

Linking Societal Values with Biosphere Reserve Imperatives: Opportunities for Awareness

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Abstract

The sustainability of provincial and national parks has rested in part on their acceptance by the public on several levels. Some researchers (Rapport et al, 1998) have identified variables through the development of a typology applicable to evaluating landscape health. The typology includes the categories of: (1) philosophical/ethical values; (2) intrinsic values existence value; and, (3) economic values, usually a monetary measurement. The last two are particularly relevant in assessing landscape health, but all three have important roles. Numerous studies have linked parks to societal values but very little is known about how such values are related to other forms of protected places.

Given their newness, it is not yet known if Biosphere Reserves (a UNESCO designation) are valued in this way by those physically located within or adjacent to their boundaries. Often, these communities will play a critical role in the long-term success of the management of Biosphere Reserves. The study examines the relationship between these variables and a Biosphere Reserve located in Ontario's Niagara Escarpment. The paper will present data that will provide greater clarity on this question. Several potentially competing groups and individuals were interviewed to form the data base. The results would indicate that economic values were predominant in how the reserve was viewed with little credence given to existence or philosophical value. It would appear from this analysis that any strategic plan which aims to increase the sustainability of the Biosphere Reserve would need to focus on these last two variables as well as the economic one.

Introduction

Understanding how nature is valued is of paramount importance to parks policy-setters and resource management planners. Despite significant achievements—notably in environmental law, environmental studies and ecosystem health—to ascertain non-monetaristic social values for natural spaces, western society continues to observe a nearly obsessive interest in the financial representation of our natural environment. But is this really merited? What other ways can we express value for nature? What benefit is achieved through this approach? Reaching a balance between ways of valuing nature opens possibilities of creating more comprehensive plans to better manage natural resources.

This paper explores the social values we have of nature and how these relate to resource management in general but, particularly, to the Niagara Escarpment Biosphere Reserve (NEBR). Using a 'ground-up' approach, in which the respondents assumed the roles of 'social actor', some understanding of the values held by com-

munities situated close to the Bruce Peninsula National Park and within the NEBR has been achieved. Consequently, this paper attempts to link Biosphere Reserve imperatives to the different ways people value nature. The Biosphere Reserve concept could serve to help communicate a range of social values of nature to resource managers and the general public alike.

Methodology

This paper relies on a study which is based on qualitative data. One of the purposes of the study was to understand the meaning of the Biosphere Reserve from a variety of viewpoints, but mostly from those of tourism operators and the general public. The tourism operators were selected because they live within the designated area and their livelihoods depend on the continued 'healthy' condition of the natural environment their clients wish to experience. Public perceptions of the Biosphere Reserve are important because it is ultimately up to these people to be stewards of the resource that surrounds them. The study also attempted to provide some insight into what might be needed to make the designation more useful and recognizable to residents and visitors alike.

In order to accomplish this task, the study implemented a variety of qualitative methods to collect data on the subject. Structured and semi-structured interviews, focus groups and participant observation were the major instruments used in data collection. Data collection occurred between April and November 1998 and involved respondents which fit roughly into the following categories: environmental groups such as non-profit organizations focusing on natural environment; resource management professionals including planners and park employees; local tourism operators; and, members of the general public who tend to be especially knowledgeable because of their active involvement in this small community.

Responses for these groupings will be shared in the 'Study Findings, but first a review of social values of nature is presented.

How do we value the natural environment?

Western society's values for nature are steeped in the ancient history of the Greeks as well as in spiritual sources such as the Book of Genesis in the Old Testament (Goldin and Kilroe 1997). These origins set in place a strong attachment which in more recent times has been celebrated by the likes of Emerson, Thoreau, Leopold, Carson, and Schumacher. A common theme from these and countless other thinkers has been that humans value nature in ways that go far beyond its use as our breadbasket and garbage dump.

Even for the most casual observers of changes in societal perceptions, it comes as no surprise that monetary valuation now dominates the western conception of nature. The globalization of capitalism and the acceptance of the market as the major, if not only, method for measuring value has left natural areas in a vulnerable position. The extent to which markets and private exploitation, both in the human and natural resource sphere, have come to dominate human transactions and social organization has been termed 'market fundamentalism' by George Soros (1998). This assessment is important for two reasons. First it is expressed by a member of

the international capital community rather than the usual critical camp. Second, the term fundamentalism has been adopted from the religious sphere to denote a strict orthodox belief in the supremacy of, in this case, market transactions as a singular focus for social and political organization. Economic theory has become law without the usual rigorous tests to which most laws in science have been subjected. This is generally seen as a detriment by those in society who are concerned with balancing the preservation and conservation of the natural world with the need for economic development and wealth creation.

