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ENVIRONMENTAL ETHICS BEYOND PRINCIPLE? THE CASE FOR A PRAGMATIC CONTEXTUALISM

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ABSTRACT. Many nonanthropocentric environmental ethicists subscribe to a "principle-ist" approach to moral argument, whereby specific natural resource and environmental policy judgments are deduced from the prior articulation of a general moral principle. More often than not, this principle is one requiring the promotion of the intrinsic value of nonhuman nature. Yet there are several problems with this method of moral reasoning, including the short-circuiting of reflective inquiry and the disregard of the complex nature of specific environmental problems and policy arguments. In the present paper, we advance an alternative, pragmatic contextualist approach to environmental ethics, one grounded in the moral theory of John Dewey. We present the results of an empirical study of public environmental ethics and natural resource management attitudes to support our position, and we conclude with a few recommendations for future inquiry in the field of environmental ethics.

KEY WORDS: contextualism, empirical study, environmental ethics, pragmatism, public attitudes

INTRODUCTION: AN ALTERNATIVE METHOD FOR ENVIRONMENTAL ETHICS

Many of the leading contributors to nonanthropocentric environmental ethics over the past several decades have taken what might be referred to as a "principle-ist" approach to their subject, in which specific environmental policy goals and management actions are thought to be deduced from a small number of previously articulated general moral principles. The identification and justification of these general principles, which commonly revolve around the obligation to promote nature's "intrinsic value," is consequently viewed by these same theorists as the primary mission of environmental ethics as a branch of applied philosophy. This general method of deriving specific natural resource and environmental management decisions and policy goals directly from prior assertions of one or more normative principles can be seen in the work of many of the leading ethicists in the field, including philosophers such as J. Baird Callicott, Eric Katz, and Laura Westra, among others.

The ubiquity of this principle-ist method in nonanthropocentric environmental ethics is not that surprising, given that applied ethics is

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typically understood to be an attempt to bring general (and, more often than not, universal) moral standards, rules, and principles to bear on more concrete social and political problems. Even so, we may question whether this methodological approach is the best way to think about the relationship between theory and practice in environmental ethics; i.e., whether it is the most effective and productive way to conceptualize moral inquiry into environmental problems and policy arguments. Simply put, we do not believe it is, and we do not think the philosophical enterprise in environmental ethics is well served by such an exclusive focus on the moral foundations and justification of normative principles (such as the nonanthropocentric theory of intrinsic value). Consequently, we believe the field's attention should be turned to other, more practical, dimensions of the moral question surrounding the human relationship with the environment; namely, the concrete situations in which various environmental and social commitments come into conflict. These "problematic situations" require refined methods of observation, analysis, and deliberation, activities that press beyond philosophical articulations and justifications of the intrinsic value of nature.

In this paper, we provide the outlines of an argument for a methodological alternative to the principle-ist approach in environmental ethics. We suggest that environmental ethicists, especially those of a nonanthropocentric persuasion, should reconsider their historical focus on a small number of fixed and universal moral principles advanced to govern public and private environmental attitudes, decisions, and actions.[1] Instead, we believe that ethicists should start to work more deliberately from the *opposite* direction in the ethics-practice relationship, at least as traditionally conceived under the principle-ist model. Rather than beginning with the conviction that a general ethical principle – e.g., one recognizing the universal duty to promote intrinsic natural values – is the only valid and defensible moral commitment, and then looking to apply this principle to a specific policy or management context, we might instead begin with an inquiry into the empirical circumstances of the environmental policy context or management issue under consideration. From there, we may engage a set of moral principles – perhaps, in many cases, revising and

[1] While our critical attention in this paper is focused on the principle-ist tendencies of nonanthropocentric environmental ethics, we should note that a nonanthropocentrist need not be a principle-ist in the sense we discuss here, just as an "anthropocentrist" is not necessarily a "contextualist." Yet since nonanthropocentric theorists have historically focused on the identification and justification of one or more general moral principles as the primary philosophical task in the field (and as the foundation for policy choices), we believe they provide the clearest example of the principle-ist approach in environmental ethics.

refitting them – as we reason through and deliberate over their potential to help us resolve environmental policy and management choices. This way of thinking about the claims of environmental ethics and the method of relating these claims to natural resource and environmental policy arguments and decisions recognizes the normative and empirical weight of specific, concrete problematic situations. In turn, it moderates the influence of pre-experiential moral principles when such principles are engaged apart from or before practical deliberations regarding action.

Such a shift to "contextualism," in the conceptualization of the relationship between environmental ethics and practice/policy argument is suggestive of a pragmatic approach to moral inquiry, a project given one of its fullest expressions in the work of the American philosopher John Dewey in the first third of the 20th century. In recent years, and often taking their cue directly from Dewey, a number of environmental ethicists have attempted to inject either explicit or tacit pragmatic elements into the field's discourse. Among other things, these new "environmental pragmatists" have argued that ethicists must rethink and retool many of their philosophical commitments and practices along more pragmatic lines in order for the field to contribute more effectively to environmental and natural resource problem solving and policy formulation (e.g., Weston, 1985; Norton, 1995, 1996, 1999; Light and Katz 1996; Thompson, 1996; Minteer, 1998, 2001).

We believe there is much to be said in favor of these pragmatic developments in environmental ethics, especially those projects working along one or another Deweyan lines. In this paper, we consider the implications of a pragmatic contextualism for a particular class of problematic situations: the challenges and conflicts encountered in natural resource and wildlife management issues. We do so on two fronts: (1) theoretical, by discussing the methodological question regarding the application of general moral principles (in this case, environmental ethics) to specific problematic situations (i.e., policy and management contexts); and (2) empirical, by presenting the findings from a survey that focused on citizens' environmental ethics and their attitudes toward a specific wildlife management problem.

