

Wilderness Values: Perspectives From Non-Economic Social Science

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Abstract—The concept of “values” is one of the most widely used to characterize the human dimensions of natural resources. Yet, clearly it means many different things in different disciplines and in everyday discourse. Background information regarding values from a non-economic social science perspective is provided, with an aim towards stretching the dominant economic paradigm for how value questions should be understood and to frame these questions in a way that is more suitable for what might be called, “post-utilitarian forestry.” This amounts to challenging the view that values are “fixed” and individually defined attitudes or preferences. It is suggested instead that values be seen as modes of thinking that differ among different communities, change and evolve as these different communities interact, and further, that such interaction drives the evolution of policy and management over time.

Non-Economic Social Values

In public policy issues, values are too often understood to mean something very unpublic—the private preferences of individuals. For example, economists are fond of citing a definition of values attributable to Spinoza: “We desire nothing because it is good, but it is good only because we desire it” (Santayana 1896: 15, quoted in Peterson 1999: 26). This notion of values as mere tastes, wants, or desires represents the dominant way values are understood in natural resource management. Economics (and much social science) is anchored in Spinoza’s view and presumes this view is correct because it is consistent with a liberal interpretation of politics and political sovereignty (for example, “no one can know what is best for me but me”). From this perspective, the value of wilderness is little more than what the individual desires it to be. A liberal presumption of value sovereignty, whether as consumer or voter, means that all preferences (values) are merely matters of taste. In economics, we need not justify our preferences to others. Carrying this view into public policy, we need not give reasons to support our views. Values are given and cannot be improved or perfected.

An alternative to this economic perspective is suggested by Challenger (1994: 211) who states: “We would all do well . . . to quit acting as if the work of science and the work of

governing our lives can be done without conversations about values and ideals” (emphasis added). Challenger suggests that a misguided aim of modern social science and political theory has been to reduce values to a technical matter. For him, values, or more properly, valuation, is an outcome of human interaction, particularly conversation. Values are produced by interpretations we give to events and actions. Most importantly, values can be improved by the exercise of reason.

Both of these positions originate in the social sciences and take values to be subjective in the sense that values are assigned or held by human agents. It is worth noting that ecology and systems theory would likely reject both Spinoza and Challenger, or at least presume in addition, that there are objective values in aspects of systems. Science can seek to tell us what is good in natural systems, independent of human desires. For example, biodiversity is good and necessary for the maintenance of ecological systems. Accordingly, ecosystems can be scientifically classified as healthy or unhealthy based on objective criteria. Ecological views presume that value exists “out there” in a permanent condition and can be known and measured by means of science. This conception of values is outside of the scope of this paper, though it is certainly a relevant consideration in building a wilderness values framework.

The central argument in this paper is that in building a framework for wilderness valuation we are better off with Challenger than Spinoza. As we build our framework for wilderness values we should recognize that the work of governing requires conversation about values. In other words, policy debate and discussion is a valuing process just as the market is a valuing process. Recognizing valuation in this way, as a discursive process, is necessary for a greater understanding of wilderness values and to ensure their protection.

Values may be one of the most dominant topics in social science, but as we have already suggested, it has not produced unanimity in definition or conception. One of the first challenges, in fact, is to try to figure out what everyone means by values in the phrase “wilderness values.” Among the possibilities are values, benefits, desires, attitudes, meanings, preferences, services, reasons, motivations, and uses. Adding to the confusion we also find ourselves asking similarly sounding questions: How much are these “values” worth? How do we as a society order (produce, select, and distribute) these values? What good reasons can policy makers give for establishing and managing wilderness as we do? It is hard to move forward with a discussion of wilderness values if we are uncertain as to which questions we are really asking.

We see several ways we might think about the topic of wilderness values. One is to inquire about societal values

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In: Watson, Alan; Sproull, Janet; Dean, Liese, comps. 2007. Science and stewardship to protect and sustain wilderness values: eighth World Wilderness Congress symposium: September 30–October 6, 2005; Anchorage, AK. Proceedings RMRS-P-49. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

as ideals that provide reasons for setting aside land as wilderness (for example, respect for nature, self-reliance, humility). Another is to ask about wilderness values as the possible benefits that flow from wilderness protection and their “value” to society. The latter tends to make us think in terms of benefits that accrue to society whereas the former may be thought of as affirming our basic ideals as a society. Some may see these as different sides of the same coin. However, on the front side of the coin wilderness designation is a reflection of our values as a society. These values might be anthropocentric (as a symbol of national heritage), they might be biocentric (as a statement of deep respect for all of nature) or they could be kincentric (humans and non-human forms are not separated, but part of an interrelated system). In addition, the forward-looking nature of this question (why should we create wilderness?) makes it more specific to wilderness as opposed to other kinds of nature protection. On the back side of the coin, when we try to identify and evaluate the services or benefits that accrue to society the assessment is essentially anthropocentric and typically employs economic forms of analysis. Also, by framing the question in a backward-looking way (such as, what are all of the benefits and services that come from wilderness?), we tend to identify services and benefits that are not necessarily unique to a wilderness policy. Finally, a third perspective asks: for which values should we manage wilderness? Here the question is not about designation or allocation of land to wilderness. Rather, of all the values and benefits that might flow from wilderness designation, which ones should be emphasized in management decisions (for example, recreation versus species protection or subsistence uses)? Different wilderness values may conflict with one another or, at least, may be difficult to maximize simultaneously, thus requiring decisions about which to emphasize. How do we balance (order, evaluate), for example, recreation use relative to protecting endangered species, relative to cultural heritage in management decision-making?

