Values</b>	
Use	Parks are important because I use them for recreation and/or other purposes.
Option	Parks are important because they provide me with an option to use them in the future.
Existence	Parks are important because I simply like knowing they exist.
Bequest	Parks are important because they will be valuable to future generations.
<sup>1</sup> Statements are worded slightly differently in each study in accordance with the type of study area.	

Table 2. Environmental Ethics.

Category	Environmental Ethics	
	Ethic	Representative Statement
Anti-environment	Threat to survival Spiritual evil	Nature is a threat to human survival. Nature is evil.
Benign indifference	Storehouse of raw materials Religious dualism	Nature is a valuable storehouse of raw materials. Humans and nature are fundamentally different.
Utilitarian conservation	Anthropocentric humanism Efficiency Quality of life Ecological survival	Human cruelty toward animals is wrong because it could lead to cruelty toward other humans. Humans should manage nature as efficiently as possible. Nature is important because it adds to the quality of our lives. Protecting ecological processes is important to human survival.
Stewardship	Religious duty Future generations Reverence for life—God's creatures Reverence for life—mysticism	It is our religious/spiritual duty to take care of nature. Nature should be protected for future generations of humans. Humans should protect nature because it is God's creation. All living things have a spirit.
Radical environmentalism	Humanitarianism Animism/organicism/ pantheism Liberalism/natural rights— evolutionary Liberalism/natural rights— ecological processes	Humans should not cause needless pain and suffering to animals. Nature should be protected because it is sacred. As products of evolution, humans have a responsibility to care for the rest of nature. As part of nature, humans have a responsibility to care for the rest of nature.

problems, ambiguities, or other difficulties in interpreting and responding to the statements. Based on this pretest, 62 statements were retained. Each of the 16 environmental ethics was measured with between two and five statements. Representative statements are shown in Table 2.

Three visitor surveys were conducted using some or all of the above batteries of questions. Procedures for survey research recommended by Dillman (1978) were followed. The first study was conducted in the Breadloaf Wilderness in Vermont. A representative sample of 251 visitors in the summer and fall of 1992 was given a mail-back questionnaire. Using three mailings, a response rate of 78 percent was attained, yielding 196 completed questionnaires. The second study was conducted at Marsh-Billings National Historical Park in Vermont. This is a relatively new unit of the national park system. A representative sample of 500 park visitors in the summer and fall of 1993 was given a mail-back questionnaire. Using three mailings, a response rate of 78 percent was attained, yielding 388 completed questionnaires. The third study was conducted throughout the Vermont state park system. A representative sample of 3,100 visitors to 45 state parks during the summer of 1993 was given a mail-back questionnaire. The questionnaire was distributed on-site and two follow-up mailings were used. A response rate of 61 percent was attained, yielding 2,158 completed questionnaires.

## Study Findings

**Park Values.** Values of parks and related lands were measured in all three studies, though temporal values were measured in only two of the these studies, and the willingness-to-pay approach to values was used in only one study. Study findings are summarized in Tables 3 and 4. From Table 3, it is clear visitors feel that parks and related lands are important for a considerable variety of use values. In fact, most of the potential values are rated by the sample as a whole as at least "somewhat" important. There is also a clear hierarchy of values. Direct use-related values—values that accrue more directly to individuals—tend to be rated as especially important. These include aesthetic appreciation, education, outdoor recreation, and therapeutic values. This is probably to be expected, given that the sample comprises direct visitors to these parks and related areas. Less direct values—values that accrue less directly to individuals but more to society as a whole—constitute a second tier of importance and include the value of ecological integrity to human survival, parks as a scientific resource, and parks as a historical-cultural resource. More abstract values, including parks as an expression of moral-ethical obligation to nature and the spiritual value of parks represent a third tier of importance. The economic value of parks as a source of raw materials and as a tourism-related economic development strategy is clearly rated as relatively low in importance, though

Table 3. Importance of Park Values.

Value	<u>Breadloaf Wilderness</u>		<u>Vermont State Parks</u>		<u>Marsh-Billings National Historical Park</u>	
	Average Score	Rank	Average Score	Rank	Average Score	Rank
<b>Use Values<sup>1</sup></b>						
Aesthetic	1.45	1	1.45	1	1.69	1
Education	1.85	2	2.13	3	2.17	4.5
Recreation	1.93	3.5	1.49	2	3.05	8
Therapeutic	1.93	3.5	2.43	6	2.97	7
Ecological	2.45	5	2.21	4	1.87	2
Scientific	2.56	6	3.23	9	—	—
Intellectual	2.66	7	2.86	7	2.71	6
Historical/Cultural	2.69	8	2.91	8	2.17	4.5
Moral/Ethical	3.16	9	2.32	5	1.88	3
Spiritual	3.46	10	3.75	10	3.47	10
Economic	4.64	11	5.20	11	3.17	9
<b>Temporal Values<sup>2</sup></b>						
Use	—	—	1.36	2	1.54	3
Option	—	—	1.45	3	1.83	2
Existence	—	—	1.95	4	1.34	4
Bequest	—	—	1.26	1	1.93	1

1 1="extremely important" 6="not at all important"

2 Vermont state parks: 1="strongly agree" 4="strongly disagree"

Marsh-Billings National Historical Park: 3="strongly agree" -3="strongly disagree"

Table 4. Allocation of Park Values—Vermont State Parks.

