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Philosophical Perspectives on Natural Resources

Examining the Past to Understand the Future

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"Philosophy is . . . the front trench in the siege of truth. Science is captured territory; and behind it are those secure regions in which knowledge and art build our imperfect and marvelous world."

—Will Durant, 1966

Philosophical perspectives on natural resources take several directions. Experts and scientists who study natural resources have a long history of such discussion (Catlin, 1832; Marsh, 1864; Williams & Stewart, 1998), and one that overlaps with issues related to philosophy of science (Carnap, 1966; Gergen, 1994). Dominant cultural values, as they reflect philosophies toward the environment, also provide direction for discussion (Botkin, 1990; Burke, 1985). In addition, natural resource management philosophies and approaches to decision-making have a meaningful history of thought (Manring, 1998; Minteer & Manning, 1999; Mohai & Jakes, 1996; Twight, 1983).

Philosophical perspective also are linked to the values and beliefs of park visitors, interest groups, and other publics – referred to as *stakeholders* – who use and enjoy natural resources and environments, and who become involved in planning processes (Cronon, 1992, 1995; Kruger & Shannon, 2000). The purpose of this chapter is to highlight each of these directions, and in doing so, develop linkages between philosophical perspectives and roles for social scientists who study society and resource management.

Philosophical Issues from Past ISSRM

Not surprisingly, numerous discussions from the previous ten International Symposia on Society and Resource Management (ISSRM) have focused on a variety of philosophical issues related to natural resource management. These issues include the following:

- The effect of personal experience in a place on

values, beliefs and philosophical orientations regarding personal meanings and knowledge toward natural resources.

- Relationships between socioeconomic factors, values, and philosophies assigned to natural resources by individuals and groups.
- The effect of culture and race on one's value orientation and understanding of natural resources. Different groups may expect different benefits from natural resources and these expectations may blend with events such as acculturation and assimilation.
- Values may influence, and may be influenced by, an individual's philosophical perspective of natural resources.
- Traditional dichotomies such as people-nature, individual-group, use-preservation and beliefs-knowledge may influence both individual and collective understandings of the natural world.
- Perspectives of natural resources representing market-related values may affect one's philosophy different than non-market values.
- There are philosophical concerns in moving from an authority-based paradigm of decision-making to a community-based process of decision-making.

Quite obviously, there is a broad spectrum of issues and topics related to philosophical perspectives of the natural environment. Moreover, it has become clear that there is a growing role for social scientists and academics involved in natural resource management, as society struggles to resolve the many issues germane to its natural resource base.

Definition, Importance and Process

For the purpose of this chapter, philosophical perspectives on natural resources are defined as a set of beliefs, precepts, or principles that underlie a particular evaluation or behavior regarding how natural resources should be used and how they should be managed. While defining the term *philosophical perspectives*, the simplicity of the definition belies the complexity and fluidity of the construct. And, in one sense, this complexity and fluidity speak to the very heart of the problem, that is, the wide and often divisive nature regarding how our natural resources should be valued and managed. In essence, underlying this chapter is the belief that a substantial portion of those disagreements can be traced to differences in the beliefs, precepts, and values that provide the under-girding for one's philosophical view about natural resources.

Aspects of Philosophy of Science

Scientific research is challenged to adequately capture the relationship between philosophy and practice. While science looks for uniformity and generalizability, philosophical perspectives speak to the affective side of human nature: feelings, intuition, attitudes. Thus, the scientific tendency of looking for a uniformity of nature principle tends to result in reductionism and an oversimplification of a complex issue (Goran, 1974).

Adding to this oversimplification are the paradoxes between permanence and change, stability and fluidity, certainty and uncertainty; paradoxes that have engaged philosophers, theologians, scientists, and poets for more than two thousand years (Gergen, 1994). If, indeed, our understanding of the world and the way it works is in a constant state of change, how does this fact mesh with Carnap's (1966) statement regarding the purpose of science: "The more systematic observations of science reveal certain repetitions or regularities in the world . . . The laws of science are nothing more than statements expressing these regularities as precisely as possible" (p. 3)? More precisely, if the underlying philosophy that serves to guide and inform us about natural resources changes over time, how does the management and use of these natural resources also change? As Gergen (1994) stated, "What is learned or 'known' at any given instant may be irrelevant to the next" (p. 1).