Finally, it is important to distinguish between values as the benefits or services (and costs) connected to wilderness (for example, clean water, human development) from valuation as the means by which society orders (in other words, produces and distributes) these goods and services. This is especially true when people talk about economic values. In the value as benefit or service sense, “economic values” refers to a class of values or benefits (for example, commercial uses of wilderness). In its valuation sense, “economic value” refers to a type of procedure or set of criteria for judging the relative worth of something within the class of values. In the latter case, for example, economic evaluative criteria might include such “values” as efficiency, whereas other evaluative criteria might center on the “values” of fairness or moral duty—values that cannot be put on the same plane as “services” because they are ideals we hold about society and self. This leads to yet another higher-order question about values: how do we “value” or order potentially competing evaluative criteria?

Social Theories of Value

A number of different theoretical orientations exist in the social science of values. We start with a four-category

classification, which is a modification of a classification of theories suggested by Kuentzel and Freeman (1994).

Functional Utility

Functional utility refers to systems functions and can be thought of as the “value” of some process to the integrity of a system. For example, a potato has nutritional value for human physiological functioning. For our purposes of discussing social values this doesn’t invoke any conception of a valuing agent. It isn’t a statement of ought or preference, but merely what is the function or “value” of something to a system that can be defined through a scientific description and understanding of the system (for example, wilderness). It is not the subject of social science for the most part. Philosophically, however, it would appear to have some resemblance to questions of intrinsic or inherent value.

Social Utility

Social utility represents values from the perspective of economics and certain traditions in social psychology. Value refers to the fitness of some object for some purpose. For example, how well does wilderness serve some purpose? Values are assigned to the object by individual human subjects. In addition, there are social utility theories in social-psychology (for example, choice modeling, behavioral decision theory) and political science (rational choice theory) that, from our perspective, build on the same basic assumptions about values.

The main point to note is that value comes from the “use” one can make of something or its fitness for a purpose. In contrast to functional or inherent utility where value is linked to an objective/scientifically defined functionality, social utility emphasizes that value is closely linked to human purpose, desire, and need as perceived by the individual. To return to Spinoza, objects have value in relation to satisfying some desired end state (rewards, benefits, satisfactions).

Social Cohesion

Social cohesion is what most sociologists think of when the term “values” comes up. This perspective originates in the sociology of Durkheim who theorized that modern society is held together by shared values that direct and constrain behavior. These are not formulated in functional relationships between objects and human desires. Rather they exist as shared beliefs or standards of appropriate behavior. For example, Rokeach defines a value as: “An enduring belief that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct or end state” (Rokeach 1973: 5).

Values are understood as beliefs that exist in a given culture and are socialized into our individual identities. As beliefs about what is good and desirable they are held as opposed to being assigned to a given object or behavior. They are “social facts” or things in themselves like attitudes, beliefs, norms and identities. But what distinguishes values from related constructs like attitudes and norms is that values do not take a specific object. Values are more generalized ideals as opposed to attitudes, which take a specific object

or action. Values exist to make order in society possible. They are the glue that holds people together in a society (in other words, we share values). Thus, values direct and constrain behavior and define what it means to be a member of a society or group. Moreover, values are often seen in a hierarchical relationship to norms, attitudes and behaviors. In other words, values influence norms and attitudes, which further influence behaviors. In this hierarchical structure values are relatively few (a few dozen) and stable, whereas there can be a great many attitudes and behaviors and these are less stable than values.

Some examples of value frameworks from the social cohesion perspective include Rokeach's (1973) 36 values divided between instrumental and terminal values. Instrumental values are concerned with modes of conduct. Terminal values concern desirable end states of existence. More widely used in environmental studies is Schwartz's 10 value dimensions (see Schwartz and Bilsky 1987). These are organized within two bipolar dimensions: self-transcendence—self-enhancement and openness—conservation. The values associated with self-transcendence are universalism and benevolence, which contrast with the values power and achievement of self-enhancement. Self-direction, stimulation, and hedonism are associated with openness and contrasted with tradition, conformity, and security associated with conservation. Some recent research shows that pro-environmental behavior (for example, recycling, energy conservation) is associated with self-transcendence (Schultz and Zelensky 1998).

Social Discourse

The social discourse perspective originates in the sociology of Weber and contrasts with social cohesion theories of value that emphasize the idea that we are socialized to hold certain values within a given community or culture. From the social discourse view, values do not exist as such, but are emergent features of social interaction, especially communication. Values are contested representations of social experience within a given context. In contrast to the social cohesion view, there may or may not be widespread agreement about what is valuable. Take the historical development of the idea of wilderness for example. The discourse of romantic transcendentalists Thoreau and Muir, and of ecologists such as Leopold, helped to create the value "wilderness." Wilderness is thought to be valuable today more and in different ways than it was in the mid-19th century in large part due to the efforts of these individuals to make the case for wilderness. However, in recent years others have challenged the value of wilderness, particularly as a model of land preservation for other nations (see Callicott and Nelson 1998).

In the discourse perspective, values are the momentary products or outcomes of continuous social interaction. Another way to think about this is that values are the reasons people give for taking certain courses of action. In a policy context, "wilderness values" are the reasons people express (and debate) for protecting wilderness. Values are continuously contested ideals, so what we take to be the values underlying wilderness at a given point in time will evolve as society evolves. Values toward nature, the environment, and wilderness can be studied historically by looking at the writings of Thoreau, Muir, Leopold, and the contemporary

writers about these things such as Nash, Oelschlaeger, and Callicott.

