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# Human Dimensions of Natural Resource Management:

## Emerging Issues and Practical Applications



# **Human Dimensions of Natural Resource Management:**

## **Emerging Issues and Practical Applications**

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# Environmental Values Related to Fish and Wildlife Lands<sup>1</sup>

David N. Bengston<sup>2</sup>

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## Introduction

Rapid change in the social, political, economic, and scientific environments in which public land management takes place has characterized recent decades. Managing public lands in ways that are responsive to the changing social environment is one of the biggest challenges facing public land managers today. One of the most significant changes in the social environment in which natural resource managers operate is the evolving values of the public and other stakeholders. Social scientists who study values have found a slow but steady reorientation of environmental values in the U.S. in recent decades (e.g., Bengston et al. 1999; Deason 1996-97; Hays 1987; Kempton et al. 1995; Ladd and Bowman 1995; Manning et al. 1999; Xu and Bengston 1997). Wildlands are increasingly valued as amenities to enhance quality of life besides being valued as a source for material commodities. Increasing tension between traditional (economic and commodity-related values) and emerging (recreational, aesthetic, moral/spiritual, and ecological values) values is apparent, and points to the need for planning and decision making processes that are better able to negotiate and incorporate diverse values. Public land managers need to understand the nature of environmental values better if they are to work collaboratively with diverse stakeholder groups.

The purpose of this paper is to provide an overview of key concepts related to environmental values and their importance for public land managers. The following section defines environmental values and discusses their relationship to environmental attitudes and beliefs. This is followed by presentation of a broad system for classifying environmental values and understanding the distinct ways in which people value nature. A final section discusses some recommendations for future research related to environmental values.

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<sup>1</sup>Bengston, D. N. 2000. Environmental values related to fish and wildlife lands. In *Human Dimensions of Natural Resource Management: Emerging Issues and Practical Applications*, eds. Fulton, D. C., K. C. Nelson, D. H. Anderson, and D. W. Lime. St. Paul, MN: Cooperative Park Studies Program, University of Minnesota, Department of Forest Resources.

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# What are environmental values?

## How do values relate to attitudes and beliefs?

Values have been defined in many ways by social scientists in different disciplines, including economics, political science, anthropology, psychology, and sociology. Each of these disciplines—and others as well—approach the topic from a somewhat different perspective and each perspective sheds some light on the nature of human values (Bengston 1994). From a practical standpoint, values can be defined simply as relatively enduring concepts of what is good or desirable. Value in this sense is sometimes referred to as an ideal or held value. Environmental values are enduring concepts of what is good or desirable about the environment and natural resources. Individual values refer to values held by an individual, and social values are shared by groups of people.

Values are a key part of a system of attitudes, beliefs, and values through which people view and interpret the world around them. Figure 1 illustrates the relationship between attitudes, beliefs, and values for the case of wolves. An *attitude* is a learned predisposition toward some object as either favorable or unfavorable (Fishbein and Ajzen 1975). For example, a person might have a favorable attitude toward wolves. *Beliefs* reflect what people think is true about an object, and they are one reason for having a particular attitude toward the object. For example, someone with a favorable attitude toward wolves may hold many supportive beliefs, such as the belief that wolves have a right to exist without interference from people, or wolves are a symbol of our natural heritage (Fig. 1). Both attitudes and beliefs are subject to change based on new information, persuasion, life experiences, and other learning processes. Values are the most deep-rooted and central elements in a person's system of attitudes and beliefs (or a group's shared system of attitudes and beliefs). Like attitudes and beliefs, individual and social values change over time, but they tend to be more stable and resistant to change. As shown in Figure 1, someone with a favorable attitude toward wolves may hold a variety of values that help explain why wolves are good or desirable.