Understanding the often tacit philosophy an individual uses to make judgments concerning natural resources is a messy business and almost entirely within the purview of the social sciences. Gergen (1994) compared the natural and social sciences and saw very different results, and thus questioned their goals: "In contrast to the mighty oaks of the natural sciences, one might describe the social sciences as a sprawling thicket. The oaks . . . seem sturdy, powerful, and reliable. In contrast, the [social sciences] seem to have no clear and dependable product" (p. 3).

From a different approach, others have labeled natural resource issues as *wicked* problems (Brown & Harris, 1992; Shindler & Cramer, 1999), and suggest that goals for social science are related to developing the full complexity of issues. These goals of social science are often in direct contrast to the implied goals of the natural sciences, which generally are to reduce the natural world into simplified relationships (Patterson & Williams, 1998).

Finally, an individual's philosophical perspective is seldom isolated from the larger social concerns and movements that occur simultaneously. Toward this end, the next section examines the history of philosophical perspectives.

Dominant Cultural Values

As children we learned that our ancestors often had to wrestle the materials for food, shelter, and sustenance from the natural environment. Thus, the environment was usually viewed with hostile intent; an idea abetted by the Judeo-Christian tradition of believing the natural world belonged to humans for both their exploitation and development (Nash, 1968). Within the American context, it was not until after European settlement occurred and the problems of getting food, protection of hearth and home, and securing adequate shelter were addressed that developing philosophies concerning natural resources began to differ from a *multiply and conquer* mentality.

Prior to the Industrial Revolution in the U.S., nature was conceived as divinely created, perfectly ordered, and organic. Not surprisingly, this nicely coincided with the developing creation of science that searched for the regularities and order of the world. Thus, as epitomized in the early writings of George Catlin (1832) and George Perkins Marsh (1864), nature, if left undisturbed by humans, would assume an order and structure of both beauty and efficiency. Similar to this Romantic view of nature, the Trancendentalists viewed the natural world as epitomizing spiritual truth and morality (Thoreau, 1851).

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In this world of dichotomies and paradoxes, it is not surprising that while proponents were extolling the Romantic and Transcendental views of nature, a broader social movement was developing that tended to look in another direction. In this case, Social Darwinism was proving to be an enticing philosophical perspective: It united the natural and social worlds (Burke, 1985). Instead of virtue and beauty, the natural world was based on survival of the fittest, and so was the social world. Natural resources were there to use and exploit. Likewise, individuals and groups in society were to be organized and controlled in order to produce wealth and material goods. And the role of government was simple: to facilitate individuals in the pursuit of their own self-interests.

Thus, our ancestors were faced with a mix of perspectives regarding not only what natural resources were for, but how they should be managed. Cahn (1995) argued that American political culture emerged, and operates from an awkward marriage of two disparate philosophies: 1) facilitation of individual self-interest (Lockean Liberalism), and 2) a primary concern for the public good (Civic Republicanism). The development of Lockean and Civic Republicanism perspectives may have manifested themselves into the current categorizations of *anthropocentrism* (i.e., human centered) and *biocentrism* (i.e., ecology centered), and further still into

the "use vs. preservation" dichotomy.

Botkin (1990) suggested that by the 17th century, nature was also thought of as machine-like or as a creature. Nature, as machine, implied innumerable parts, all fitting together, like an engine full of gears. As a creature, the Earth was looked upon as being similar to an animal or plant. From a contemporary perspective, this view was extended by positing that the machine had a life of its own, as embodied in the Gaia hypothesis first proposed by Lovelock (1995) that the Earth behaves like a self-regulating, super organism that modifies its environmental components to meet threats and adjust to change.

Perhaps not surprisingly, the 1800s saw the emergence of a number of events that had profound influence on the public's view of natural resources. First was the emergence of the perception that natural resources were, indeed, limited and finite. With vast swaths of forests now falling to the axe, it wasn't necessarily true that the homesteader or lumberjack could always go over the next ridge for more. Second, the frontier came to an end with the announcement by Frederick Turner in 1893 that there was no longer a continuous line of undeveloped, and presumably uncivilized, lands. And finally, the philosophy of utilitarianism emerged. Utilitarianism embraced the concept that humans could be powerful change agents for good, particularly by using technical expertise and scientific management (Forbes & Lindquist, 2000) to produce the greatest good for the greatest number (Shideler & Hendricks, 1991). Once taming the natural environment was considered complete, Americans turned their attention to philosophical perspectives that were based less on survival, and more toward nature as divine creation, symbolic of truths, and aesthetic beauty (Thomas, 1983).