The research behind the discourse view is sparse compared to the other models of values, and what work does exist is not necessarily inspired by the discourse view. Sagoff's (1988) work distinguishing between consumer and citizen evaluations could be viewed as a discourse theory of value. Sagoff argues that people can differentiate between how they might act in accordance with their personal preferences as consumers and how they might act as citizens making policy. His example is that he prefers to buy the lowest priced gas for his car, but holds the view that society should heavily tax gas consumption.

One example that is closer to the context of concern here (wilderness) is Bengston's (see Bengston 1994; Bengston and others 1999; Xu and Bengston 1997) content analysis of media coverage of environmental issues to identify what he calls forest values. Media coverage represents public discourse, the content of which can be analyzed for the reasons various policy actors give for their positions. From analyses of these news sources, Bengston has identified four major value themes: life-support, aesthetic, moral/spiritual, and economic. His research suggests value shifts in recent decades from economic values toward the other value themes.

A third example comes from Dryzek's (1997) effort to identify the major environmental arguments dominating environmental policy making worldwide. He organizes the environmental movement into four major themes with various sub-themes: (1) globalism (survivalism and promethanism); (2) problem solving (administrative, democratic-pragmatic, and economic); (3) sustainability (sustainable development and ecological modernization); and (4) green radicalism (green romanticism and green rationalism). Environmental policy is informed by the dynamic interaction among these various discourses.

Valuation

Having laid out these basic social science orientations, there remain a few residual issues that need to be considered in a social science of values and the task of developing a values framework for wilderness. These issues come down to drawing a clearer distinction between values and valuations as suggested earlier. There are many lists of potential values and benefits that come from wilderness and nature protection (see McCloskey 1989). These lists can and should be refined. However, following the discourse view of values, we need to recognize these will continue to evolve as society struggles with policies for the protection of wilderness.

The more critical issue is to try to understand the social mechanisms and institutions for ordering (evaluating the production and distribution of) these values. A good illustration of different modes of evaluation comes from Anderson's (1990) critique of market ethics. She begins by noting that the market is an institution or procedure for making valuations. And like any institution, it embodies norms for regulating the production, exchange, and enjoyment of goods that are sensitive to some qualitative differences among values and insensitive to others. Her main concern is how we can determine which goods are properly the subject of market transactions (and by implication market valuations)

and which are not. The task of building a wilderness values framework would seem to fit squarely within this question. It is not just a task of identifying possible goods (values or benefits) that might accrue from wilderness protection (for example, carbon sequestration, human development, or scientific knowledge), but also a question of the appropriate means by which society should order, evaluate, or decide among the production, distribution and maintenance of these various goods.

Modes for Valuation

Anderson (1990) describes four modes for the valuation of goods and the corresponding social norms that regulate these different types of exchange. We are naturally most familiar with the use mode (which involves subordinating something to one's own ends). For markets, the norms are impersonal relations (transactions with strangers), freedom to pursue one's own advantage unrestrained by consideration of others' advantage, equating values to matters of personal taste, where goods exchanged are exclusive in consumption and rival in competition, and where dissatisfaction is expressed by exit from the market. These norms can be contrasted with three other valuation modes or sets of social norms for regulating the production, distribution, and maintenance of goods.

Intrinsic Mode. One alternative is what she calls the intrinsic mode. Intrinsic norms deal primarily with respect and acceptance of the object as it is, rather than for how it can be used. Here is where we would likely place ecological and aesthetic values. We can, as economists have, identify the economic value of such goods using contingent valuation and other pricing techniques. But this is nevertheless an act of subordinating their intrinsic value to an economic end. To illustrate, most people object to any attempt to measure the economic value of a human life because the question presumes that the value of a human life can be compared to the usefulness of ordinary consumer goods. Similarly, people object to questions about their willingness to pay for clean air on the grounds that they are being asked to pay to restore that which is intrinsically good, but which has been degraded by allowing people to subordinate its value to a mere economic good (Dustin 1992). That is, it only makes sense to ask the question of willingness to pay from within the use mode of exchange (see also Trainor and Norgaard 1999).

Aside from the market, what kinds of institutional mechanisms are or can be invoked to allocate intrinsic goods? Wolfe (1989) argues that early theorists of economics such as Adam Smith expected institutions associated with civil society (for example, social conventions, cultural norms and traditions, law and religion) to act as constraints on purely private approaches to regulating social transactions. Ironically, the modern age is marked by both a growing societal awareness of the intrinsic values of nature (for example, the expansion of environmental ethics as documented by Nash 1989) and the dominance of market institutions for the valuation of these goods over the institutions of civil society (Sagoff 1988).

Personal Sentimental Mode of Exchange. A second alternative, one not captured by any of the theories discussed

so far, might be called the personal or sentimental mode of exchange. Objects, people, and places are often loved and cherished. Whereas commodities are interchangeable, cherished goods are unique, irreplaceable, and given up only under duress. In this case the dominant norms have to deal with commitment to the relationship and expressions of identity and self. Anderson develops her ideas about this mode by discussing interpersonal relations among friends and family and the role played by goods exchanged in such relationships. Goods such as trust, loyalty, sympathy, affection, admiration, companionship, and devotion cannot be bought and sold (though she notes that people sometimes deceive themselves in the attempt). Goods such as these (exchanged in personal relationships) are guided by the spirit of gift rather than the spirit of commercial exchange. To impose market norms of exchange for these goods undermines their authenticity and value. Gifts of love and intimacy for example, "cannot genuinely be procured for oneself by paying others to produce them or by appealing to another's personal advantage to provide them" (Anderson 1990: 186).

