

ENVIRONMENTAL ETHICS AND WILDERNESS

MANAGEMENT: AN EMPIRICAL STUDY

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The underlying hypothesis of this study is that environmental ethics influence public attitudes toward wilderness management. To study this hypothesis, environmental ethics were defined, categorized, and measured empirically. Additionally, attitudes toward selected wilderness management issues were measured. Associations were found between beliefs in selected environmental ethics and attitudes toward selected wilderness management policies. These findings support the study hypothesis and suggest that environmental ethics can be studied empirically and provide insights into the future direction of wilderness management.

Introduction

Over the last 25 to 30 years, issues of how wilderness areas should be managed have occupied a prominent place in the minds of wilderness managers and recreationists alike. Such issues as crowding, reintroduction of natural predator-prey relationships, allowing naturally caused fires to run their course, and visitor limits have been at times, controversial. Issues such as these raise fundamental questions about what recreationists value in wilderness, what managers ought to do when managing wilderness areas, to what degree human influences should be allowed to impact on the natural function of wilderness ecosystems, and what responsibility humans have toward these natural ecosystems. In short, these issues raise questions of values and ethics.

This study is an attempt to test the hypothesis that there are relationships between environmental ethics and visitor attitudes about wilderness management. For the purposes of this study, environmental ethics will be defined as intellectual ideas about the appropriate relationship between humans and the natural environment.

An empirical approach to environmental ethics could provide information about the extent to which certain ethical ideas about the environment are prevalent in a segment of society. This in turn, could lead to a better understanding of how environmental ethics influence attitudes toward environmental policy including wilderness management. However, an empirical treatment of environmental ethics has been lacking.

Values and ethics can shape attitudes, while attitudes in turn shape policy. Heberlein (1989) points out that environmental managers find attitude studies useful because they provide information about public support and beliefs, as well as information for setting standards and about current and future behaviors. As he also points out, public attitudes have direct influence on policy decisions by showing support for some plans and rousing opposition to others. The study of environmental ethics can begin to help managers understand why the public holds certain attitudes.

Numerous authors have described the theoretical relationship between environmental ethics and attitudes toward environmental policy. Sayer (1991) indicated that contemporary society must examine its values and its attitudes toward the environment in order to create policy solutions to adequately address environmental problems. Stone (1973) used ethical arguments to reach the conclusion that natural objects should have standing in courts of law which would give nature a voice in policy decisions. One specific policy which has become law, The Endangered Species Act of 1973, can be interpreted as giving certain animals moral and legal standing (Nash, 1989). However, the relationship between environmental ethics and attitudes toward wilderness management policy has not been studied.

Objectives

To test the study hypothesis, three study objectives were developed. First, environmental ethics were defined and categorized. Second, a series of scale items was developed to measure the extent to which wilderness visitors subscribe to these alternative environmental ethics. Third, a series of scale items was developed to measure attitudes toward selected wilderness management issues. These scale items were combined to derive a measure of desired wilderness purity. For the purposes of this study, wilderness purity is defined as the absence of visible human influence within wilderness boundaries.

Methods

Literature Review

Through literature review, 16 different environmental ethics were identified. We will present only a brief description of these 16 ideas here. For a more thorough review of the literature, refer to Valliere (1994). The 16 environmental ethics were categorized into 5 broader categories. While these categories are an attempt to further classify the environmental ethics, we do not suggest that these are groups of environmental ethics actually found in society. These categories merely represent groups of environmental ethics which appear to have some theoretical commonality.

Anti-environment. The first category is the anti-environment category. The first environmental ethic in this category is the "threat to survival" ethic which suggests that nature should not be protected because it contains elements and processes which threaten human survival and civilization. The second environmental ethic in this category is the "spiritual evil" ethic which suggests that nature should not be protected because some interpretations of religious teachings tell us that nature is a spiritual evil.

Benign indifference. The second category is the benign indifference category. The first environmental ethic in this category is the "storehouse of raw materials" ethic which suggests that nature is neither good nor bad, it simply provides humans a source of raw materials to be used as human needs and wants dictate. The second environmental ethic in this category, "religious dualism", suggests that nature is neither good nor bad, but that it is fundamentally different from and secondary to humans.