In this half of the twentieth century, researchers have struggled with the notion of how to represent the value of nature—mostly for the purposes of resource management. The result has been a stream of differing and often overlapping categories of value attributed to nature and there appears to still be much room for further discussion.

In response to monetaristic representations of nature's value, Krutilla (1967) proposed *existence* values which defied the market-based approaches popular in the 1960's. Krutilla was one of the first of many who, while acknowledging such non-market values, nevertheless proposed ways of representing them by developing a pricing mechanism which facilitates comparison to market-based values. There are several variations on this approach now, perhaps the most common being the Contingent Valuation Method (CVM). CVM is a process developed to "elicit how people would respond to hypothetical changes in some environmental resources." (Smith 1993: 8). The process can involve a variety of ranking, if-then, take-it or leave-it and matching questions with the intent to develop a quantifiable measure of people's value which can then, through economic modelling, be applied to making resource management decisions. An example of the sort of question asked here might be: Would you pay \$100 a year to keep the view of the forest from your home unchanged?

Other approaches to the problem of how best to represent a comprehensive "value" of nature have been made recently. Hodge and Regens (1996) and Rapport et al. (1998) have suggested value categories which build on the works of Krutilla (1967) and Smith (1993) but step closer to non-monetaristic representations of nature while still offering meaningful information for the general public as well as decision makers.

Hodge and Regens (1996: 52) suggest "in general at least four components of value are recognized in evaluating an individual's preference structure for environmental resources." They propose the following non-monetaristic categories of value:

- *Consumptive Values* such as fishing and hunting;
- *Non-consumptive Values* such as bird-watching and canoeing;
- *Option Values* which translate into the option to use the resource in the future and emerged in reaction to the belief that protected places could be valued by how much visitors would be willing to pay for their use—a calculation which clearly understated their true value; and,
- *Existence Value* which give "satisfaction from knowing something is there whether it is ever used or not".

Rapport et al. (1998) in discussing the role of societal values in assessing land-

scape health, suggest there are at least three meanings that can be assigned to social value:

- 1) a set of *philosophical, ethical, moral* and *emotional* principles that order a society (eg: 'traditional values', 'family values');
- 2) *intrinsic* properties associated with particular environments (eg: 'wetland values'); and,
- 3) *economic* significance, often measured in monetary terms, of a given landscape.

The categories listed above provide a comprehensive, though not necessarily complete, set of indicators of social value. There may be further categories that members of the society at large propose or that may have come from research not consulted here. How then shall we choose among those we have and which ones make the most sense to the general public? Some of the above categories overlap or cancel each other out, but for the remainder we will turn to the comments from respondents in the study conducted.

Economic value as the key manner of expressing social value is our starting place. Though normally thought of in its monetary sense, economics have been applied to a wide variety of factors which would normally defy strict market valuation. For the purposes of this paper, however, the monetary interpretation will be used both because the respondents appeared to identify economics with money and because the researchers agree that current economic expressions of non-market values have provided a misleading and incomplete understanding of how society values nature.

Option value, while useful for pointing out the limitations of a market-valuation system with no temporal element, is really no more than an economic innovation. What it underscores on a more subtle note, however, is that we have no way of ever truly knowing the full value of nature. For the purposes of analysis, this point is grouped with economics.

Existence values, which are ascribed to those which we value for no more than their existence, whether we use them or not, are really no different from Rapport et al.'s (1998) intrinsic values.

Consumptive and non-consumptive values can be seen to occupy a "meta" level. For either one, several other forms of values might easily fit into them, and yet clearly they make sense on their own terms. To avoid repetition, we have elected to not use these and defer instead to the selection of values which were expressed in ways more keeping with the way respondents spoke about nature.

We also find *philosophical or spiritual values* which stand apart from others but which might often be confused with the existence values. While the distinction in many cases may be blurred, at the root these values offer up the option of providing some "use" for nature.

Thus we find ourselves assessing four categories of societal value for nature; economic, existence, philosophical/spiritual, and function. How these relate to the respondent groupings requires further investigation. In doing so, the remainder of

this paper provides a view of the role of non-monetaristic, social values of protected natural places in a world that is becoming increasingly market-dominated. It would appear that the acceptance of the sustainability concept beyond pure lip service could be judged by the public's acceptance of values such as those presented above in juxtaposition to the market value concept which is understood to dominate everyday life. As a result, the conservation community might view this research as an indicator of how well environmental and conservation values have permeated the culture and what measures can be used in constructing an argument for the preservation of ecologically sensitive areas in the future.