Management Philosophies

O'Riordan (1995) believed that four basic tensions affect the way environmental philosophies influence management of natural resources: 1) the desire for dominance versus the reality of dependence, 2) efficiency versus equity, 3) the demands and desires of the present versus those of future generations, and 4) the need for individual property rights versus belief in the public good.

In a fashion similar to the previously discussed terms of biocentrism and anthropocentrism, O'Riordan (1995) suggested that two fundamental environmental perspectives emerged since the 1970s: *technocentrism* and *ecocentrism*. The technocentric view is hierarchical, manipulative, and managerial. Its advocates believe that efficient, self-regulating markets, private property rights, technology, research, creativity, and ingenuity can ensure the proper use of natural resources for the betterment of humankind. Conversely, those individuals classified as ecocentrics have little or no faith in large-scale technology and development, and instead, embrace community-scale projects such as natural wetlands for local water purification, and believe in the morality of ecological principles. Not surprisingly, there is a growing body of literature that suggests any long-term solutions and approaches will lie in embracing tensions between technocentrism and ecocentrism, and charting some middle ground. For example, Norton (1991) posited that most environmental issues can be moved toward solution through a pragmatic, weakened version of anthropocentrism.

Based on the philosophical minds in the mid 1800s to early 1900s of Charles Peirce, William James, and John Dewey, pragmatism contends that truth is established by practicability, or things that actually work. From this standpoint, any philosophical perspective that leads to long-term solutions which will actually work is the one to support. Thus, if true, what the preceding statement suggests is that society is moving away from contentious debates over values and principles, and instead, toward a realm of discerning what management actions will actually work and be acceptable by stakeholders (Minteer & Manning, 1999). This approach often includes collaboration and partnerships in its process (Manring, 1999; Yaffee, Phillips, Frentz, Hardy, Maleki & Thorpe, 1996).

Stakeholder Philosophies

A starting point from which to understand stakeholders' philosophical perspectives is to appreciate their many different viewpoints and view them collectively as philosophical pluralism. For example, the commonly accepted "use vs. preservation" framework splits philosophical perspectives into two mutually exclusive camps. In doing so, it represents a false divide that oversimplifies the boundaries of environmental discussions (Gottlieb, 1993; O'Riordan, 1981). Resource managers must understand the various philosophical positions of their stakeholders and design planning processes that address the collection of these positions. There are several roles for social scientists that could facilitate managerial understanding and decision-making within a stakeholder context of philosophical pluralism.

The beliefs, precepts, and principles that underlie stakeholder perspectives on any given issue are intimately connected to meanings attributed to places. These meanings have been constructed through a variety of contexts, including: personal histories with a place, communities of friends and family, and organizational cultures of one's workplace. For the purposes of this chapter, the origins of these meanings are not as important as the recognition that these meanings are socially-constructed, yet typically viewed as "truths" by those who hold them.

By casting environmental meanings as stories we tell about ourselves and our landscapes, Cronon (1992) suggests that beliefs, values, and principles about natural environments become grounded in the places and events of our lives. At first glance, our stories about the places in our lives may not have the usual markings of philosophy, yet as Cronon (1992) and others (Bonnifield, 1979; Glover, 2003; Worster, 1979) have thoroughly developed, it is just such narratives that provide the underlying reasons for our evaluation and behavior toward natural resources. Several other scholars also have suggested that it is only through the use of narratives that humans are able to make meaning of the places and events in their lives (Linde, 1993; Polkinghorne, 1988; Rappaport, 2000).