Utilitarian conservation. The third category is utilitarian conservation. The first environmental ethic in this category is "anthropocentric humanitarianism" which suggests that certain elements of nature, particularly domestic and work animals, be treated carefully and that cruelty to such animals makes us somehow less human and may lead to cruelty to other humans. The second environmental ethic in this category, "efficiency," suggests that elements in nature of material worth should be used wisely to ensure their continued availability. The third environmental ethic in this category, "quality of life" suggests that certain elements of nature should be treated carefully because their existence contributes to the quality of our lives in either a material or aesthetic sense. The final environmental ethic in this category, "ecological survival," suggests that certain elements of nature be treated carefully because human survival may ultimately depend on the integrity of basic ecological functions.

Stewardship. The fourth category is stewardship. The first environmental ethic in this category is "religious duty" which suggests that nature be treated carefully because some religious teachings instruct humans that this is their religious responsibility. The second environmental ethic in this category, "future generations", suggests that nature be treated carefully because it is a basic human responsibility to pass along nature to future generations of humans. The third environmental ethic in the stewardship category is "reverence for life -- God's creatures" which suggests that nature be treated carefully because nature and living things were created by God and are thus deserving of our respect and even reverence. The final environmental ethic in this category is "reverence for life -- mysticism" which suggests that nature be treated carefully because all living things represent the spiritual mystery of life and are thus deserving of respect and even reverence.

Radical environmentalism. The fifth and final category is radical environmentalism. The first environmental ethic in this category is "humanitarianism" which suggests that sentient animals should be protected from human-caused pain and suffering. The second environmental ethic in this category is "animism/organicism/pantheism" which suggests that nature should be protected from human-caused harm because all things in nature are connected through a spiritual quality and thus are sacred. The third environmental ethic in this category is "liberalism/natural rights -- evolutionary" which suggests that nature be protected as a function of continued human extension of moral, ethical, and/or legal rights throughout society based on the fundamental relationship of all living things through the process of evolution. The final environmental ethic in this category is "liberalism/natural rights -- ecological processes" which suggests that nature be protected as a function of continued human extension of moral, ethical, and/or legal rights throughout society based on the fundamental relationship of all living things through ecological processes.

Survey Methods

In order to achieve study objectives 2 and 3, a survey questionnaire was constructed and a random sample of visitors to the Breadloaf Wilderness, Vermont was obtained during July, August, September and October of 1992. A total sample size of 250 was obtained. Visitors were initially contacted in the Breadloaf Wilderness by a members of our research staff and

asked to participate in the study. If the visitors consented, their names and addresses were taken and the initial contact was completed.

A few days after the initial contact, participants were sent a copy of the survey questionnaire, which contained 62 statements to measure agreement or disagreement with the 16 environmental ethics and 15 statements to measure 12 areas of desired wilderness purity in the Breadloaf Wilderness. Participants also received a cover letter explaining the importance of each participant's response, and a postage-paid, self-addressed return envelope. One week after the initial mailing, a postcard reminder was sent to all study participants asking them to return the study questionnaire. Three weeks after the initial mailing, a second copy of the study questionnaire, a second cover letter imploring participants to return the questionnaire, and a second postage-paid, self-addressed return envelope were mailed to study participants who had not yet returned the questionnaire. This procedure prompted 196 study participants to return the questionnaire for a response rate of 78%.

Results

The results from the 62 environmental ethics statements were subjected to factor analysis to reduce the number of variables used in further analysis. This was accomplished through index creation guided by the factor analysis. Most of the environmental ethics remained the same. However, based on the factor analysis, some environmental ethics were combined while others were divided into two ideas. In the benign indifference category, "religious dualism" was divided into two concepts; "Intellectual Dualism" and "Humans have a right to use nature." In the stewardship category, "religious duty" and "reverence for life-- God's creatures" were combined into a general "religious stewardship" ethic. In the radical environmentalism category, "liberalism/natural rights -- evolution" and "liberalism/natural rights --ecological processes" combined and into one ethic and also produced another concept "humans are a part of nature".