Extending this idea to cherished places, we can recognize the value of a specific wilderness as not a result of consuming its wilderness qualities, but as a kind of gift one receives from the specific relationship with that landscape. For the first author, it is the Desolation Wilderness; no other wilderness has the personal meaning of that place. He values the Desolation not as "wilderness" per se but as the memory-filled place called Desolation Wilderness. Perhaps here is where we might ask not, what are the benefits that people take from wilderness, but rather, in what ways do people contribute something to its value?

Public Symbols and Shared Ideals. The third mode deals with value as public symbols and expressions of shared ideals. This is the political mode of evaluation. As Anderson (1990: 181) notes, some "values cannot be realized in private acts of use, but reside in shared public understanding of the meaning and significance of the good." As an example, Anderson describes sites of historical events as having value as part of national heritage. Preservation of these values requires constraints on use, such as zoning ordinances, to preserve the architectural integrity of the features and buildings associated with such sites.

The norms for these shared community relationships contrast sharply with the norms of the market. These norms include fraternity in place of self-interest, mutual benefit in place of exclusive use, need over want, and voice instead of exit as the expression of dissatisfaction. Fraternity is expressed through common provision of services in contrast to the separateness of parties in a commercial transaction or the special relationship between parties in personal gift relationships. Publicly provided goods are provided to all, not just to those who pay. Shared goods are necessarily realized in common activities and rights to these cannot be fully distributed in exclusive increments. When goods being distributed are not public, distribution takes place in accordance with some conception of the relative need of a citizen rather than in accordance with want. Finally, citizens participate in the allocation of goods based on voice rather than exit. For example, the appropriate determination of need is based on democratic deliberation. Anderson compares the way respect is given between market and

political relations. In market transactions, one respects the privacy of the consumer by not inquiring into the reasons for wanting something beyond a level necessary to satisfy that want. In public transactions, respect for fellow citizens is to take their reasons for advocating a particular position seriously. Public goods are produced and distributed through institutions and practices that deliberate over the shared concerns of citizens. Market mechanisms of exit do not respond to reasoned ideals any differently than from unreflective wants. The realization of shared values requires a forum for working out these understandings together.

Attempting to order these shared goods by market mechanisms tends to detract from their value. In an argument reminiscent of Olmsted's views on public parks, Anderson notes that the goods provided by public spaces are qualitatively different than if they were provided privately. Public space promotes the free and diverse association necessary for fraternity, civility, and democracy (see also Putnam 2000). As another example, with a private system of roads one would need to ask permission of each owner to visit people and places made accessible by such roads, thus creating potential restraints on the freedom of association.

There are other ways to classify and characterize modes of evaluation that might be explored. One example described by More and others (1996, 1998) distinguishes five modes of evaluation: (1) economic standards used to evaluate goods and services; (2) moral standards used to judge conduct (which can include conduct towards animals and ecosystems as well as humans); (3) aesthetic standards used to judge appreciation; (4) spiritual standards used to interpret meaning; and (5) rational standards used to judge truth. There are also various institutions that guide the ordering of values. In addition to the market and the political state, we can add common law (as distinct from legislation as a form of political deliberation), religious institutions, and various cultural traditions, ethical frameworks, etc.

A critical feature of recognizing these different modes of valuation is that the market or use mode tends to colonize all others (Anderson 1990; Wolfe 1989). Intrinsic, personal, and shared modes of evaluation constitute constraints on use. In capitalist societies we tend to value the dismantling of these constraints to "free up the market." Modernization can be understood, in part, as a process in which market norms are increasingly used to regulate more and more social interactions that previously were produced and distributed by non-market means. Anderson's scheme for organizing values

and valuations implies that not all values, benefits, goods or services should be ordered by means of market norms, nor should attempts to weigh and judge them be turned over to technical analysis. As we have suggested, an important tool for deciding about the production and distribution of these various services is vigorous, reflective public discourse. This kind of deliberation can create and improve public values and is an essential feature driving the growing movement toward collaborative decision making in natural resource planning.

Values and Theories of Democracy

Thus far we have discussed values from the perspective of economics, psychology, and sociology. A somewhat different angle, one that helps to understand the deliberative process for evaluation, comes from political theory. As developed in this paper, political theory can be conceived as the study of certain processes for how society orders values. Or from Anderson's perspective it is the "shared" mode of valuation (ordering of values) relative to the market or the "use" mode. But what we actually see by comparing political theories of democracy is that the different political theories are somewhat aligned to the different theories of value already identified. Drawing from several sources (Benhabib 1996; Dryzek 1997; Pritchard and Sanderson 2002; Stanley 1990; Williams and Matheny 1995), table 1 presents a comparison of four political theories in terms of conceptions of the participants, the processes used for working out the ordering of goods, the outcomes of these processes, the source of values and consensus, and the form of rationality. The first two (pluralist, expert) are sometimes referred to as "liberal" models because they emphasize the autonomy of individuals and competitive interests (Stanely 1990). Expert or scientific management presumes that the wants of individuals can be identified and analyzed by technical experts (experts can perfect the market if you will). The latter two (communitarian, discursive) are sometimes referred to as forum models because they emphasize dialogue and presume that individual preferences can be improved and that shared interests can be discovered.

Values, as reflected in conceptions of participants, suggests the distinction between private values and shared values, or citizen values. Participants are understood as individual

Table 1—Comparison of models of democracy.