By positioning environmental meanings as being best represented by individual and community narratives, philosophical perspectives of stakeholders become idiosyncratic to place. In short, decision-making forums each have their localized context in which to understand the pluralism of stakeholder perspectives (Brandenburg & Carroll, 1995). These localized contexts need recognition, and explicit understanding of the tensions that exists within the collection of stakeholder narratives. Philosophical pluralism of decision-making suggests that resource

managers need to continue their efforts to know their stakeholders, and to enhance ways in which stakeholders represent themselves (Schroeder, 1996; Zube, Friedman & Simcox, 1989). The flip side of stakeholder representation is *social learning* where stakeholders not only represent themselves, but witness the representation of other stakeholders. In forums with a mutual exchange of narratives, stakeholders may learn about themselves and about other stakeholders, which carries potential for development of social capital and a stronger sense of community (Kruger & Shannon, 2000; Yankelovich,1991).

Expectations for Future Philosophical Issues

The development of philosophical issues has been a fast-moving discourse since the first ISSRM. Expectations for the future are, at best, speculations from a particular vantage point in time. Our expectations include further development of philosophical perspectives that:

- Embrace urban land ethics directed at environmental responsibility in worked landscapes and stewardship for our daily lifestyle (see Halweil, 2002; White, 1995).
- Question concepts connected to "pristine" land, and cast preservation and other protected areas as ecological restoration projects, albeit ones in need of a vision or philosophical justification for restoration (see Abram, 1996; Cole, 2000; Jordan, 1999).
- Are sensitive to place and idiosyncratic to stakeholder and their localities in order to address movement away from authority-based paradigms to community-based processes of decision-making (Brandenburg & Carroll, 1995; Kruger & Shannon, 2000; Manring, 1998).
- Explicitly recognize meanings of nature as being socially constructed, and in doing so, expose problems with traditional philosophies by anchoring discourse in critical perspectives sensitive to gender, race, and class (Hayles, 1995; Merchant, 2003).

Continued Roles for Social Scientists

As a starting point for social scientists, the recognition that any collection of stakeholders embraces multiple philosophical perspectives affords at least two essential roles for social scientists: 1) representation of stakeholders, and 2) development of decision-making forums that allow for social learning.

Representation of stakeholders' philosophical perspective is a challenge. Dominant culture myths about society and nature (e.g., preservation, wise-use, pristine land) may not be a good fit for a given localized issue. Stakeholders may struggle with ways in which to represent their perspectives and inadvertently draw upon dominant cultural myths to help them articulate who they are and what they believe. Philosophical perspectives, even as reflected in narratives, are often difficult to articulate. Social scientists are trained for psychological and social assessment techniques, and should maintain and enhance this function they already serve. The important point for enhancement is to further appreciate community-based narratives as representations of philosophical perspectives. In other words, resist the

urge to impose dominant cultural philosophies about society and natural resources.

American society is challenged to developed decision-making forums that are not adversarial, competitive, and dichotomizing. There are a growing number of forums for public land decision-making that provide opportunities to build community, improve one's sense of belonging, and create value within the decision-making process. Given an explicit pluralism of philosophies, rather than some opposing dualism, stakeholders need to recognize the complexity of decision-making. Forums that foster dialogue need further exploration regarding their potential for social learning and civic discovery (Manring, 1998; Walker & Daniels, 1996).

In their quest for a civic science, Kruger and Shannon (2000) championed approaches to inquiry that allow people to learn from one another. Helford (2000) also suggested that social learning should be an important part of natural resource management, but that forums for such learning are often not included in planning processes. Converging with trends in the planning literature, social scientists in natural resource management may become involved with collaborative learning processes in roles that mediate between stakeholders and facilitate decision-making, sometimes referred to as a *bricoleur* (Innes & Booher, 1999).

Conclusion

Philosophical issues that connect science, management, culture, and stakeholders to natural resources are important for researchers to understand. From a long-term perspective, the answers are often not as important as the development of questions that are posed. New questions ultimately foster creative responses to resource conflicts and improved ways of making decisions. Social scientists have many roles in the interplay between developing questions, responding to management problems, and improving human welfare. Several of the tensions, and suggestions for reconciliation, were highlighted in this chapter, including:

- In natural resource management, the natural and social sciences have fundamentally different perspectives on what should be studied and how it should be studied.
- Science is a human endeavor and not autonomous from the ambient social undercurrents in society.
- There is a wide diversity of philosophies regarding natural resources and the environment.
- There is not one *right* philosophy.
- It is complex and challenging for stakeholders to represent their philosophy on natural resources and the environment.
- Tensions exist between human-centered and ecologically-centered philosophies. The goal is not to reconcile the tension, but to reach acceptable decisions.
- Stakeholders learn about philosophies held by other stakeholders; they recognize tensions between various philosophies, and there is promise that such recognition leads to more acceptable natural resource decisions.