The work here builds on earlier research two of us have conducted on citizens' environmental ethics and their views toward natural resource policy – specifically, Vermont residents' ethical commitments and their preferences for managing the state's Green Mountain National Forest (Minteer and Manning, 1999, 2000; Manning et al., 1999). This previous study explored, among other questions, the empirical validity of pluralism in environmental ethical theory and the relationship among Vermonters'

environmental values, ethics, and attitudes toward national forest management. We found that respondents subscribed to a diverse set of normative orientations toward nature, including both classically "anthropocentric" (i.e., human value and interest-oriented) ethical views and "nonanthropocentric" (i.e., biologically- or ecologically-oriented) stances. This pluralism appeared to collapse, however, or "converge" on a common forest management agenda; what we referred to as "sustainable, multi-value ecosystem management" (Minteer and Manning, 2000; Norton, 1991).

If this earlier work was broadly pragmatic in its experimental and naturalistic study of environmental values and in its recognition of the prima facie and empirical validity of pluralism in environmental ethical theory, the current study adds an important additional pragmatic dimension to our investigations of public environmental ethics and management preferences. One of the main objectives of the present study – carried out by means of a mail survey administered within the framework of New England's White Mountain National Forest – was to explore the role of moral principles and concrete situation in shaping the public's (in this case, New Englanders') management attitudes. By employing a wildlife management scenario couched in three different land management regimes, we were able to investigate how the study respondents' management preferences varied according to land use context. We were also able to determine whether or not respondents' ethical justifications for their management decisions differed across the three land types. This study therefore allowed us to get a better sense of the relative roles of situational context (here defined along the land use dimension) and environmental ethics in public natural resources decision-making within a hypothetical case framework.

THE ROLE OF MORAL PRINCIPLES IN ENVIRONMENTAL ETHICS

Nonanthropocentric Principle-ism

As mentioned above, since its professional founding in the 1970s, the field of environmental ethics has been fairly preoccupied with the defense of a global nonanthropocentrism and the normative enterprise of establishing the intrinsic value of various parts and processes of the natural world (e.g. Routley, 1973; Regan, 1981; Taylor, 1986; Rolston, 1975, 1988, 1994; Callicott, 1989, 1999a; Katz, 1996; Westra, 1994). While these projects differ in a number of significant epistemological and metaphys-

ical respects, they nevertheless share the general view that conventional anthropocentric ethical positions (taken to be those normative stances focused on the moral considerability or interests of humans alone) are not capable of supporting sufficiently protective environmental attitudes, practices, and policies. These human-occupied positions, nonanthropocentric ethicists argue, must be supplanted by biologically or ecologically-based worldviews that carry with them moral principles capable of directly engaging nonhuman nature as something more than an instrumental good; i.e., more than a resource to satisfy human preferences or to promote human welfare.

In addition, and as we suggested in our introduction, these nonanthropocentric environmental ethical programs also have in common a devotion to a deductivist logic and principle-ist approach to environmental decision-making and policy argument, whereby specific judgments and outcomes are commonly arrived at through the "top-down" application of a single and general moral principle (i.e., intrinsic value) to the particular policy issue or management action in question. This method of linking moral principle and specific policy contexts is on display in much of current environmental ethics work. Consider, for example, J. Baird Callicott's remarks about the philosophical move he believes is required if we are to protect the old-growth forests of the Pacific Northwest:

> Since old-growth forests ... are not yet widely acknowledged to have intrinsic value, timber companies may fell them without first offering any justification whatever. If environmentalists want to stop the clear-cutting of dwindling old-growth forest on public land (to say nothing of those on privately held land) they have to go to court seeking a legal injunction. *If, on the other hand, the intrinsic value of nature were widely acknowledged and legally institutionalized*, then timber companies would have to go to court seeking permission to fell an old-growth forest – thus being burdened to offer sufficient justification – whenever they intended to do so (Callicott, 1999a, p. 246; emphasis added).

For Callicott, pressing environmental problems like the clearcutting of old-growth forests are to be solved by the "institutionalization" of a universal ethical principle: the obligation to protect nature's intrinsic value. There is, in other words, no need for further debate on the validity or appropriateness of this principle as a guide for environmental policy, or whether all practical environmental decisions are equally well-served by being subsumed under its governance. Callicott clearly believes, moreover, that the main philosophical task for environmental ethics is to *first* develop the metaphysical and moral foundations needed to support this claim and *then* work toward the subsequent application of intrinsic value to deliberations and arguments in the environmental policy realm. The adoption of a moral principle recognizing nature's intrinsic value is, for him, a necessary prior commitment if we are to arrive at technically sound and philosophically

defensible environmental policy and management decisions in practice. In the logic of environmental ethics and policy argument, Callicott thinks that "reasons come first, policies second" (Callicott, 1999a, p. 32).

We believe this view of the relationship between general environmental ethical principles and specific environmental policies is widely held in the field. Consider how another nonanthropocentrist philosopher, Eric Katz, presents the urgent question surrounding the protection of biodiversity:

> The real solution to problems in environmental policy lies in a specific transformation of values – the transcendence of human-based systems of ethics and the development of an 'ecological ethic.' Humanity must acknowledge that moral value extends beyond the human community to the communities within natural systems ... *Policies that ensure the preservation of planetary biodiversity must express values derived from a nonanthropocentric moral system* (Katz, 1996, p. 166; emphasis added).

Like Callicott, Katz appears to believe that the correct environmental policies (i.e., "the real solution") will be attainable only after we internalize one or more nonanthropocentric principles. And, also like Callicott, Katz seems to believe that there is no need to inquire whether alternative ethical justifications for securing biodiversity, such as those couched in the language of human social values, are justifiable in certain circumstances, or whether these might be more effective in generating widespread public and political support for protective biodiversity policies in specific situations. Rather, for Katz, a system of basic, nonanthropocentric moral commitments must be absorbed into a radically-transformed and widely held worldview, one that provides authoritative and ultimate justification for all biodiversity policy.