Value	Average Percentage of Willingness to Pay
<b>Use Values</b>	
Recreation	28.2
Aesthetic	13.3
Ecological	12.3
Therapeutic	9.2
Moral/ethical	7.5
Educational/scientific	7.1
Economic	7.0
Historical/cultural	5.9
Intellectual	4.9
Spiritual	4.4
<b>Temporal Values</b>	
Use	36.4
Bequest	26.5
Option	25.6
Existence	11.6

its average rating of between “slightly” and “somewhat” important may be surprising.

There are, of course, some exceptions to this general pattern of findings. In particular, visitors to Marsh-Billings National Historical Park rated ecological, moral-ethical and historical-cultural values as considerably more important than did visitors to the other two study areas. This is probably related to the fact that this area was established to celebrate conservation history and environmentally related ideas of George Perkins Marsh and Frederick Billings.

Findings in Table 3 suggest visitors feel that a variety of temporal values are also served by parks and related lands. On average, respondents “agreed” or “strongly agreed” that parks were important for all four

temporal values addressed. However, future-oriented bequest value was consistently rated as more important than the present-oriented use and existence values.

Table 4 presents findings on how visitors to the Vermont state parks allocated their total willingness to pay for state parks among ten use values and four temporal values. The relative ranking of park values derived from this approach is generally consistent with the general importance ratings shown in Table 3. Moreover, all potential values continued to receive some allocation of total value. However, this measurement approach revealed greater variation among values. Recreation value, for example, represented an average of 28.2 percent of total willingness to pay, more than twice as much as any

other value. Similarly, in the temporal dimension, use value represented a substantial plurality of total willingness to pay.

***Environmental Ethics.*** Environmental ethics were measured in two studies, the Breadloaf Wilderness and Vermont state parks. Findings were quite similar in both studies. For this reason, only the Breadloaf Wilderness study findings will be reported.

Study findings for environmental ethics of Breadloaf Wilderness visitors are shown in Figure 1. Data from the 62 environmental ethics statements were subjected to factor analysis as a data reduction technique and to test the validity of the statements as measures of the 16 environmental ethics originally conceptualized. The factor analysis resulted in 17 factors which were quite similar to those outlined in Table 2. However, in the benign indifference category, "religious dualism" was divided into two environmental ethics, "intellectual dualism" (humans are different from the rest of nature due to their rationality) and "human rights" (humans have religiously based rights to use nature). In the stewardship category, "religious duty" and "reverence for life—God's creatures" were combined into a general "religious stewardship" ethic, and "reverence for life—mysticism" was divided into two ethics, "nature as spirit" (nature should be protected because living things have a spirit) and "importance of nature" (nature should be protected because it is important).

Finally, in the radical environmentalism category, "liberalism/natural rights-evolution" and "liberalism/natural rights-ecological processes" were combined into one ethic, "natural rights," and also produced another ethic, "humans in nature" (humans are a part of nature).

Responses to the statements comprising each environmental ethic factor were added to form an index score. Because factors contained unequal numbers of statements, these raw scores were standardized, transforming them to back into the original eleven-point scale. These standardized index scores are the values graphed in Figure 1.

As with park-related values, it is clear that wilderness visitors subscribe to a diversity of environmental ethics. Stewardship-based environmental ethics, particularly as they relate to duties of future generations, along with the general importance of nature, enjoy especially strong support. Strong support for utilitarian conservation ethics—quality of life, ecological survival, and efficiency—is also pervasive across the sample. Radical environmental ethics—ideas that tend to challenge the traditionally anthropocentric Western worldview regarding nature—also tend to be strongly embraced. Environmental ethics comprising benign indifference and anti-environment categories are generally not supported, with the exception of some support for the view of nature as a storehouse of raw materials.