Model of Democracy	Participants	Process	Outcomes	Values/consensus	Rationality
Pluralist	Individual supplicants	Negotiation/ bargaining	Welfare maximization (efficient)	Balance of interests	Instrumental
Expert	Individual supplicants	Technical/ scientific	Welfare maximization (true)	Scientific understanding	Instrumental
Communitarian	Community members	Dialogue	Articulation of shared values	Discover pre-existing unity	Communicative
Discursive	Citizens	Dialogue	Civic education	Episodic agreement	Communicative

suplicants bearing wants in market and expert models. In communitarian and discursive models, participants are social beings embedded in diverse, fluid and overlapping “discursive communities” each with their own system of meaning, forms of knowledge, ways of reasoning, and modes of expression. “Community member” implies some cohesion with respect to group-defined interests, but ingroup-outgroup differences are problematic—who counts as a community member? Citizen implies greater acceptance of social differences but also a duty to a larger polity that might even include non-human nature.

Outcomes describe the result of policy analysis and the criteria of good decisions. In the case of pluralist and expert models, the outcomes are technically defined (efficient or technically correct). The communitarian view emphasizes discovery of shared values whereas the discursive view involves creating new values through civic education. In the latter case, policy issues are treated as opportunities to learn about social differences. Such differences forces participants to transform interests into appeals for wider justice (Young 1996).

Values and the search for consensus or agreement vary from the balancing of interests and the search for scientific consensus or understanding, to the discovery of a pre-existing unity and episodic agreement. Communitarian approaches differ from what might be called purely discursive approaches in that the latter does not presume the pre-existence of social unity. It emphasizes that politics is always a struggle among differences and that the best one can hope for is episodic agreement (Benhabib 1996).

Rationality is either instrumental in the case of market and expert approaches or “communicative” in the case of the forum approaches. Forum models of democracy embody the ideal that citizens can perfect their preferences. This is a key to understanding the different approaches. Communicative dialogue involves giving reasons for our values and preferences, in contrast to instrumental rationality, which assumes that preferences are given and need only be aggregated. In communicative rationality, evaluation of the good is determined by better argument.

Sources of Value and Value Change

To this point we have not directed much attention to the origins or forces of change in wilderness values. Many aspects of American society have changed since the passage of the Wilderness Act in 1964, yet much of the discussion of wilderness values appears to be frozen in time. Why should we expect our children to value wilderness in the same way founders of the wilderness movement did or, for that matter, the way current generations do?

Figure 1 provides a schematic way to understand how social values are modified and eventually create wilderness benefits, or human and ecological meanings and services. In discussing this model it is important to recognize we are making two kinds of distinctions too often muddled in discussions about values. First, we distinguish the values (shared ideals, attitudes, social cohesion) that give rise to

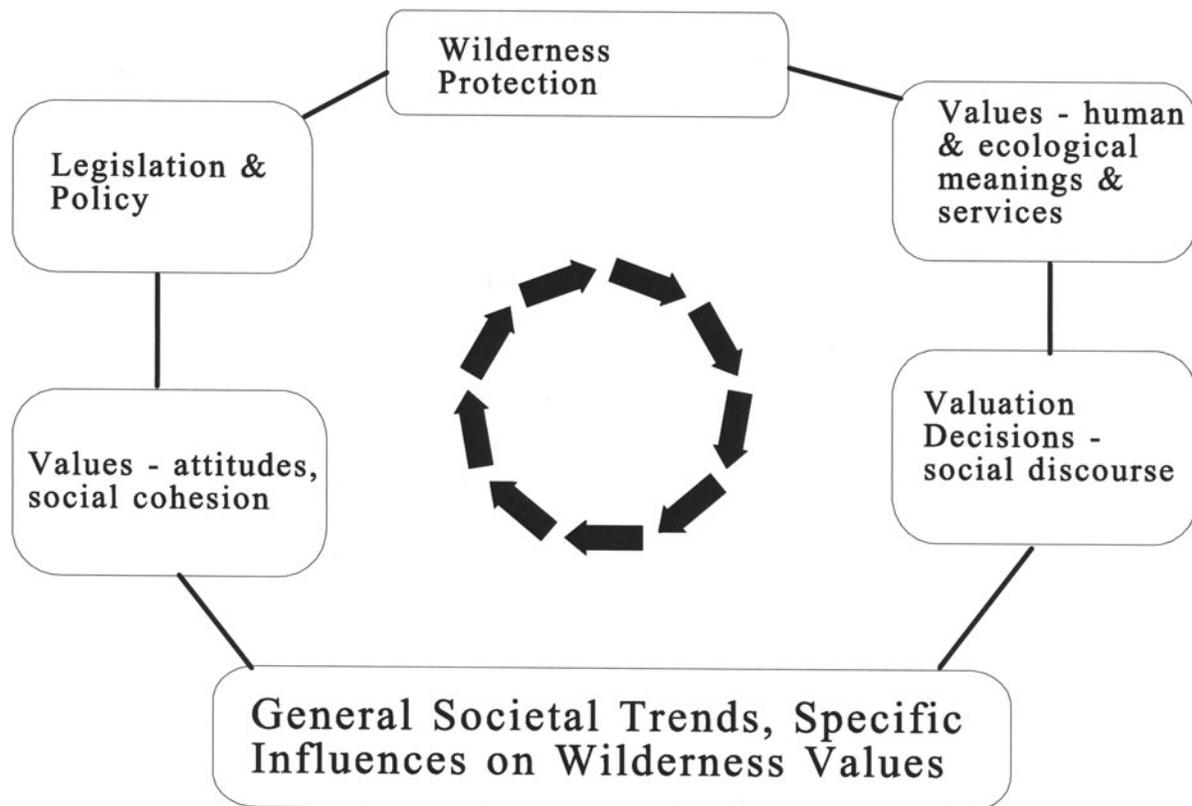


Figure 1—Sources of value and value change (adapted from Watson and Landres 1999).

wilderness protection from the values (human and ecological meanings and services) derived from wilderness protection. As we alluded to at the outset of this paper, values on the left side of the diagram refer to the forward looking question of what values society holds that give rise to policy and management efforts to protect wilderness. For example, American values associated with conquering and settling the frontier (for example, self-reliance, hard work, civilizing the new world) provided some impetus for wilderness protection as tokens or reminders of our heritage. These are, to some degree, shared ideals about what it means to be an American and these ideals are “affirmed” by a policy of designation and protection.