Laura Westra is yet another nonanthropocentrist philosopher who appears to hold a similar view regarding the critical importance of an unyielding fidelity to principle (again, nonanthropocentric). In her critique of Bryan Norton's pragmatic "convergence hypothesis" – in particular, Norton's assertion that we should recognize human cultural and social values as justifications for specific environmental policies since a liberal anthropocentrism can be expected to "converge" on the same policies proscribed by a consistent nonanthropocentric position – Westra makes clear her commitment to a firm principle-ist stance, regardless of its practical implications. "Even reaching a right decision on wrong principles may not be sufficient," she writes, "if the principles are such that they would permit a morally bad decision on another occasion" (Westra, 1997, p. 93). Westra's fear seems to be that "morally bad decisions," i.e., ones not ratified by certain nonanthropocentric principles, are the inevitable outcome of pragmatic appeals to human interests and values in environmental policy contexts. In her opinion, such ill-formed judgments will

only spell disaster for the natural world by necessarily issuing exploitationist policies and underwriting destructive environmental attitudes and behaviors.

These are but a few examples of what we believe is a widespread commitment to principle-ism in environmental ethics by nonanthropocentric philosophers. Despite the currency of this approach in the field, however, we do not think that this view of ethical argument demonstrated by Callicott, Katz, and Westra above – in which specific policy outcomes and decisions are subsumed under a class of fixed, general, and universal nonanthropocentric principles – is the best way to conceptualize the environmental ethical enterprise. At the very least, it does not *exhaust* the methodological options available to ethicists seeking to connect the realms of environmental theory and practice. As we have already indicated, one compelling alternative may be found in John Dewey's pragmatism, especially his experimental and empirical approach to ethical inquiry within specific problem contexts. An examination of Dewey's project will allow us to expose additional drawbacks of the principle-ist model as well as to outline a different, and, we believe, more effective, approach to environmental ethical inquiry.

Towards a Pragmatic Contextualism

Even though Dewey wrote decades before the birth of environmental ethics as an academic field, he nevertheless rejected the same sort of principle-ist approach he saw as plaguing much of the Western philosophical tradition. For starters, Dewey argued that philosophers' advocacy of the application of "fixed" ethical claims articulated prior to reflection in concrete situations and decision contexts runs into a number of debilitating problems in practice. One of these problems is the difficulty of interpreting the general principle in question in light of complex and changing experiential circumstances. As Dewey observed,

> Even if all men agreed sincerely to act upon the principle of the Golden Rule as the supreme law of conduct, we should still need inquiry and thought to arrive at even a passable conception of what the Rule means in terms of concrete practice under mixed and changing social conditions. Universal agreement upon the abstract principle even if it existed would be of value only as a preliminary to cooperative undertaking of investigation and thoughtful planning; as a preparation, in other words, for systematic and consistent reflection (Dewey, 1989, p. 178).

In Dewey's view, moral principles should be seen as comprising only one part of the process of thoughtful and reflective inquiry into specific problematic situations. While these claims often have a presumptive force in our deliberations over the right policy or action (a force owing to

their previous success in helping us adapt to previous problems), they can, at best, capture only a particular aspect or dimension of the larger, complex experiential situation in which we find ourselves engaged. Since past experience shows that these unstable and indeterminate contexts often find us struggling to harmonize disparate rights, duties, goods, virtues, and the like – each of which competes for attention and influence in our moral judgments – the selection of any one of these for special emphasis *before* contextual analysis thwarts intelligent moral inquiry.

Not only are problematic situations sufficiently dense and complex as to call into question the formalistic application of any general principle laid down in advance, they are also diverse enough to challenge the uncritical reliance upon any *single* moral claim in governing our inquiry into potential alternative courses of action. As Dewey wrote,

> A genuinely reflective morals will look upon all the [moral] codes as possible *data*. It will neither insist dogmatically upon some of them, nor idly throw them all away as of no significance. It will treat them as a storehouse of information and possible indications of what is now right and good (Dewey, 1989, p. 179; emphasis in original).

Dewey's pluralism, combined with his experimental approach to ethical reasoning, meant that there was no a priori, context-independent manner in which to rank various values, duties, and goods. Such hierarchies could only emerge through the process of deliberation, which in turn would be guided by the real needs and deficiencies of the troubling situation in question (Caspary, 2000, p. 162). And no matter how closely it may seem to resemble previously experienced dilemmas and disruptions, each problematic situation presents us with something novel and unexpected. Given all this, Dewey reasoned, we should not seek to constrain the moral discussion to the language of a single principle or set of principles prior to experimental inquiry if we wish to respond intelligently and creatively to new and increasingly complex moral challenges.

In addition, Dewey's commitment to empiricism in his ethical theory ran considerably deeper than most other consequentialist (and certainly most nonconsequentialist) projects. While all ethical theories pay at least some attention to the significance of empirical circumstances in *the application* of moral principles to concrete situations requiring judgment – e.g., factual considerations are obviously critical for the utilitarian evaluating the likely consequences of alternative courses of action – Dewey's project significantly elevates the philosophical bearing of empirical considerations so that they figure prominently in the underlying *justification* of the principles and encompassing moral theories *themselves*, not just their application. That is to say, Dewey's empiricism reaches much farther into ethical theory than most of its rivals, putting hard contextual

pressure on the normative foundations of established moral principles and supporting theories.

Despite this empirical emphasis, the Deweyan alternative to principleist versions of ethics does not reduce normative ethics to descriptive ethics so much as it insists on grounding theory in real moral experience, holding inherited principles up to critical scrutiny within a process of experimental inquiry, a process that is devoted to resolving concrete conflicts of value, duty, and virtue. This strong commitment to the methodological dimensions of ethical thinking and analysis – to the operations of inquiry that will allow the community to distinguish between the valued and the valuable, the desired and the desirable – thus ensures that Dewey does not run afoul of the naturalistic fallacy. Empirically held values and norms are always submitted to a process of appraisal and revision (and often replacement), an activity driven by the particularized needs and dynamics of experienced problem situations. Dewey's is by no means a purely descriptive ethics; it is a method of inquiry, justified on logical and normative grounds, by which normative claims can be appraised, challenged, and ultimately transformed in the context of a problematic context.