The mean index scores for each of the environmental ethics are shown in Figure 1. It is apparent from these results that all of the environmental ethics in both the anti-environment and benign indifference categories were rejected by respondents. The remaining environmental ethics were accepted at varying degrees by respondents.

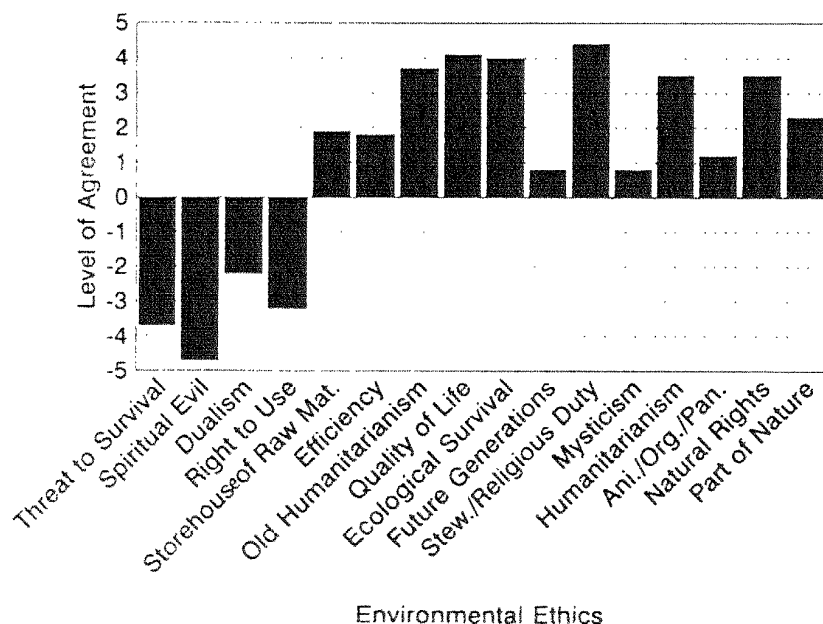


Figure 1. Mean index scores for environmental ethics.

Figure 2 shows the mean scores for each of the wilderness purity dimensions and the mean index score for overall wilderness purity. It is clear that while on some dimensions, visitors desired high degrees of wilderness purity, on average, they did not desire a pure wilderness experience. In fact, on three of the dimensions (trail signs, trail shelters, and responses to emergencies),

a decidedly non-purist attitude prevailed. The average overall wilderness purity score indicates that visitors to the Breadloaf Wilderness desire an experience which has some of the qualities of primitive or pure wilderness recreation and some qualities of more developed types of recreation.