Values on the right side of the figure tend to reflect the question of what goods and services might be derived from wilderness areas. This backward looking question tends to be posed as a social and functional utility view of values. While not all values derived are necessarily use oriented, the question generally revolves around identifying all possible benefits with an emphasis that different people recognize and derive different meanings and services (Watson 2004). Meanings and services can be human (recreation, subsistence, economic, etc.) and ecological (maintaining biodiversity, protecting endangered species, avoiding habitat fragmentation effects on a specific faunal species, etc.) and they can vary from one wilderness area to the next. The issue of wilderness management comes into play as in the recognition that different combinations of values (human and ecological meanings and services) can be “produced” through management decision making and furthermore that some may compete with others as the “dominant” value.

Second, we distinguish between values as the benefits and services associated with wilderness (as just discussed) from valuations as value appraisals, which order values or assess their production and distribution in society. Within figure 1, valuation (value appraisal) is sometimes understood as assessing the benefits of some policy. Benefit assessment refers to some effort of value appraisal or valuation aimed at deciding which values society shall emphasize or realize in the management of wilderness. Assuming some values compete with others, which of the various possible values (meanings, services, and benefits) will we manage for? Should we acknowledge that some values act as constraints on other values? Should wildlife protection constrain or take precedence over recreation use? As we have argued earlier there are various theoretical modes (criteria) and institutional mechanisms that society can use to make these decisions.

Watson (2000) has offered some thoughts on why wilderness plays a different role in society today, how wilderness values will continue to change into the future and how management and policy are related to wilderness values. First of all, there are things that have changed about society that also change the way we relate to wilderness. Some of the ways our society has changed include changes in our culture, technological advances, environmental changes and diversification in the economy.

Changes in Culture

Our society is already dominated by an urban culture, and this domination is only going to increase. Stokes (1999)

expressed the belief that population growth and urbanization are two of the four most important contributors to change in the political environment surrounding wilderness issues. Not only do we see the physical changes involved with the transition of farm and ranch lands to housing, businesses and roads, but our society has transformed to an urban culture, complete with changes in racial and ethnic mix, increasing education and income and an increasingly important dependence upon others to affect change. Wirth (1972) predicted that urbanism was going to create a feeling of inability to influence change on the part of the individual. This would precipitate the need to join with others of similar interests into organized groups to obtain ends.

Carlson and McLeod (1978) found that among farmers, those with higher education, higher income, and a shorter involvement in farming held weaker agrarian philosophies, obviously characteristics associated with an urbanizing society. A New York Times poll of 1989 found that the third most popular activity among domestic U.S. vacationers was visiting small towns. Some researchers believe that urban residents value the rural landscape more than rural residents do. If increasing urbanization leads to increasing value associated with undeveloped landscape, and undeveloped landscape is diminishing, the way to accomplish protection of undeveloped landscapes is to join others with similar interests; increased association with others interested in protecting landscapes leads to even more purist attitudes toward protection, and even stronger wilderness attitudes would be expected in the future, as they have developed in the recent past.

Technological Advances

In John Naisbitt's (1982) book on megatrends, he projected that through the end of the past century, we would continue to feel the effects of a switch from an industrialized society to an information society. We are living more and more in an economy and a society built on information. This has driven us en masse toward redefining power and quality of life. In the computer age, we are forced to deal with conceptual space rather than physical space. Back in 1964, it was easy to understand the meaning of Bob Marshall's statement that “Certain vigorous people gain intense satisfaction in doing for themselves all the tasks essential for existence.” That fit well with the image of primitive skills needed to enjoy wilderness travel and camping and the values of society at that time. Today, that statement is more aptly applied to the skills necessary to survive our increasingly technology-oriented society. It is the person with instant access to the World Wide Web, a cellular telephone, and the most efficient computer software who has the essentials for existence in our society. The wilderness resource has become more and more of a contrast to the effects of dominant societal values. As the continuum continually extends toward the technology end, the primitive end becomes more valuable to society as a point from which to compare and understand the benefits and threats technology offers to society. While not essential to physical existence, the novelty of wilderness skills, the opportunity to deal with physical space and the need to verify knowledge about natural places make the role of wilderness today a different one from the past.

Environmental Change

As an urbanized and educated society, we are much more aware of environmental threats and changes today than ever before. Ancient civilizations may have lived in closer harmony, but we are constantly bombarded by new information about the threats our lifestyles pose to the environment. From the time of industrialization, we have constantly become more of a threat to the environment, but now we have endless options to reduce our impacts. We have changed everything from our deodorants to our vehicle air conditioners to protect the ozone layer. Our attitudes toward beef and the fast-food restaurants that prepare it in quantity have changed due to relationships between tropical deforestation and agriculture. Activism or even passive support for environmental protection efforts, are positive character attributes of members of our society. Methods to protect the environment have become major issues of debate in modern political campaigns, and we find countries competing in the international forum to be leaders in environmental protection.