<b>Attitudes</b>	Favorable attitude toward wolves: "I love wolves"				
<b>Beliefs</b>	Wolves play an important role in ecosystems	Wolves have a right to exist	Wolves symbolize our dwindling natural heritage	Wolves are beautiful creatures	Wolves are important for tourism & ecotourism
<b>Values</b>	Ecological	Moral/spiritual		Aesthetic	Economic

**Figure 1.** A simple system of attitudes, beliefs and values about wolves.

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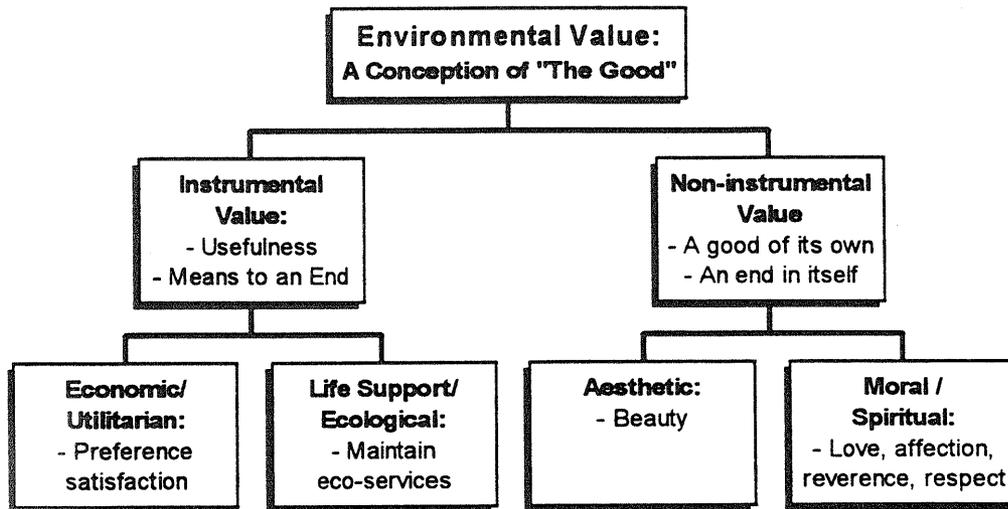
Systems of environmental attitudes, beliefs, and values (such as the simplified one illustrated in figure 1) tend to be robust structures that are resistant to change. New beliefs that are added—through formal or informal education, life experiences, etc.—will generally be consistent with the overall system. For example, a person holding the views showed in Figure 1 would be highly unlikely to adopt the belief that wolves are vicious, evil creatures. These systems are also resistant to change because when an existing belief is discarded, the overall system will likely still stand. For example, if a person with a favorable attitude toward wolves holds the belief that wolves never attack people and that belief is shown to be inaccurate and is therefore modified or abandoned, the person’s overall attitude toward wolves and their underlying environmental values related to wolves are unlikely to change.

The robustness of systems of environmental attitudes, beliefs, and values is important because it helps show why merely “educating the public” about wildlife management is unlikely to produce the desired results. Changing people’s beliefs about a particular management practice (e.g., trapping or hunting wildlife to achieve a management objective) does not deal with their overall attitude toward the management practice or wildlife in general, sets of other beliefs they may hold, and deeply held environmental values. Rather than educating the public, listening to the public and other stakeholder groups and working collaboratively with them is much more likely to be effective.

## **A system for classifying environmental values**

Figure 2 presents a broad framework for understanding the ways in which people value the environment, including the values they hold for public lands. Two fundamentally different types of environmental values are distinguished in Figure 2: instrumental and non-instrumental. When we value the environment instrumentally, we are concerned about its usefulness as a means to some desirable human end. The instrumental values of nature arise from the fact that “... nature benefits us. Nature is useful: it serves a purpose, satisfies a preference, or meets a need” (Sagoff 1991:32). In contrast, when we value the environment non-instrumentally, we care about it as an end in itself, rather than a means to an end. Most people value public lands both instrumentally for the benefits they receive from these lands and non-instrumentally, in ways that go beyond their contribution to self-interested goals.

There are two broad categories of instrumental value related to the environment (Figure 2). Like instrumental value in general, the economic (or more broadly, utilitarian) value of the environment stems from its utility for achieving human ends, where the ultimate end or goal is maximizing the satisfaction of individual preferences. The economic conception of the value of nature focuses on the usefulness of the environment as expressed in individual preferences or an aggregation of individual preferences.



**Figure 2.** A classification system for environmental values.

Life support value is another broad concept of what is instrumentally good about the environment. For people who hold this value, life-supporting environmental functions and services are good because human well being depends on them. Unlike economic value, life support value is not adequately measured by adding up people’s preferences or willingness to pay for environmental functions and services. Many people are unaware of the life-supporting benefits that ecosystems provide, so aggregating preferences or willingness to pay for life-supporting environmental services does not produce a meaningful measure of their importance. The benefits exist whether or not people are aware of them.

