

Advancing the Dialogue of Visitor Management: Expanding Beyond the Culture of Technical Control

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Introduction

In its simplest sense, visitor management involves the application of both art and science in producing opportunities for people to experience the benefits of a park or protected area. However, in the case of national parks, monuments, and similar areas, management objectives also involve the protection of biophysical and cultural values; often, these values were the original basis of the protected area's designation. The inevitable tension between these objectives—"use vs. preservation"—has fostered much debate among park professionals and interested citizens, yet it remains unresolved and seemingly intractable.

At one level, it would seem that resolving this conflict simply requires identifying and clarifying the public interest in the management of protected areas. Although the language contained in the organic legislation establishing the protected area clearly provides clues to this interest, its suitability for providing guidance for both operational and strategic decisions is limited by two factors. First, such language typically is vague and abstract, lacking detail and explicit definition about the conditions deemed appropriate to the area. Second, the idea that such language provides insight into *the* public interest is flawed because there is no single, unitary voice to which management is responsible (Schubert 1960; Rothman 1979; Pierce et al. 1992). Indeed, such legislative language often represents the results of accommodation and compromise among competing interests. In reality, the "public interest" is a transitory phenomenon, shifting in response to changes in the power and importance of contending interests (Schubert 1960). In other words, there is no *single* public interest, resulting in a search for a basis for policy action driven by the need to frame a working approximation of consensus not only among plural interests, but among multiple, often dissenting scientific perspectives as well.

An obvious implication of attempting to serve multiple interests is that sharp disagreements regarding the specific goals of protected

area management will emerge. However, the problems don't stop there. The search for appropriate policies and strategies is further confounded by scientific disagreements concerning cause-and-effect relationships. Despite the common image of science as the source of clarification and truth, in reality, conflicting interpretations always exist about system interactions and effects, making implementation of "sound, scientifically rigorous" policies problematic at best.

In this paper, we discuss how this turbulent context—social ambiguity regarding the goals of protected area management and high levels of scientific complexity—combine to plague efforts to frame and implement appropriate management policies. Despite a tradition of reliance upon expert- and science-based planning, such approaches are ill-equipped to deal with the value-driven conflicts confronting protected area management today. We critique how technically based models of visitor management constrain efforts to advance the art and science of the field. We offer an argument and a framework for a more inclusive decision-making process and conclude with suggestions for building an improved capacity to frame policy and management questions.

Visitor Management: A Wicked Problem

Protected area managers face many com-

plex problems; e.g., developing strategies to protect endangered species, managing increasing use levels, understanding the distributional consequences of restricting use, accommodating differing interpretations of preservation, working with indigenous populations in land claims agreements. Despite their complexity, however, many of these problems are solvable, given sufficient time, money, and technical assistance. What makes the task of protected area management particularly challenging are a class of problems that are not only complex, but also resistant to effective resolution. Such problems have been described as “wicked” (Rittel and Webber 1973; Allen and Gould 1986) and are characterized by both *scientific uncertainty* about cause-effect relationships and *social conflicts* over goals. As Thompson and Tuden (1959) have noted, traditional technical-rational decision-making processes are not well-suited to resolving such problems, yet they nonetheless dominate efforts to address them.

Wicked problems are common in protected area management. First, disagreement over management goals is common (e.g., should Yellowstone National Park provide opportunities for motorized winter recreation?). Second, cause-effect relationships often are poorly understood, meaning that both the efficacy and consequences of actions taken to resolve problems are never clear. Third, both the causes of problems as well as attempts to remedy them are regulated by complex, often non-linear, dynamics (Roe 1998), confounding both prediction and effective management. Fourth, although the issues associated with visitor management in protected areas clearly have technical aspects, at their core, they are dominated by conflicts over values. Such conflicts are seldom amenable to resolution through technical-rational analyses, but instead require, judicious application of collaboration and negotiation oriented toward accommodation of competing interests.

Such characteristics limit the ability of traditional scientific-based, expert-driven management paradigms to facilitate construction of the public interest and fashion useful solutions. Yet, despite these limitations, there is

still significant reliance upon such models. Whether this is because of the perceived lack of alternatives, institutional inertia, or simply an unwillingness to admit the limits of such technical-scientific models is not clear; nonetheless, the search for technically rigorous, objective approaches to visitor management in protected areas continues.

However, close examination of the underlying assumptions of rational-comprehensive planning reveal important limits. For example, it assumes a single objective about which there is a consensus. Further, it assumes a comprehensive search for alternatives, requiring huge amounts of information for evaluation, despite the reality that rarely the budget, time, or political willingness to permit this exist. Perhaps most importantly, it implicitly treats problems as technical and value-free—and thus subject to technical-rational analysis and resolution—when increasingly the value-based, political nature of such problems is acknowledged as the primary driver. For instance, in developing management strategies to deal with excessive use, the tendency is to focus on techniques such as use limitation policies, but such policies, in turn, inevitably lead to distributive impacts on visitors (some win, others lose), revealing the intrinsic value-based nature of the issue.

Such characteristics make it doubtful that even the most open debate and discussion among managers, scientists, and other technical specialists is an adequate means of fostering an awareness and understanding of the multiple interests that compete for definition as *the* public interest. Nonetheless, the “culture of technical control” tends to dominate this discourse.