Study Findings

The results of the research suggest that market imperatives predominate the value base for the study area for all respondent groups. This basic orientation is not surprising and would be expected given that it reflects the value base on which a global economic system is constructed. Among members of the general public—including tourism operators—as well as professionals in resource management, economics was considered an important factor, whereas among the environmental organizations economic conceptualization appeared to be a more useful means of attracting attention to the other values of the natural environment. However, the study also demonstrates that while perhaps emphasized, the values expressed for the natural environment extend beyond the market value imperative.

Like economic values, existence values were highly present among all groups of respondents. They were often expressed as an aesthetic "love for the area" but also included quite specific identification of things valued. Lakes, forests, plants and the environment in general were all identified in ways that clearly showed them to be valued for no thing more than simply the fact they exist.

Functional value received some attention, but only marginally from resource management professionals or advocacy groups. Rather than the functions identified within the literature which included things like photosynthesis, the public noted the functional values of nature in recreational terms. Examples include hiking, swimming, biking and horse-back riding.

Where philosophical and spiritual values were concerned, responses came from resident tourism operators or the general public. Their comments suggested the presence of concerns about sustainability as a philosophical concept. Furthermore, the idea of shared benefits and responsibility to and from nature was introduced. There was also a possible confusion between the conservation ethic—desire to conserve a region's natural wealth—and a general lack of will to initiate sufficient steps to protect it.

Human health was a value category raised briefly from within the data, and has not been discussed yet. In the process of grouping responses and comments from respondents, human health emerged as a theme that did not fit suitably into other categories. The greatest concern from respondents was the importance of clean water for human consumption. The relationship between nature and human health has been discussed in various disciplines. Recently and quite prominently, it has appeared in publications dealing with ecosystem health and epidemiology but has been missing from literature which discusses the social values of nature. Our

interpretation of the responses suggested a separate category was merited for the concern for human health.

Significance of Findings

The findings suggest that the public, including tourism operators, have a broader and more balanced method of valuing the natural environment than do environmental groups and resource managers (Figure 1). To their credit however, the resource management professionals and environmentalists may have a deeper, stronger grasp of the values they use. They are also known to have a stronger capacity to implement non-social values found in the biophysical sciences. The focus on economics, specifically among professionals, may be an extension of their scientific orientations and their understandings of the most appropriate terms their political masters understand. Health, philosophy and, to a lesser extent, function do not easily fit into quantifiable reductionist interpretive models such as those offered in economics without considerable manipulation. The public faces no such constraints for they are able to value nature on whatever terms they like without having to apply them to measurement and management methods of evaluation.

If planners are to have a view that is representative of social values when making decisions about resource management, greater awareness of non-monetaristic values will be necessary. Of course, this raises the challenge of how best to express these values in the decision making context. It would appear though that some attempt to combine these with the very well developed economic valuation