Diversification of the Economy

The economy of a society based on information is based on a resource that is not only renewable but self-generating. This information-based economy is much less dependent on commodity extraction, and we have developed a good understanding of how natural amenities influence the local tax base and the local economy (Power 1996). In 1960, about 21 percent of non-metropolitan jobs in the United States were in the extractive industries. By 1985, that was down to only 8 percent. Power (1996) describes this transition from a set of "core" extractive industries to an expanded and diversified economy during this century. He points out that lands with wilderness qualities are a relatively scarce resource with significant alternative uses. Wilderness protection does not impoverish communities by locking up resources. Rather, it protects the economic future of communities by protecting high quality natural environments that are increasingly in demand across the nation.

Watson (2000) also suggests that some specific things have likely contributed to changes in attitudes toward wilderness. These would include things that have increased awareness about impacts caused by recreation, media coverage of natural ecological processes, increased scientific understanding of natural processes, and noticeable loss of protected natural areas.

Awareness of Impacts Caused by Recreation

The "Leave No Trace" (LNT) program, originally developed by the U.S. Forest Service in the 1970s, has been embraced by the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service, and a broad range of outdoor user groups. In addition, it is gaining support from the recreation industry and has formally organized as a nonprofit organization (Swain 1996). The LNT organization recently empowered young, enthusiastic teams of people to travel throughout the United States in Subaru packed

with Leave No Trace educational brochures and souvenir first aid kits, evidence of corporate sponsorship to support spreading the word about how you can reduce your impacts on the natural environment while hiking, rafting, and bicycling. Generally, wilderness education programs are aimed at school age children, with the hope of impressing them with the importance of taking care of the limited natural places we have. The Wilderness Impact Monster program (Hendricks 1999; Hendricks and Watson 1999), started in Oregon in association with the Eagle Cap Wilderness, has spread to many places in the United States as a method of making young and old more aware of wilderness etiquette and our responsibility to take care of the wilderness environment. These and other agency- and corporate-sponsored programs have been aimed specifically at changing some of the attitudes and values we know have changed for wilderness visitors and the public.

Media Coverage of Natural Ecological Processes

National and regional coverage of the role of fire in natural ecosystems after the large fires of 1988 and 2000 is believed to have influenced public perceptions of the value of fire. Barraged by Smokey Bear slogans and the belief that fire is bad, the American public awoke in the 1980s to find scientists proclaiming the need for fires to correct many years of fire exclusion policies. In a study by Manfredo and others (1990), a strong relationship was found between knowledge about fire effects and support for policies that allowed some fires to burn in places where they did not pose threats to safety or property. In the Rocky Mountain West, where recent occurrences of wildland fires had dominated the media, knowledge about fire effects, and therefore support for policies to let some fires burn, was higher than in other parts of the United States.

Increased Understanding of Natural Processes

Today, we have much greater understanding of natural processes and their importance than we did in earlier decades. The terms "biodiversity," "habitat fragmentation," and "ecosystem management" are not used and understood only by scientists or in academic circles. The way we think and talk about the landscape has been shaped by specific advances in scientific understanding about the interrelationships among parts of our environment. Rachel Carson was writing *Silent Spring* as the debate over wilderness protection was occurring. Today, we are extremely aware of the effects of toxic chemicals on our environment and human health. We are also constantly changing the way we look at wild places due to new knowledge about the effects of fish stocking on native amphibians (Matthews and Knapp 1999), the effects of non-native species on biodiversity (Asher and Harmon 1995), and the effects of recreation on natural animal populations (Gutzwiller and others 1998). Our understanding of natural processes and the effects of our behaviors on the environment continue to change rapidly.

Loss of Protected Natural Areas

While the National Wilderness Preservation System has increased since 1985, the amount of undeveloped places has generally decreased. Scarcity naturally increases the value of natural landscapes in an urban society that is rapidly developing its unprotected places. As the landscape changes, movements to save open space, to protect greenways and to expand protected areas increase. Wetland development, offshore mineral exploration and tourism development are all proceeding at a rapid pace, contributing to the threat of depletion of unexplored, undeveloped places in the United States. A growing awareness of increasing scarcity has affected the value of natural landscapes to many people.

Some of the societal and specific influences that are going to change our relationship with wilderness in the next century include continued urbanization of our culture, increasing technology and information availability and the potential commercialization of wilderness resources and experiences.

Continued Urbanization

As our urban centers merge together and traditional United States rural values continue to subside, a greater proportion of wilderness visitors will both grow up and continue to reside in urban situations. With urbanization comes expectations of higher incomes, higher educational attainment, and a tendency to join organizations to influence change, including protecting natural landscapes. While these visitors will have less frequent exposure to nature and less familiarity with the skills needed to deal with wilderness travel, they may find the switch from dealing with conceptual space to physical space as novel as recent past generations found the reverse situation. Recent reports of substantial social and economic benefits of wilderness experience programs on urban, economically disadvantaged youth (Russell and others 1998) only provide a glimpse of the potential value of wilderness protection to increasingly urban populations. One of the great research questions is the need to understand how increasing urbanization will influence wilderness values in the future. Speculation suggests that the more urban we become, the more valued will be the primitive landscape from which we originated.

Technology and Information

Vice President Al Gore once said, "We are at the present time woefully unprepared to grapple with the serious ethical choices with which the new technology will confront us. The very power to bring about so much good, will also open the door to serious potential problems." While genetic cloning, new surgical techniques and medications and alternative energy sources were probably foremost in his thoughts, his concerns apply equally to the increasing effects of technology and information on wilderness. In the future, it will continue to be easier to find wilderness than it was in the past, the likelihood that one will be able to do more in-depth planning of wilderness trips while seated at the computer at home will increase, and the presence of technological devices that directly conflict with the purpose of being in wilderness will increase substantially. As this technology invades every

aspect of wilderness exploration, we will face the serious need for development of an information ethic, just as we were once in need of a land ethic. One of the reasons people go to wilderness is for the sense of discovery and uncertainty.