There is still much to learn regarding the relationship between philosophical perspectives and human behavior towards natural resource management. Perhaps the statement provided by Aldo Leopold (1949) who talked about the connection between philosophy and behavior, is the direction we should heed: *"I have read many definitions of what is a conservationist, and written not a few myself, but I suspect that the best one is not written with a pen, but with an axe. It is a matter of what a man thinks about while chopping, or while deciding what to chop. A conservationist is one who is humbly aware that with each stroke he is writing his signature on the face of the land. (p. 68)."*

References

Abram, D. (1996). *The Spell of the sensuous: Perception and language in a more-than-human world.* New York: Pantheon.

Bonnifield, P. (1979). *The Dust Bowl: Men, dirt, and depression.* Albuquerque, NM: University of New Mexico Press.

Botkin, D. B. (1990). *Discordant harmonies: A new ecology for the twenty-first century.* New York: Oxford University Press

Brandenburg, A., & Carroll, M. (1995). Your place or mine?: The effect of place creation on environmental values and landscape meanings. *Society and Natural Resources,* 8, 381-398.

Brown, J., & Harris, C. (1992). The U.S. Forest Service: Toward the new resource management paradigm?" *Society and Natural Resources*, 5, 231-245.

Burke, J. (1985). *The day the universe changed.* Boston: Little, Brown, and Company.

Cahn, M. A. (1995). *Environmental deceptions: The tension between Liberalism and environmental policymaking in the United States.* New York: State University of New York Press.

Carnap, R. (1966). *An introduction to the philosophy of science.* New York: Basic Books.

Catlin, G. (1832). *North American Indians: Being letters and notes on their manners, customs, and conditions, written during eight years' travel amongst the wildest tribes in North America*, 1832-1839. London.

Cole, D. (2000). Paradox of the primeval: Ecological restoration in wilderness. *Ecological Restoration*, 18 (2), 77-86.

Cronon, W. (1992). A place for stories: Nature, history, and narrative. *Journal of American History*, 78 (4), 1347-1376.

Cronon, W. (1995). The trouble with wilderness; Or, getting back to the wrong nature. In W. Cronon (Ed.), *Uncommon ground: Toward reinventing nature* (pp. 69-90). New York: Norton.

Forbes, W., & Lindquist, C. (2000). Philosophical, professional, and environmental ethics: An overview for foresters. *Journal of Forestry*, 98 (7), 4-10.

Gergen, K. J. (1994). *Toward transformation in social knowledge.* London: SAGE.

Glover, T. (2003). The story of the Queen Smith Memorial Garden: Resisting a dominant cultural narrative. *Journal of Leisure Research*, 35 (2), 190-212.

Goran, M. (1974). *Science and anti-science.* Ann Arbor, MI: Ann Arbor Science.

Gottlieb, R. (1993). *Forcing the Spring: The transformation of the American environmental movement.* Washington DC: Island Press.

Halweil, B. (2002). Farming in the public interest. In C. Flavin, H. French, & G. Gardner (Eds.), *State of the world 2002: A Worldwatch Institute report on progress toward a sustainable society* (pp. 51-74). New York: Norton.

Hayles, K. (1995). Simulated nature and natural simulations: Rethinking the relation between the beholder and the world. In W. Cronon (Ed.) *Uncommon ground: Toward reinventing nature* (pp. 409-425). New York: Norton.

Helford, R. (2000). Constructing nature as constructing science: Expertise, activist science, and public conflict in the Chicago wilderness. In P. Gobster & R. Hull (Eds.), *Restoring Nature: Perspectives from the social sciences and humanities* (pp. 119-142). Washington, DC: Island Press.

Innes, J., & Booher, D. (1999). Consensus building as role playing and bricolage: Toward a theory of collaborative planning. *Journal of the American Planning Association*, 65 (1), 9-26.

Jordan, W. (1999). Nature and culture. *Ecological Restoration, 17* (4), 187-188.