In sum, Dewey argued that moral principles should operate very differently than the way most contemporary environmental ethicists employ them in discussions regarding environmental policy making and problem solving. Ethical theories are, in his opinion, critical instrumentalities – *tools* – for analyzing and interpreting particular social problems and conflicts, not fixed ends to which we owe any sort of special treatment or obedience. As a result, the "rightness" of moral claims depends on their ability to contribute to the resolution of specific problematic situations – an ability determined through intelligent appraisal and inquiry – not on the intrinsic nature of the principle itself (Dewey, 1989, p. 280). In making this move, Dewey significantly shifted discussions of moral theory and argument away from a preoccupation with the ontological status and justification of general moral principles and moved it toward the refinement of the process of intelligent inquiry and the development of better and more effective methods of deliberation, cooperative problem solving, and conflict resolution.

It is important to note that in arguing for the instrumental and experimental role of moral principles in problematic situations, Dewey did not deny the existence of such principles, nor did he reject their role within moral deliberation and decision-making. He only sought to put them in their proper place. Historically successful moral principles promoting the good and the right were not to be uncritically accepted before experimental inquiry, just as they were not to be cast aside simply because they

trafficked in generalities or presumed to hold a universal currency. Instead, they should be understood as potentially useful resources for comprehending and ultimately transforming particular unstable and disrupted moral contexts:

> In moral matters there is . . . a presumption in favor of principles that have had a long career in the past and that have been endorsed by men of insight. . . . Such principles are no more to be lightly discarded than are scientific principles worked out in the past. But in one as in the other, newly discovered facts or newly instituted conditions may give rise to doubts and indicate the inapplicability of accepted doctrines (Dewey, 1989, p. 330).

Still, in Dewey's way of thinking, the conceptual and practical demands placed on previously held moral principles by the emergence of new experiences and evolving factual circumstances required an *adaptive* moral system, one in which standards, rules, and principles would necessarily undergo various degrees of revision and reinterpretation in order to meet new socio-historical conditions and changing individual desires. Often, this process led to the formulation of entirely new principles as moral inquirers responded to the dynamic and evolving quality of human experience:

> In fact, situations into which change and the unexpected enter are a challenge to intelligence to create new principles. Morals must be a growing science if it is to be a science at all, not merely because all truth has not yet been appropriated by the mind of man, but because life is a moving affair in which old moral truth ceases to apply. Principles are methods of inquiry and forecast which require verification by the event; and the time honored effort to assimilate morals to mathematics is only a way of bolstering up an old dogmatic authority, or putting a new one upon the throne of the old. But the experimental character of moral judgments does not mean complete uncertainty and fluidity. Principles exist as hypotheses with which to experiment (Dewey, 1959, p. 221).

Dewey was well aware that his contextualist, experimental, and adaptive model of moral inquiry was a radical departure from most approaches of the Western ethical tradition, and that his emphasis on the operations of "social intelligence" in moral inquiry represented a new way of conceptualizing the enterprise of ethical theory:

> The blunt assertion that every moral situation is a unique situation having its own irreplaceable good may seem not merely blunt but preposterous. For the established tradition teaches that it is precisely the irregularity of special cases which makes necessary the guidance of conduct by universals, and that the essence of the virtuous disposition is willingness to subordinate every particular case to adjudication by a fixed principle. . . . Let us, however, follow the pragmatic rule, and in order to discover the meaning of the idea ask for its consequences. Then it surprisingly turns out that the primary significance of the unique and morally ultimate character of the concrete situation is to transfer the weight and burden of morality to intelligence. It does not destroy responsibility; it only locates it (Dewey, 1957, p. 163).

A thoroughgoing naturalist, yet sensitive to the uncertainties and varieties of human experience, Dewey believed that inquiry into the concrete moral situation was simply one manifestation of the logic of experimental inquiry in general; a pattern most effectively realized in the natural and technological sciences, but one that could be fruitfully applied to the social, political, and moral realms. Indeed, the method of experimental inquiry occupies a central position in his social and political philosophy, where Dewey saw it as both supported by and supportive of our intertwining moral and democratic values (Westbrook, 1998; Minteer, 2002). On this view, we should enter into our moral discussions with a willingness to revise and even abandon our previously held positions in light of new evidence revealed by careful inquiry and as we learn from the arguments and positions of others similarly engaged in the democratic deliberative process.

The upshot of this is that a Deweyan pragmatic and contextualist project in environmental ethics would take a much different tack than the principle-ist method preferred by most environmental philosophers. Rather than looking to argue from the basis of a privileged class of fixed philosophical principles to specific environmental policy judgments and/or management decisions, the pragmatic contextualist works instead from the empirical circumstances and resources present within the problematic situation in question. Here, the contextualist finds herself examining and deliberating over potential alternative courses of action and appealing to those moral values and goods determined, through a process of hypothetical testing and experimental reasoning, to best guide inquiry and able to steer it toward a resolution. In this process, such values and goods may, in fact, turn out to be citizens' assertions of nature's intrinsic value, or they may be something quite different; i.e., the articulation of various human-oriented, cultural values derived from a particular environmental system (e.g., recreation, aesthetic enjoyment, etc.). Regardless, these claims will receive their validity and legitimacy from the dynamics of the method of inquiry and open deliberation – and their ability to render problematic situations more stable and harmonious – not from their "inherent nature" or their purported claims to any special metaphysical credentials (Minteer, 2001).

This pragmatic approach to value inquiry and decision-making, of course, is really nothing new to social scientists, who have long-understood that human decision-making involves hard choices and trade-offs among competing valued goods and diverse incentive structures in real world contexts, and that valuation (environmental and otherwise) is a particularly dynamic social activity. Yet in environmental ethics, such an understanding

of the complexity and variability of the valuation process and its relationship to concrete policy and management circumstances has not made many inroads into the field's axiological schemas and analytic discourse. J. Baird Callicott, for example, one of the more prominent environmental ethicists (and principle-ists) writing today, has rather boldly admitted to "ignoring" the social sciences in his work (see Callicott, 1999b, p. 512). We think this situation is unfortunate, since an interdisciplinary approach to environmental values and ethics reveals that there are many productive lines of inquiry into the relationship between moral commitments and practical judgments to be developed by philosophers and social scientists working in collaboration on questions of mutual concern. Accordingly, in the next part of this paper, we would like to present the results of an empirical study of environmental ethics and decision-making that speaks to the philosophical questions surrounding principle-ism and contextualism we have discussed above.