In a study of Desolation Wilderness users in 1997 to 1998 that asked visitors to rank 19 potential uses of recreation fees, providing access to existing information posted on the Internet/World Wide Web about the Wilderness was ranked 15th and 17th for two independent samples of campers and 18th and 19th for two independent samples of day users (Vogt and Williams 1999). This may be interpreted to mean these visitors dislike the existing information about the Wilderness, they lack Internet access or they recognize the inappropriateness of so much available information about a wild place. Much of the risk and adventure can be taken away by the availability of electronic information such as photographic images of campsites or vistas, fish stocking history of lakes and streams, and recent human visitation levels. Aldo Leopold once lamented that unknown places disappear as a dominant fact in human life. It may take society's discovery of the last uncharted place (and "posting it on the web") to understand what such discovery takes away.

Commercialization of Wilderness Resources and Experiences

The single greatest threat to the relationship that has evolved between the American people and wilderness is the recent trend toward charging fees for access to wild places on public land. More (1999) argues that imposing fees for access to public lands may not be consistent with the interests of the general public. Instead, commonly used willingness-to-pay pricing approaches to establish fee policies pushes public policy toward the preferences of the affluent in our society. For Desolation Wilderness visitors, responses to new and additional proposed fees were associated with user perceptions that these fees would limit access for some segments of society (Watson and others 1998, unpublished report to the Eldorado National Forest, the Lake Tahoe Basin Management Unit and the Southwest Region of the U.S. Forest Service). While existing restrictions on participation in wilderness recreation (for example, trailhead quotas, limits on river float permits, etc.) have mostly been perceived as fair to all potential participants, the introduction of fees changes the function of wilderness in the lives of the American people, with the most profound effects expected on the relationships between wilderness and the American working class (More 1999).

Fees could also change the relationship between the American people and the agencies charged with managing wilderness. More (1999) is concerned that current strategies for implementing recreation fees on public lands are serving the interests of the agencies more than they are serving the public. Winter and others (1999) provide context for the importance of this concern by presenting arguments that social trust may be the most significant predictor of anticipated impacts of new fees, general attitudes toward recreation fees, and amounts people are willing to pay for recreation access. While Winter and others (1999) report that the expected impact of fees is more likely to be in the

form of reduced spontaneity than exclusion, there is no doubt that it will change the values associated with wilderness.

One of the most basic effects of charging fees for wilderness access will be the perception of commercialization, or treating the wilderness as a commodity, even by members of the public who agree in principle with charging user fees (Trainor and Norgaard 1999). And we expect substantial displacement effects due to fees (Schneider and Badruk 1999). The existence of fees at some areas, even if we develop a policy that charges for all public land access, will influence both attitudes and meanings related to wilderness. In a historical sense, valuation decisions about competing values (meanings and services) influence and change society and these changes in turn influence societal values (attitudes, social cohesion). Taken in its entirety, the model in figure 1 represents the valuation process in a long-term historical sense and is consistent with a social discourse definition of values. The model attempts to recognize that society, through social interaction and communication, creates and recreates what society takes to be social values. These “understandings” at any given moment in history become the ideals that define the society and motivate policy, give shape to the meanings and services people realize through the protection and use of wilderness, and establish the evaluative criteria society will use to judge which meanings and services should be recognized in the management of wilderness.

Conclusions

What can we conclude from this exploration of the social bases of values? First, we must think carefully about what questions we want to ask about values. Do we want to ask a market question, policy question, or even a management question? Which modes of valuation should guide a public policy on wilderness protection? As a matter of public policy the basis of wilderness valuation needs to be linked to the quality of the arguments people express for or against protection. As Sagoff (1988) reminds us, the value one derives from wilderness as a consumer (wilderness visitor) is one thing, the value we citizens derive from it is another. In addition to expressing use values we can also acquire and express values that are deeply personal in nature that deal with our relationship to a particular wilderness area. And further, there are values that cannot be realized in private acts of use that we can also learn and express in the public sphere.

Second, there is a risk to translating too much of the value of wilderness into statements and measurements of a use value, or for that matter, any single value. The fixed, autonomous conceptions of value typical of economic, utilitarian, and resource thinking do not require citizens to transcend their own interest and seek a greater appreciation. The message from a discursive view of values is that how people evaluate options, policies or goods can be improved through reflective public discussion. Economics assumes values cannot be improved. By this measure the value of wilderness is forever confined to individual desires; it will only be good if people desire it. The discursive view leaves open the possibility that values can be created, strengthened or lost. Arguments can be presented for why society should value what is good in wilderness. This is precisely what Thoreau and Muir did and their efforts changed the way society values wilderness. It

is also important to acknowledge that the greatest value of wilderness may be the unique combination of benefits and services wilderness provides. It is this combination of values that we must define, not the individual components.

Third, because this is a policy question, we do not see the solution as one of abdicating responsibility as citizens to do the hard work of reasoning about values and turn these valuation questions over to experts or scientists to tell us what the value of wilderness is. Ultimately policy should be made by citizens, but citizens need not and should not be reduced to mere consumers. Policy formation in a democracy presupposes the possibility of value transformation through the exercise of public reason.

In any model of public choice there is always the risk of excluding some voices. The major challenge to a discourse perspective is not whether well-designed forums can make consumers act like citizens, but insuring that all of the important voices are allowed to speak. As we look around we must ask ourselves: who is not present to participate in this reasoning about wilderness values?

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