Kruger, L., & Shannon, M. (2000). Getting to know ourselves and our places through participation in civic social assessment. *Society and Natural Resources*, 13, 461-478.

Leopold, A. (1949). *A Sand County almanac and sketches here and there.* New York: Oxford University Press.

Linde, C. (1993). *Life stories, the creation of coherence.* New York: Oxford University Press.

Lovelock, J. E. (1995). *Ages of Gaia: A biography of our living earth.* New York: W.W. Norton & Company.

Manring, N. (1998). Alternative dispute resolution and organizational incentives in the U.S. Forest Service. *Society and Natural Resources*, 11, 67-80.

Marsh, G.P. (1864). *Man and nature; Or, physical geography as modified by human action.* New York: Charles Scribner.

Merchant, C. (2003). *Reinventing Eden: The fate of nature in Western culture.* New York: Routledge.

Minteer, B. A., & Manning, R. E. (1999). Pragmatism in environmental ethics: Democracy, pluralism, and the management of nature. *Environmental Ethics*, 21(2), 191-207.

Mohai, P., & Jakes, P. (1996). The Forest Service in the 1990s: Is it headed in the right direction? *Journal of Forestry*, 94(1), 31-37.

Nash, R. (1968). *The American environment: Readings in the history of conservation.* Reading, MA: Addison-Wesley.

Norton, B. G. (1991). *Toward unity among environmentalists.* New York: Oxford University Press.

O'Riordan, T. (1981). *Environmentalism.* London: Prion.

O'Riordan, T. (1995). Frameworks for choice: Core beliefs and the environment. *Environment*, 37(8), 4-9; 25-29.

Patterson, M., & Williams, D. (1998). Paradigms and problems: The practice of social science in natural resource management. *Society and Natural Resources*, 11, 279-295.

Polkinghorne, D. E. (1988). *Narrative knowing and the human sciences.* Albany, NY: State University of New York Press.

Rappaport, J. (2000). Community narratives: Tales of terror and joy. *American Journal of Community Psychology*, 28(1), 1-24.

Schroeder, H. (1996). *Voices from Michigan's Black River: Obtaining information on "special places" for natural resource planning.* (General Technical Report NC-184). St. Paul, MN: USDA Forest Service North Central Experiment Station.

Shindler, B., & Cramer, L. (1999). Shifting public values for forest management: Making sense of wicked problems. *Western Journal of Applied Forestry*, 14(1), 28-34.

Shideler, J. C., & Hendricks, R.L. (1991). The legacy of early ideas of conservation: Tracing the evolution of a movement. *Journal of Forestry*, 89(10), 20-23.

Thomas, K. (1993). *Man and the natural world: Changing attitudes in England, 1500-1800.* London: Allen Lane.

Thoreau, H.D. (1851). *Excursion, the writings of Henry David Thoreau.* Boston: Ticknor and Fields.

Twight, B. (1983). *Organizational values and political power: The Forest Service versus the Olympic National Park.* University Park, PA: Pennsylvania State University Press.

Walker, G., & Daniels, S. (1996). The Clinton Administration, the Northwest Forest Conference, and managing conflict: When talk and structure collide. *Society and Natural Resources*, 9, 77-91.

White, R. (1995). "Are you an environmentalist or do you work for a living": Work and nature. In W. Cronon (Ed.) *Uncommon ground: Toward reinventing nature* (pp. 171-185). New York: Norton.

Williams, D., & Stewart, S. (1998). Sense of place: An elusive concept that is finding a place in ecosystem management. *Journal of Forestry*, 66 (5), 18-23.

Worster, D. (1979). *Dust Bowl: The Southern plains in the 1930s.* New York: Oxford University Press.

Yaffee, S., Phillips, A., Frentz, I., Hardy, P., Maleki, S., & Thorpe, B. (1996). *Ecosystem management in the United States: An assessment of current experience.* Washington, DC: Island Press.

Yankelovich, D. (1991). *Coming to public judgment: Making democracy work in a complex world.* Syracuse, NY: Syracuse University Press.

Zube, E., Friedman, S., & Simcox, D. (1989). Landscape change: Perceptions and physical measures. *Environmental Management*, 13 (5), 639-644.