ENVIRONMENTAL ETHICS IN CONTEXT: AN EMPIRICAL STUDY OF PUBLIC OPINION IN NEW ENGLAND

Ethics and Wildlife Management in the White Mountains: Study Overview

To gain a better and more empirical understanding of the relationship between general moral principles and concrete situations in environmental ethics, we conducted a sociological study of citizens' environmental ethics and their attitudes regarding a specific land/wildlife management problem, couched in the context of New England's White Mountain National Forest. One of the primary motivations driving this empirical examination of environmental ethics was our conviction that it is important to understand the shape and substance of public environmental commitments, in addition to investigating their more purely philosophical dimensions. Indeed, we believe that environmental ethics discussions are enormously benefited and enriched by such research, and that the field should engage this empirical work much more earnestly and systematically. This is especially the case if ethicists are interested (as we are) in understanding how the often abstract theories and principles of professional ethicists are received by average citizens, as well as how these principles figure into environmental deliberation and decision-making in specific management and policy contexts.

Study Design

To investigate public support for an assortment of general environmental ethical principles and their preferences for particular management actions, we constructed a mail questionnaire modeled after a previous study two of us had conducted in the School of Natural Resources at the University of Vermont (Minteer and Manning 1999, 2000; Manning et al., 1999). Like this earlier research, one of the main objectives of the White Mountain study was to measure respondents' commitments to a range of normative claims regarding human relationships with elements of nonhuman nature (i.e., environmental ethics), as well their more specific attitudes toward natural resource policy and management. For the research reported on here, we constructed a hypothetical wildlife management dilemma couched in three different forest land contexts in and around New England's White Mountain National Forest. Although the inherent limitations of the mail survey instrument precluded us from providing an exhaustive and fully elaborated description of the wildlife scenario, we were able to provide a basic summary of the hypothetical problem and present the respondents with a range of management responses to resolve it. The wildlife management dilemma was presented to the respondents in the following manner:

This question asks your opinions about a potential management issue within the White Mountain National Forest and surrounding lands. The issue concerns beavers which 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 feel beavers should be managed in each of the three locations described above:

1 = The beavers should be left alone
2
3 = Beaver dams should be breached to minimize local flooding
4
5 = The beavers should be eliminated or removed

Respondents were directed to indicate, on this 5-point scale, their management decision in each of the three forest land use contexts described in the above scenario: a wilderness area in the White Mountain National Forest, a non-wilderness location within the forest managed for "multiple use," and private forest land located outside the national forest.

In addition, to measure support for a range of general environmental ethical principles, we employed a battery of seventeen ethical statements representing five distinct normative groupings (Table I). These positions, and their multiple representative statements, were developed (and utilized) in some of our earlier research (e.g., Minteer and Manning, 1999, 2000; Manning et al., 1999). In general, the ethical principles run the gamut from strongly anthropocentric environmental ethics to strongly nonanthropocentric positions as discussed in the environmental philosophy and history literature (e.g., from "Anti-Environmental" ethics to "Radical Environmental" ethics). The ethical statements were accompanied by a six-point response scale by which respondents could indicate the importance of each environmental ethic in influencing their decision regarding the beaver management dilemma in the wilderness, multiple use, and private land contexts. The scales for the environmental ethic statements ranged from 1 ("not at all important") to 6 ("extremely important").[2]

Data Collection

The sample for this study was drawn from the population of New England residents in six states. The sampling was carried out to ensure that the list of respondents contained a proportional sample of names from each of the six states. We administered the first questionnaire via mail to a representative sample of 1000 New England households during the months of June and July 1997. One week after the initial mailing of the survey, we sent a postcard reminder to all names on the mailing list. Then, three weeks after the initial mailing, a second copy of the questionnaire was mailed to initial non-respondents. Out of the 1000 questionnaires initially mailed, 16.7 percent were returned as undeliverable, which reduced the sample size to 833. Ultimately, 344 completed questionnaires were returned for a final response rate of 41.3 percent.

Data Analysis

We utilized several data analysis methods for this project, including the construction of contingency tables, Chi-Square tests, computation of gamma scores, and paired samples *t*-tests. These analyses confirmed our hypothesis that the respondents did not just draw upon general

[2] To capture respondents' perceptions regarding both the beaver management schemes and the environmental ethics statements, we utilize 5-point and 6-points Likert-types scales, respectively. While these scales do not provide precise measurement of respondents' perceptions, they do allow us to gain some sense of which types of beaver management schemes respondents prefer, as well as which environmental ethics they are using to decide on a particular management scheme.

TABLE I

Environmental ethics typology

Normative grouping	Environmental ethics	Representative statement
Anti-environment	Threat to survival	Nature can be dangerous to human survival.
	Spiritual evil	Nature can be spiritually evil.
Benign indifference	Storehouse of raw materials	Nature is a storehouse of raw materials that should be used by humans as needed.
	Religious dualism	Humans were created as more important than the rest of nature.
	Intellectual dualism	Because humans can think, they are more important than the rest of nature.
Utilitarian conservation	Old humanitarianism	Cruelty toward animals makes people less human.
	Efficiency	The supply of goods and services provided by nature is limited.
	Quality of life	Nature adds to the quality of our lives (for example, outdoor recreation, natural beauty).
	Ecological survival	Human survival depends on nature and natural processes.
Stewardship	Religious/spiritual duty	It is our religious responsibility to take care of nature.
	Future generations	Nature will be important to future generations.
	God's creation	Nature is God's creation.
	Mysticism	All living things are sacred.
Radical environmentalism	Humanitarianism	Animals should be free from needless pain and suffering.
	Organicism	All living things are interconnected.
	Pantheism	All living things have a spirit.
	Natural Rights	All living things have a moral right to exist.