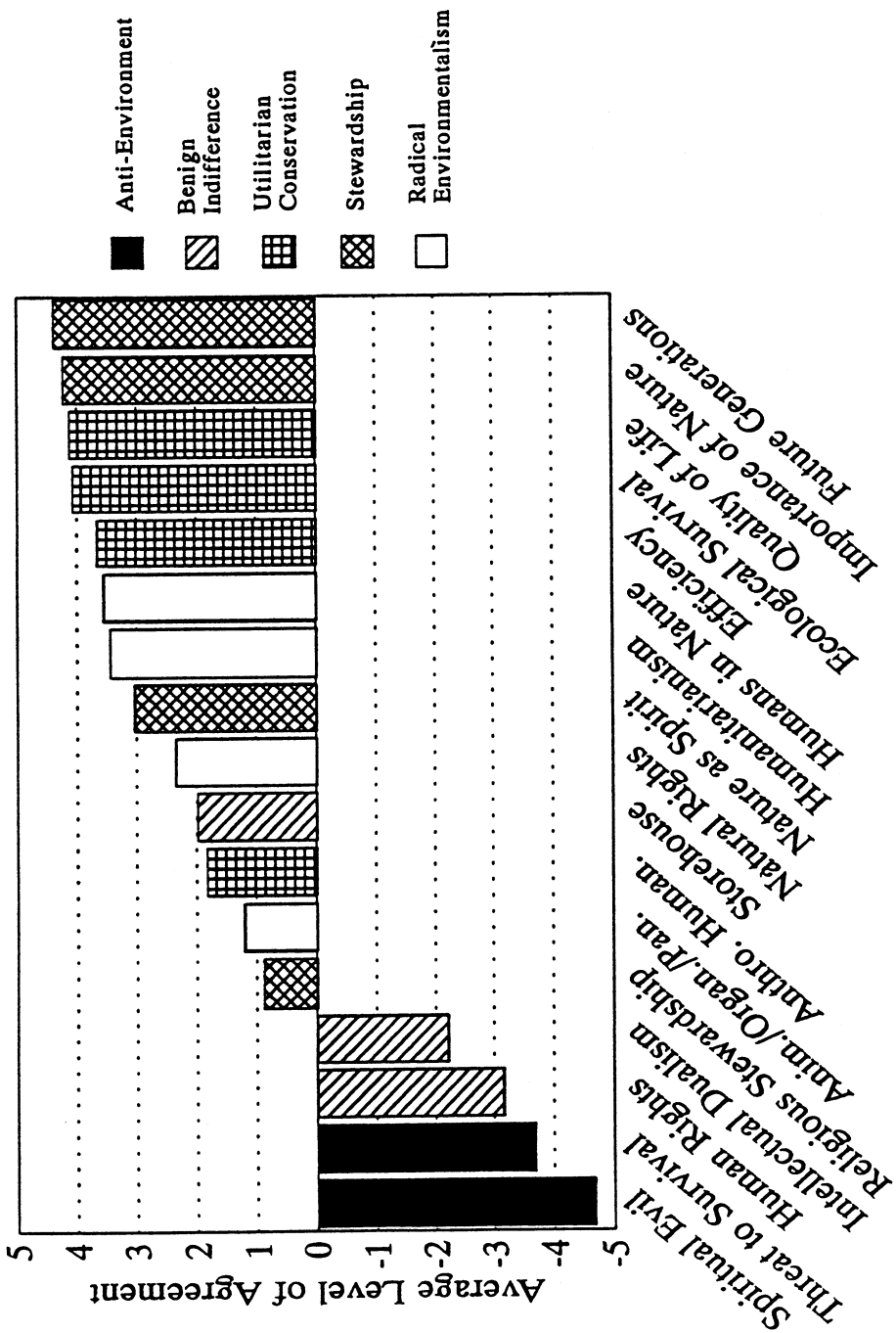


Figure 1. Environmental Ethics Factors.

## Conclusions and Implications

Several conclusions and implications are apparent from these study findings. First, it is apparent that environmental values and ethics can be isolated and measured. Traditionally, such environmentally related values and ethics are treated primarily at a conceptual level. However, these intellectual notions can be defined more explicitly, classified, and measured through scale development and associated survey and statistical techniques. While the values and ethics-related classification systems and measurement scales are certainly subject to continued refinement, they suggest that an empirical approach to these issues can be potentially productive and useful.

Second, it is clear that visitors value parks and related areas for many reasons. Direct or individually related values such as recreation and aesthetic appreciation tend to be rated as most important. However, less direct or more socially related values, as well as more abstract values such as ecological protection and expression of a moral-ethical obligation to nature, are also rated as important, and in fact may make up a majority of total park value. Findings regarding value in the temporal dimension follow a similar pattern. Current use value is rated as most important, but future-oriented values, including bequest and option values, are also rated as important and may, in fact, compose the majority of total park value.

Third, it is also clear that park visitors subscribe to an array of environmental ethics. These ethics can be described as both anthropocentric (including stewardship and utilitarian notions) and biocentric (including notions of radical environmentalism).

Fourth, a common theme across the findings is the future-oriented thinking of respondents with regard to parks. Future-oriented values—option and bequest—are consistently rated as important and may even compose the majority of temporal park values. Moreover, stewardship of nature for the sake of future generations was consistently the most strongly supported environmental ethic.