Figure 2 also shows two broad types of non-instrumental value. Aesthetic value is a type of non-instrumental value in which beauty is the concept of what is good. Sagoff (1991) notes that nature may be valued as an object of knowledge and perception, his definition of aesthetic value. Aesthetic value has historically had and continues to have profound impacts on public land policy and management: “One of the main reasons that we have set aside certain natural areas as national, state, and county parks is because they are considered beautiful” (Callicott 1992:12).

Finally, moral/spiritual value is also a type of non-instrumental value. People value an object morally when they regard it with love, affection, reverence, and respect (Sagoff 1991). This is what Aldo Leopold (1966:261) had in mind when he wrote: “It is inconceivable to me that an ethical relation to land can exist without love, respect, and admiration for land, and a high regard for its value. By value, I of course mean something far broader than mere economic value.” Spiritual value is a type of moral value, as is attachment orientation to nature, sense of place, and heritage value (Xu and Bengston 1997).

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Each of these four broad types of environmental value represents a distinct concept of what is good about the environment or motivation for caring about nature. It is important to keep in mind, however, that public lands are always valued in multiple ways simultaneously: A national forest may be valued economically for timber harvested and morally for sacred Native American sites it contains; a wildlife preserve may be valued aesthetically for its natural beauty and for the environmental services provided by its wetlands.

The simple classification of environmental values shown in Figure 2 could be expanded to include much more detail and specific types of value that fall under the four main categories. But the important point for natural resource managers is that most people value the environment and public lands both instrumentally and non-instrumentally. In the past, resource managers have sometimes emphasized the instrumental values—especially economic/utilitarian values—to the neglect of non-instrumental values. But the deeper, non-instrumental values help explain why many people care so passionately about environmental issues and therefore why the intensity of conflict over resource management is often high. People are much more passionate about places of the heart than places valued only for instrumental reasons.

## **Future research recommendations**

This final section discusses some recommendations for future research related to environmental values relevant to public land managers. First is the need for research that is place-specific. Much of the research on environmental values is general and not focused on a particular area. This can help natural resource managers understand the broad social context in which management takes place. But people's environmental values and concerns often vary from location to location. Specific information about the values people hold for particular public lands would be most useful to managers. Research is needed to shed light on the values held by communities of place and communities of interest for particular public lands. Creative and cost-effective ways to gather this information are needed.

Another need for future research is on differences in environmental values, preferences for recreation activities, acceptability of management actions, etc. among different ethnic and minority communities. The communities served by public natural resource management agencies are becoming more racially and ethnically diverse. A number of studies have shown that members of racial and ethnic groups may hold environmental attitudes and values, have greater concern for certain environmental problems, and have participation rates in wildland recreation and environmental activism that differ in various ways from those of European-Americans (see Bengston 2000 and studies cited therein). Responding to an increasingly diverse society in ways that ensure the views of all citizens are included in resource management and policy is an important challenge for natural resource management agencies.

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Third, many communities near public lands have experienced an influx of urban migrants in recent decades, including seasonal homeowners, retirees, tele-commuters, and others. This trend is likely to continue in the coming decades. Urban migrants typically have different value priorities and different orientations toward nature than long-time rural residents (Shannon 1988). The urban migrants often have less direct contact with nature than long-time residents, and they are often eager to be involved in planning and decision-making on public lands. Research is needed to understand better the value differences between long-time residents and new residents—especially in communities that have experienced significant change in this respect—in order to minimize conflict, facilitate communication between these groups, and build bridges of understanding.

Finally, research on collaborative planning and decision-making processes is needed. Collaborative approaches to planning and management are a key to getting diverse values on the table and working them out. It is through discourse and deliberation that people discover and express social values, which can then be incorporated into management. It is important to create collaborative processes that encourage people to express freely the deeper, non-instrumental values and strike a balance between scientific information and these values. “Science is, of course, a very important and necessary part of resource management. But when we emphasize a scientific and objective attitude to the exclusion of all else, we create an environment in which it is difficult for people to speak about intuitive and emotional experiences, and in which it is difficult for us to hear or understand them when they do” (Schroeder 1996:16-17).

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