environmental ethical principles to make management decisions. Since the environmental ethics do not adequately explain the variance in beaver management choices (i.e., the 1 to 5 scale from "the beavers should be left alone" to "the beavers should be eliminated"), we know that there are factors other than a respondent's environmental ethics that guide their management decision regarding the beavers. We hypothesize, and the data confirm, that the context of the management decision is one of the other factors that affect respondents' management decisions. We expect (as is the case for most social science studies) that there are additional factors impacting the choice of beaver management scenarios that we have not accounted for in the study. For the remainder of this section, we will present the analyses that confirm our initial hypothesis that situational context influences respondents' management choices more than their environmental ethics do. Following the presentation of our findings, we draw some conclusions to tie our empirical study back to our earlier philosophical arguments.

Our first set of analyses explores whether or not the respondents' environmental ethics in each context (i.e., wilderness area, multiple use land, or private land) influence their beaver management decision within that context. To begin this analysis, we constructed a series of contingency tables with each of the 17 contextual environmental ethics as an independent variable (in 17 separate analyses) and with the contextual beaver management scenario as the dependent variable. We were interested in whether the respondents' support for each of the 17 environmental ethics was related to their beaver management decision within each context.[3]

Because this analysis yielded many contingency tables, we will not produce all of the results here. Instead, we will focus on the relationships that were deemed statistically significant using a Chi-Square test. Since the value of a Chi-Square statistic calculated in a contingency table is markedly inflated by sample size (Meier and Brudney, 2002, p. 242), and therefore can yield significant Chi-Square values for insignificant relationships if large sample sizes are involved, we also computed gamma values to determine the strength of any relationship between environmental ethics and management decisions without relying solely on Chi-Square statistics.[4]

[3] This analysis yielded 17 contingency tables for each context (and a total of 51 contingency tables). One contingency table was constructed for each environmental ethic within each of the three contexts.

[4] Gamma values vary between -1 and $+1$, with negative values indicating a negative relationship between the independent and dependent variables and positive values indicating a positive relationship. The closer the absolute value of the gamma is to zero, the weaker the relationship.

TABLE II

Gamma values for significant Chi-Square tests for relationship between environmental ethics and beaver management scenarios[a,b,c]

Environmental ethic	Gamma value (wilderness context)	Gamma value (multiple use context)	Gamma value (private land context)
Threat to survival	*	0.149	0.199
Spiritual evil	*	−0.016	*
Storehouse	0.279	0.231	0.158
Religious dualism	*	0.266	0.189
Intellectual dualism	0.237	0.295	*
Quality of life	*	*	−0.19
Ecological survival	*	−0.077	*
Religious duty	*	−0.048	*
Mysticism	−0.174	−0.101	−0.163
Organicism	−0.351	−0.279	*
Natural rights	−0.229	−0.239	−0.322

[a]Independent variable: environmental ethic;
[b]Dependent variable: beaver management decision;
[c]Only the statistically significant Chi-Square values are shown in the table. There were seven environmental ethics that did not yield significant Chi-Square values for any context and those seven ethics are not included in this table.
*Chi-Square test not statistically significant at 0.05 level.

In the wilderness context, Chi-Square tests indicated that only five of the 17 environmental ethics were significantly related to the beaver management decision in that context: storehouse, natural rights, intellectual dualism, quality of life, and mysticism. Even though a Chi-Square test for these five environmental ethics indicated a significant relationship, the gamma values for these five ethics demonstrates that the relationship between the environmental ethic and beaver management decision is weak to moderate, with four of the five gamma values below 0.30 in magnitude. The Chi-Square values and gamma values for all of the statistically significant Chi-Square tests (for all three contexts) are presented in Table II.

For the multiple use land context, ten of the 17 environmental ethics yielded significant Chi-Square values when their relationship with beaver management scenarios was explored. Again, further analysis of gamma values for each of these cases indicated that none of the relationships were even moderately strong, with each gamma value being below 0.30

in magnitude. In the private land context we found the weakest relationship (of all three contexts) between environmental ethics and the beaver management scenarios, with significant Chi-Square values for six of the 17 environmental ethics and gamma values less than 0.20 in magnitude for all but one of those six significant ethics.

Our second set of analyses focused on how participants chose to deal with the beavers in the three different contexts. Since we found that the environmental ethics were not highly correlated with the contextual beaver management decisions, we were able to conclude that environmental ethics were not the main driving force for respondents' choices regarding beaver management scenarios. Next, we wanted to see if context played a significant role in respondents' beaver management decisions. To do that we explored how the respondents' choice of beaver management decisions changed across contexts. We hypothesized that context would play an important role in the choice of a beaver management decision. We tested this hypothesis by exploring whether or not the respondents' management choices were different across the three contexts.

Table III compares the means and median for the beaver management decisions in each context. At first blush, one can see that the study participants showed diverse responses to the wildlife management scenario, depending upon the land use context of the problem (i.e., wilderness area, multiple use land, or private land). The mean management values for the wilderness scenario, the multiple use scenario, and the private land scenario were 1.82, 2.66, and 2.86, respectively. The mean of 1.82 for the beaver management scenario in the wilderness area implies that respondents were, as a whole, more willing to leave the beavers alone in the wilderness scenario than they were in the multiple use forest or private land scenarios. The median values in Table III demonstrate that half of the respondents felt that beavers should be left alone in the wilderness scenario, but in the multiple use and private land scenarios, half of the respondents thought that action should be taken that was more invasive than breaching the beaver dams to minimize flooding.