Several park management implications arise from these findings. First, conflict over park management may become increasingly intense. The diversity of park values and environmental ethics found in these studies suggests that parks and related areas are subject to multiple demands and that some of them may inherently conflict. Use of parks for recreation, for example, causes some ecological impact. This may, in turn, be antithetical to the value of parks as an expression of moral-ethical obligation to preserve nature or to the value of parks as a scientific resource. Similarly, the mix of anthropocentric and biocentric environmental ethics may present competing and potentially conflicting demands on park management.

Second, the above ideas may suggest a more comprehensive and systematic approach to park policy. Some parks, because of their characteristics or the demands made upon them, may be more appropriately managed to emphasize selected values or to reflect selected values and environmental ethics. The types of data developed in these studies may begin to provide an empirical basis for formulation of such systematic park policy.

Third, it may be wise for park managers to be increasingly cautious about ecological impacts to park resources. Many of the values of parks identified in this study are heavily dependent upon maintaining the ecological integrity of parks. Moreover, many of the environmental ethics identified are biocentric and future-oriented. These ethics are also highly dependent upon maintaining ecological integrity. By so doing, parks can best meet the multiple demands placed upon them by contemporary society.

Finally, it should be noted that these studies focus on park visitors only. Parks are societal resources, and their management should reflect the broad spectrum of the population. Through institutions such as the National Park System and the National Wilderness Preservation System, it is clear that the American public at large generally supports parks and related reserves. But what values and ethics underlie such support? It might be hypothesized that this segment of the population would support less direct, more biocentric, and more future-oriented values and ethics even more strongly than park visitors. After all, this segment of the population does not partake in the more direct, more anthropocentric, and more current-use values such as recreation. If this is the case, then even more management emphasis should be placed on protecting the ecological integrity of parks and related areas.

*This research was supported in part by the McIntire-Stennis Forestry Research Program, the National Park Service, the Vermont Department of Forests and Parks, and the North Central Forest Experiment Station.*

### Literature Cited

- Bailes, K.E. (ed.). 1985. *Environmental history: Critical issues in comparative perspective*. Lanham, Massachusetts: University Press of America.
- Brennan, A. 1988. *Thinking about nature: An investigation of nature, value, and ecology*. Athens: University of Georgia Press.
- Callicott, J.B. 1995. *Earth's insights: A survey of ecological ethics from the Mediterranean Basin to the Australian Outback*. Berkeley: University of California Press.

- Des Jardins, J. 1993. *Environmental ethics: An introduction to environmental philosophy*. Belmont, California: Wadsworth.
- Dillman, D. 1978. *Mail and telephone surveys: The total design method*. New York: John Wiley & Sons.
- Elliot, R., and A. Gare (eds.). 1983. *Environmental philosophy*. University Park: Pennsylvania State University Press.
- Glacken, C.J. 1956. *Traces on the Rhodian shore*. Berkeley: University of California Press.
- Hargrove, E.C. 1989. *Foundations of environmental ethics*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Merchant, C. (ed.). 1993. *Major problems in American environmental history*. Lexington, Massachusetts: D.C. Heath.
- Nash, R. 1983. *Wilderness and the American mind*. New Haven, Connecticut: Yale University Press.
- . 1989. *The rights of nature*. Madison: University of Wisconsin Press.
- Petulla, J. 1988. *American environmental history*. Columbus, Ohio: Merrill.
- Rolston, H. 1986. *Philosophy gone wild: Essays on environmental ethics*. Buffalo, New York: Prometheus Books.
- . 1988. *Environmental ethics*. Philadelphia, Pennsylvania: Temple University Press.
- Simmons, I.G. 1993. *Environmental history: A concise introduction*. Cambridge, Massachusetts: Blackwell.
- Stone, C. 1987. *Earth and other ethics: The case for moral pluralism*. New York: Harper & Row.
- Taylor, P. 1986. *Respect for nature: A theory of environmental ethics*. Princeton, New Jersey: Princeton University Press.
- Van DeVeer, D., and C. Pierce. 1994. *The environmental ethics and policy book*. Belmont, California: Wadsworth.
- Worster, D. 1977. *Nature's economy: A history of ecological ideas*. Cambridge, Massachusetts: Cambridge University Press.
- . 1993. *The wealth of nature: Environmental history and the ecological imagination*. New York: Oxford University Press.
- Zimmerman, M. (ed.). 1993. *Environmental philosophy: From animal rights to radical ecology*. Englewood Cliffs, New Jersey: Prentice Hall.



Robert E. Manning, William A. Valliere & Ben A. Minteer, School of Natural Resources, University of Vermont, Burlington, Vermont 05405