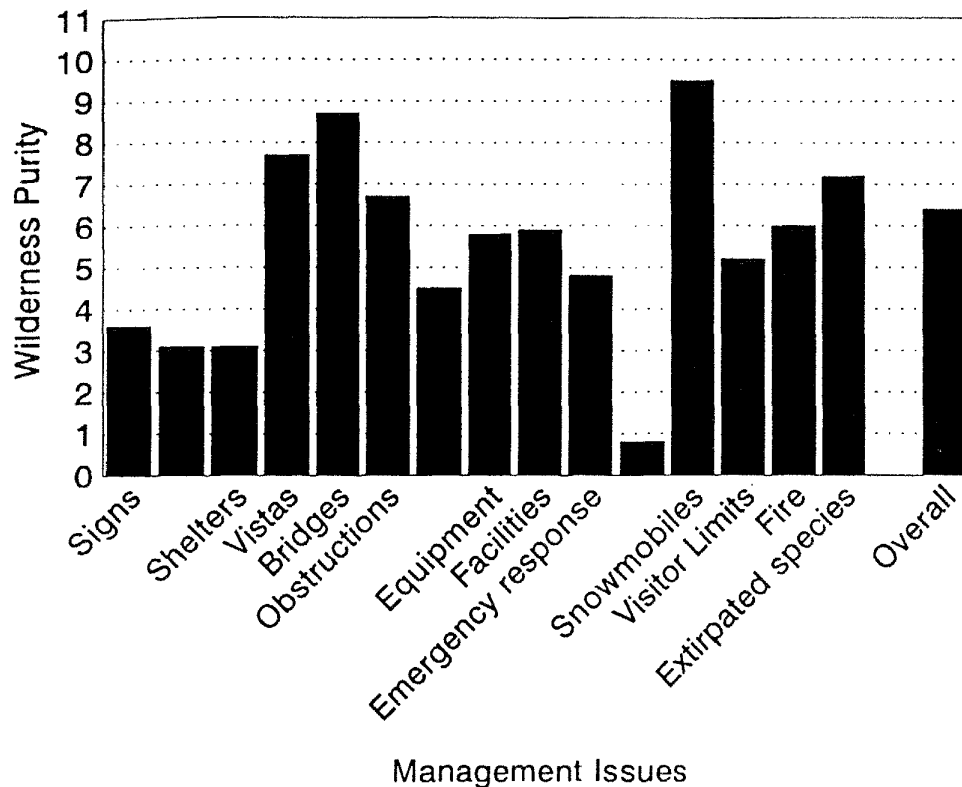


Figure 2. Mean wilderness purity scores.

To test the hypothesis that there are relationships between environmental ethics and attitudes toward wilderness management, multiple linear regression was used. The environmental ethics were used as independent variables while the index of wilderness purity was used as the dependent variable. Table 1 shows the results of this analysis. It is clear from these results that there are statistically significant relationships between some environmental ethics and visitor attitudes about wilderness management. Visitors who more strongly agreed with the "animism/organicism/pantheism" ethic, and who disagreed with the "religious stewardship," "stewardship for future generations" and "human right to use nature" ethics were more likely to desire a pure wilderness experience.

Table 1. Multiple regression results.

	Ani./Org./ Pan.	Rel. Stew	Fut. Gen.	Right to use
Regression Coefficient	0.42	-0.31	-0.19	-0.14
R Squared = .20				
F Ratio = 9.73 Significance = .000 (4,157) Degrees of Freedom				

Discussion and Implications

The results of this study have implications for wilderness managers. They indicate that wilderness visitors may not always be interested in a "pure" wilderness experience. There can be a number of reasons why this is the case. In the case of the Breadloaf Wilderness, many visitors are day hikers and may simply want to hike in an area that is convenient and natural, but not necessarily an area with only wilderness characteristics. The Breadloaf Wilderness meets these needs well. It is easily accessible from many Vermont towns and offers day hiking opportunities which range from very easy to extremely difficult, with panoramic views only short distances from trailheads.

The Breadloaf Wilderness is also bisected by Vermont's Long Trail which offers hikers developed campsites and shelters which are not consistent with a "purist" view of wilderness. However, Long Trail hikers may come to expect these facilities whether they occur in a wilderness area or not.

This study also associated visitor's environmental ethics with attitudes toward wilderness management. This is important from a scientific standpoint because it demonstrates that environmental ethics can be studied empirically, thus allowing such relationships to be demonstrated in other areas as well. However, the study of environmental ethics can also benefit natural resource managers. By understanding environmental ethics, managers can begin to understand not only what attitudes the public holds, but also why

they hold those attitudes. In the case of this study, it was apparent that persons who subscribe to environmental ethics which have a biocentric focus (animism/organicism/pantheism) tended to prefer a "pure" wilderness experience. This may be because they see wilderness not only as a place for human recreation, but also as a place for this ethical idea to be expressed. Likewise, those visitors who subscribe to ethics with an anthropocentric focus (humans have a right to use nature) might prefer a less "pure" wilderness because visible human influence in nature is ethically correct for these visitors.

Based on the results of this study, there are several implications for wilderness managers. Wilderness managers should take environmental ethics into account when managing wilderness areas. By taking environmental ethics into account, wilderness managers can better serve the public by understanding why certain attitudes are held. Additionally, by understanding environmental ethics, potential conflicts can be averted by better understanding the public. This study also indicates that visitor education may be necessary when wilderness purity is an issue. If a management intervention may change the perceived level of wilderness purity in either direction, some users may find the change unsettling. Education may tend to diffuse some negative feeling toward the action.

The results of this study also indicate that further research is necessary. A survey of wilderness managers may be helpful in identifying differences in environmental ethics and attitudes between managers and the public. Additionally, longitudinal study of environmental ethics could help to determine whether they are relatively stable concepts or whether they change over time and across various economic and social conditions.

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