A graphical display of the different distributions for the three scenarios is shown in Figure 1. This figure demonstrates that the distributions of responses vary across the three land use contexts, with the largest differences in the beaver management distributions being exhibited between the wilderness scenario and the multiple use/private land scenarios. To further explore the statistical significance of any difference between distributions for the three beaver management options, we conducted paired samples *t*-tests across the three contexts. Paired samples *t*-tests are appropriate for comparing respondents' beaver management choices across contexts

TABLE III

Descriptive statistics for beaver management scenarios: categorized by context

Statistics for beaver management options[a]	Wilderness scenario	Multiple use scenario	Private land scenario
N	338	335	336
Mean	1.82	2.66	2.86
Median	1	3	3
Standard deviation	0.98	0.97	1.15

[a]Beaver management options: 1 – beavers should be left alone and 5 – beavers should be eliminated or removed.

because the variables for which the means are being compared (i.e., beaver management decisions in the wilderness area, beaver management decisions on multiple use land, or management decisions on private land), are not independent.[5]

The results of the paired samples *t*-tests are shown in Table IV. The mean values for the management options across all three contexts were statistically significant with *p*-values less than 0.001 for each comparison of means. While all of the comparisons were significantly different, the *t*-tests indicated that there was a greater difference between the respondents' beaver management choices when the wilderness context was compared to the other two contexts. This comparison of response distributions and calculation of paired samples *t*-values suggested that respondents' choices between the five different beaver management scenarios were significantly different across the three contexts. Based on the analysis, we can conclude that context itself is one reason for this difference.

Discussion

There are several possible explanations for our study results, all of which, we believe, suggest the importance of contextual factors in shaping respondents' attitudes regarding the beaver management problem. One conclusion that may be drawn, and the explanation that has perhaps the most radical implications for the question surrounding the significance of general moral principles in specific problematic situations, is that the

[5] The paired samples *t*-test evaluates whether the mean of the difference between two variables is significantly different from zero. Since the data being compared are not independent (and the responses being compared come from the same participant), this test will indicate whether or not participants chose different beaver management strategies across the three contexts.

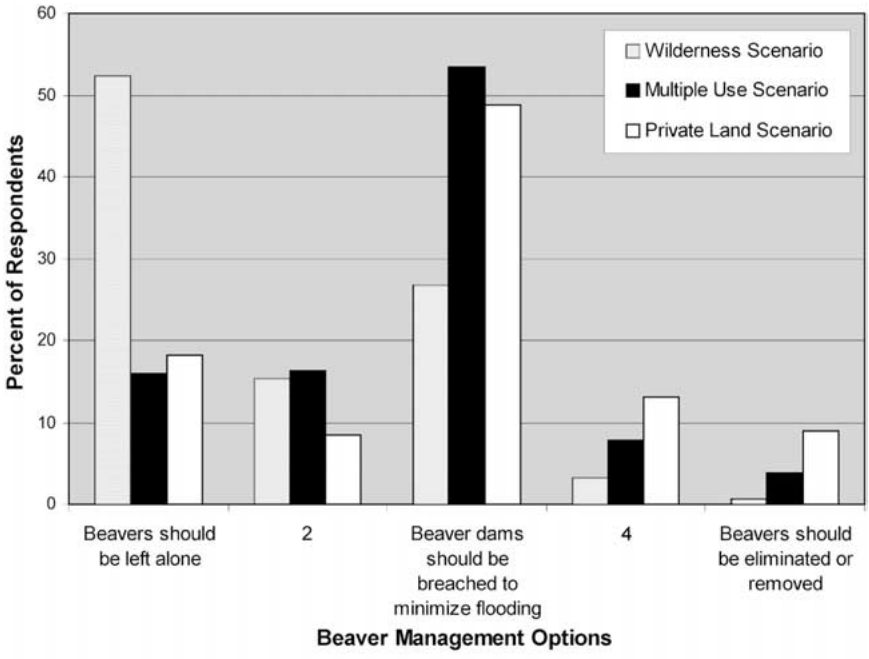

Figure 1. Bar chart of beaver management options across contexts. The x axis represents the percent of respondents selecting each management option.

TABLE IV

Comparison of means for beaver management options

Comparison of scenarios	*t*-value	Degrees of freedom	Level of statistical significance[a]
Wilderness scenario/ Multiple use scenario	−15.188	334	**
Wilderness scenario/ Private land scenario	−14.663	335	**
Multiple use scenario/ Private land scenario	−3.416	333	*

[a]*0.001 significance level; **0.0001 significance level.

land use setting (wilderness, multiple use, and private forest land) in our hypothetical case was simply a much more powerful factor in respondents' decision-making about the beavers than any of the environmental ethics. That is, rather than relying on the ethical principles delineated in the study, the respondents might have based their management decisions on whether

or not the beaver problem occurred on legally protected wilderness, designated multiple use forest, or private timber company land. In other words, their interpretation of the actions appropriate to the intertwining legal and managerial contexts of each land use type might have been more significant in shaping their judgments about managing the beavers than the environmental ethical principles they were presented with in this case.

Yet even this strong contextualist interpretation of the study results does not necessarily imply that environmental ethical principles were irrelevant to the respondents' deliberations and decision-making. For if we conclude that the study participants were responding to their reading of the perceived demands of the land use context rather than their commitment to certain general environmental ethics, it is still true that the contexts themselves possess a general normative structure: "wilderness," "multiple use," and "private" forest land are, in fact, value-laden designations that entail, though certainly not unambiguously, a range of prima facie appropriate and acceptable uses and activities. These classifications are, in turn, partly the result of prior legal, moral, and political deliberations about issues and commitments such as the nature of property rights, the proper extent of resource development, and the values and ends of environmental protection. While for the purposes of this study we presented these contexts to the respondents as uncontested and fixed, in practice they are frequently the subject of intense critical scrutiny and political debate. In many cases, these land use designations themselves become Deweyan problematic situations, which may then be transformed through social inquiry and debate (witness the heated and ongoing discussions over roadless area designations in the US national forests). Even this strong contextualist interpretation of the study results, then, would have to acknowledge the "moral atmosphere" of the various land use designations presented to the respondents.