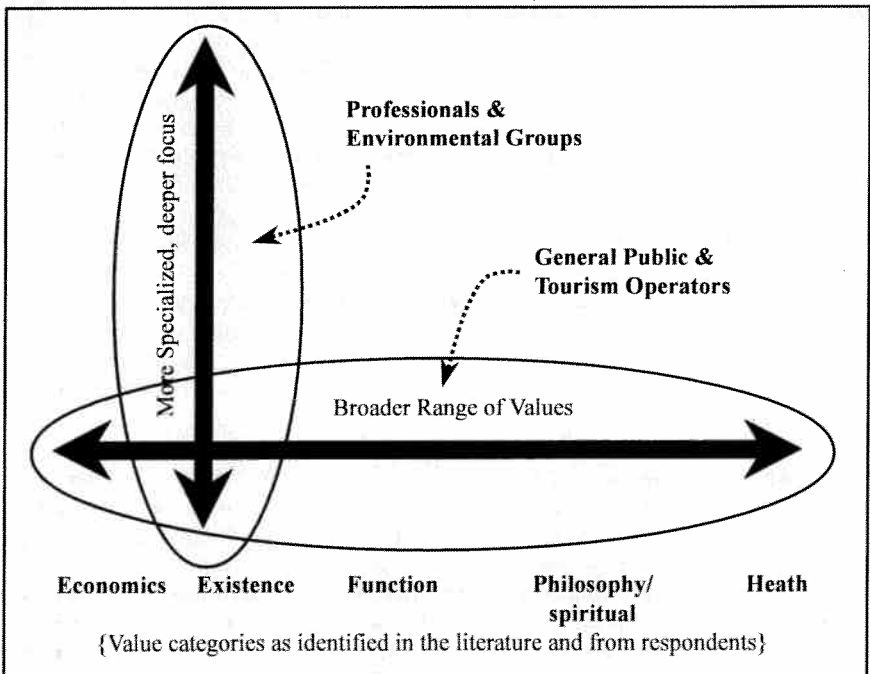


Figure 1: Representation of Value Distribution

methods is called for if a holistic and truly representative social value of nature is sought. The alternative of reducing all non-market values to units of economic measurement—or applying a price to things that cannot be bought or sold—is unacceptable.

How do these values relate to Biosphere Reserves?

Attempting to shift the social emphasis from economic imperatives towards non-monetary ones requires a clear understanding for what these mean and why they are important. It also requires some shift from the abstract to the tangible if it is going to become “real”. While the Biosphere Reserve concept struggles with its intangible qualities, it does nevertheless provide an additional tool for explaining how humans can live in balance within naturally significant places.

UNESCO (1996) launched the Biosphere Reserve Program in 1971 and offers the following explanation for what they are:

Biosphere Reserves are areas of terrestrial or coastal ecosystems which are internationally recognized within UNESCO's Man and the Biosphere (MaB) Programme for promoting and demonstrating a balanced relationship between people and nature. Individual countries propose sites within their territories which meet a given set of criteria for this designation. Biosphere Reserves serve to combine the three following functions:

- conservation: contributing to the conservation of landscapes, ecosystems, species and genetic variation;
- development: fostering economic development which is ecologically and culturally sustainable;
- logistic support: research, monitoring, training and education related to local, regional, national and global conservation and sustainable development issues.

Explanation of the Biosphere Reserve to residents and resource managers, and subsequent efforts to highlight tangible projects or activities that people can see, offers an excellent opportunity for encouraging fresh perspectives on local values of nature. If this is achieved, not only will a broader set of values have been encouraged, but the meaning of the little-known designation will have been strengthened.

Conclusions

Explanations for Biosphere Reserves should key into economic and existence values which are most valued by communities. They should also demonstrate how these values are connected to function, philosophy, human health and other values with the aid of non-social biophysical values that are derived through scientific processes. Such interwoven approaches echo a ‘multi-media’ approach to communication in which many values such as economic self-interest, recreation and health of children are accessed at once.

Promoting awareness of non-monetary social values of nature among Biosphere Reserve residents is of utmost importance to ensure that the resource is not damaged without their consent. Ultimately, of course, they have the final voice and might choose to endorse the economic value of nature—and protected places in

particular. On the other hand, awareness of how to articulate other values—combined with knowledge for what happens when exclusively market-driven values are used—could lead to more comprehensive local understandings of nature's value. If this is achieved, and subsequently communicated to decision makers, it becomes possible to envision a more balanced approach to how resource management decisions are made.

The broader social values held by the public—including resource dependent businesses like the tourism operators—may be useful to resource managers and environmental groups in their quest to educate and influence policy development and potential decision makers. Becoming aware of the values held by their constituents through means other than the typical reactionary process could help politicians make wiser decisions and minimise conflict.

One possible tool for resource managers could be a decision-making framework that incorporates various social values as well as scientific ones. In each case, it would be important that the values be represented in a manner consistent with how they were originally expressed. The framework would include scientific data that is considered to be universally applicable as well as highly variable social value data expressed by the public. Such a framework could result in decisions that more accurately reflect the relative needs of the particular protected natural places or any piece of land under consideration. This sort of comprehensive approach has at times been criticised for being cumbersome, expensive and slow. However, since the decisions made by public resource managers are ultimately meant to reflect the wishes of the public, not including pertinent data because it is not expedient to do so makes one question who the decision making process serves.

Prior to acting on the notion of modifying decision making processes, more research is necessary to create more solid indications of what values are used by whom and how. The categories described here, as well as the groupings of respondents provide what may be a useful starting point for a more in-depth study which could foster greater understanding of the extent of differences between how the public and the resource managers view the natural environment. Until that time however, we maintain that the failure of economics alone to guide wise natural resource decisions is enough to suggest that decision makers must begin paying more attention to how social values of nature are expressed by the public. In addition, resource managers should be considering ways of meaningfully including these values into their work.

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