A second possible explanation of our study results is that, while the environmental ethical principles might have played an important role in channeling their thinking about the alternative wildlife management options in each land use situation, the respondents interpreted the implications of those principles differently depending on their understanding of the land use classification in question. That is to say, the environmental ethics were not orthogonal to the respondents' deliberations in the beaver example; rather, they took on different implications depending on the respondents' interpretation of their meaning and practical requirements in the three different land use contexts. This conclusion harkens back to Dewey's point about the necessity of inquiry into what the general principle actually means and requires in the face of the concrete situation. For

example, an abstract principle promoting the "natural rights" of nonhuman nature (one of the ethics presented to the respondents) by no means makes our choice between the comparative worth of ecosystems and the "rights" of the beavers self-evident in our scenario. One possibility here is that the study respondents may have engaged in some version of "norm specification," revising the general moral principles to make them comport with the demands of particular land use contexts so that the principles took on a more useful role in their management deliberations (Richardson, 1990).

A third possible explanation of the results, one that is related to the previous point, is that the moral principles were indeed important in shaping their attitudes toward managing the beaver problem, but the respondents somehow *harmonized* the various ethical principles within each problematic situation such that, after deliberation, a different decision was reached in each case, even though the respondents displayed a similar pattern of importance ratings for the same principles. Here, the study participants may have been able to integrate the various ethical principles in their thinking as they reasoned back and forth from the land use settings and management actions to the environmental ethical commitments, in the process adjusting the principles they found to be significant to make them compatible with their reading of the normative and empirical context of each forest land setting. Again, this would suggest that the principles were still important in their decision-making process in the beaver problem, even if the respondents sought to balance and harmonize them with the details and values embedded in each land use context, a process that then lent support to different management responses in the different situations.

Regardless of which of the above interpretations is correct, land use context seems to have played a significant mediating role between general moral principles and management decisions in our study. While the study participants indicated that some of the ethical statements were somewhat important in guiding their thinking about the beaver management problem, they also appeared to be responding to the specific forest land type in which the management decision was made. Whether this response entailed a significant downplaying of the environmental ethical principles in favor of more specific contextual factors, or a revision and contextual adaptation of principles in deliberations over alternative management options, is difficult to say with precision. Yet context clearly mattered in this case; the ethical principles themselves did not tell the whole story with respect to the wildlife management decisions made by the study respondents.

In addition to its bearing on the philosophical discussion over contextualism in environmental ethics, we believe our study also yields some implications for the human dimensions of natural resource management.

In particular, the strong validation of ethical pluralism in these cases, a result that we have encountered in our previous work (Minteer and Manning, 1999, 2000), suggests that natural resource mangers interested in public environmental commitments should expect these to demonstrate a substantial normative diversity. This diversity includes both solidly anthropocentric and nonanthropocentric values, as well as positions that incorporate elements of both (e.g., what we classify as "stewardship" ethics). As the current study shows, however, this pluralism does not necessarily preclude considerable public agreement on management goals and actions. It is, therefore, possible for the latter to serve an appreciably broad range of ethical commitments, perhaps suggesting, contra the views of Callicott, Katz, and Westra discussed earlier, that environmental policies and actions do not have to demonstrate a rigid adherence to a select group of nonanthropocentric principles.

Finally, we should note that in the present study, we obviously only manipulated *one* general empirical condition (land use type) in our hypothetical investigation. Future studies along these lines might explore the role of additional situational/contextual factors vis-à-vis environmental ethics in public attitude formation. For example, studies could investigate the influence of other biological and physical conditions, different degrees of proposed management actions, alternative historical, political, and rhetorical framings of the problematic situation, and varying administrative and managerial contexts on public normative thinking about particular environmental problems and policies. This research also points towards several complementary study methods, including interviews and focus group investigations, that can provide a more nuanced understanding of moral deliberation in both general and concrete environmental contexts (e.g., Gundersen, 1995; Burgess et al., 1998a, 1998b; Davies, 2001). While much more work needs to be done to begin to fill out our understanding of the role of these situational factors in the relationship between public environmental ethics and natural resource management practices, we believe that our study provides a useful contribution to this new interdisciplinary enterprise, and that it can serve as a point of departure for additional studies in this area.

CONCLUSION

In this paper, we have attempted to provide the outlines of a pragmatic contextualist alternative to principle-ism in environmental ethics. We believe that this project, drawn from the ethical theory of John Dewey and bolstered by our sociological study of public environmental ethics

and wildlife management attitudes, offers a more empirically valid and productive method of inquiry that can link environmental ethics to the concrete problems of environmental practice. We recognize, however, that in calling for this contextualist and processual/experimental approach to moral argument in environmental ethics, we may be accused, especially by those with principle-ist leanings, of effectively changing the subject with respect to ethical theorizing in the field. For in the final analysis, what is environmental ethics if it is not primarily about the construction of general moral principles to guide specific environmental policy and management decisions?

But we believe such a response simply begs the question of the range of methodological options available to practical ethicists. It assumes that the enterprise of moral inquiry must be preoccupied with the identification of fixed principles, rules, and standards, and that, once these concepts and claims are secured, those specific environmental decisions and actions will flow logically from them. Instead, we argue for another approach within the ethical tradition – one rooted in a pragmatic moral methodology – that we believe will render environmental ethics more useful in contributing to public deliberations and that we believe ultimately offers a more accurate reflection of real moral experience.

Finally, while in this paper we have been fairly critical of what we see as the dominant methodological approach in environmental ethics, our criticisms should be understood in the correct manner, and in the proper spirit. Mainly, we should not be read as suggesting in this paper that an environmental ethics without principle is desirable, even if it were somehow possible. The contextual approach we are advocating here certainly does not entail the adoption of "principle nihilism" in environmental ethics, nor does it ignore the important work in substantive ethical theory conducted in the field over the past three decades. But we do believe that the field now needs to press beyond its traditionally dominant defenses of principle alone. This is especially true if environmental ethics seeks to understand the complex normative structure of concrete decision-making and policy deliberations, not to mention if it wishes to make meaningful and enduring contributions to these critical public processes.

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