The culture of technical control, Yankelovich (1990) explains, is grounded in several assumptions: (1) policies depend on specialized knowledge; (2) only experts possess this knowledge; (3) citizens not only lack this knowledge, but are generally apathetic to the policy process; (4) where the public does have a view, it is accurately reflected in opinion polls; (5) elected officials know these views and represent them well; (6) when public understanding and support are critical, public

education experts can share knowledge with citizens; and (7) the media can impart the necessary information to citizens. The dominance of this model, Yankelovich goes on to argue, has contributed to serious consequences, as it has resulted in the miscasting of many socially problematic challenges. The socio-biophysical systems that comprise protected areas are sufficiently complex, diverse, and dynamic that relying upon technical-rational-based decision systems simply is inadequate for constructing the public interest. As noted above, the public interest is simply not a matter of scientific discovery or developing the technically optimal solution to a problem, but rather of constructing it from the dialogue among those interested in, and affected by, protected areas.

Wicked problems and messy situations—imbued with high levels of scientific uncertainty and conflict over goals—require new ways of thinking and acting. They highlight the need for decision-making grounded in *learning*, as a means to enhance understanding of both biophysical and social relationships; in *accommodation*, to address the multiple interests invested in the decision; and in *consensus-building*, to develop the necessary political understanding and support to facilitate effective implementation. These three elements are central to many of the issues facing protected area managers, but reliance upon technical, scientific, and expert-driven modes of inquiry limits our ability to fashion effective responses. What alternatives exist?

Expanding the Dialogue

We argue that a basic responsibility of protected area managers is to facilitate construction of the public interest as well as to protect the interests and values identified in the enabling legislation creating the area. However, as discussed above, many problems constrain meeting this duty. Williams and Matheny note that within the culture of technical control, the “search for correct public policies is seen as similar to the search for scientific knowledge.... [T]his search assumes there is a single answer to public policy problems, that this answer can be found within a single language, and that this language is one

of scientific expertise” (1995:39).

We suggest that more open, inclusive planning processes built upon the notion of a series of “transactions” among the various interested parties (Friedmann 1973) be brought to bear on the wicked character of visitor management. Broader inclusiveness in protected area management has been advocated for a long time. For example, the growing interest in sustainable natural resource-based forms of tourism development includes calls for participatory and collaborative forms of decision-making (Lindberg and Hawkins 1993). In Australia, efforts to promulgate a co-management regime between commonwealth agencies and the Aboriginal community have attracted attention (Weaver 1991). In the United States, there is a growing body of experience related to the resolution of a variety of recreation management issues within designated wildernesses utilizing various collaborative processes.

However, it is important that we not lose sight of the fact that wicked problems are so defined because of both their goal-conflicted nature *and* the uncertainty surrounding scientific understanding of cause-and-effect. In other words, we must be careful that in our haste to find a constructive alternative to the technical-rational model and its limitations, we turn to a model that simply replaces one limitation with another. Discourse and pluralism are important qualities of any needed revision in our models of land use planning and management, but so too is competent scientific inquiry. For example, Rayner (1996) compared the relative efficacy of planning undertaken by the Forest Ecosystem Management Assessment Team (FEMAT) in the Pacific Northwest with the Commission on Resources and Environment (CORE) in British Columbia. He noted that while FEMAT overemphasized science and neglected the social dimensions involved in implementing ecosystem management, the CORE effort failed to match innovative approaches to shared decision-making with a sufficiently rigorous scientific basis for its recommendations. In short, he concluded, integration of science and human values remains the key challenge

for innovative institutions for environmental management.

The key, it seems to us, is integration, but this a challenge on which demonstrated progress is limited (Clark et al. 1999). Nonetheless, the bases upon which an improved ability to bring disparate perspectives to bear on wicked problems are grounded have become more clear. For example, Roe (1998) argues that such problems require an approach grounded in the notion of “triangulation.” That is, in a world of ambiguity and uncertainty, we require perspectives that offer sharply distinctive (orthogonal) perspectives as a means of restating the underlying problem (i.e., require a fresh way of thinking about the problem).

Williams and Matheny (1995) also argue for a planning framework within which multiple and distinctive perspectives—scientific, communitarian, pluralism—are explicitly acknowledged and contrasted with one another. They suggest that such a model would have four distinctive characteristics: (1) equal access to usable information; (2) decisions being part of a broader pattern of engaging the public in policy development and implementation; (3) venues that encourage deliberation and a recognition that “answers” are always provisional (scientific knowledge is always tentative and because contexts change, problems never stay solved); and (4) federal leadership that ensures interaction among affected parties regarding distributional consequences at the local level.

How can we translate these characteristics into relevant, productive dialogue focusing on visitor management in protected areas? First, we believe that it is important that we take care to frame questions in a thoughtful manner reflecting the underlying character of the issues. For example, in debates about appropriate levels of recreation use in protected areas, the traditional question guiding inquiry has been some variant of “How many is too many?” This question, we contend, invites a technical-rational form of inquiry, as opposed to one such as, “What are the appropriate or acceptable conditions that we seek to provide?” This latter question shifts attention

from solely the technical issue of computing “how much is too much” to a more inclusive question embracing not only technical aspects, but also a variety of social and prescriptive issues that require dialogue in order to reveal the values and concerns that compose the public interests. Use of the terms “appropriate and acceptable” imply that the public interest needs to be derived rather than discovered, that social values are involved, and that venues that facilitate interaction among scientists, managers, and the public are required. Shifting the question also moves it from the domain where the culture of technical control is all that is necessary to one where technology, science, values, and preferences are joined and where dialogue among the various participants becomes the vehicle through which mutual learning takes place and where resolutions are effected (Friedmann 1987).

Second, we suggest initiation of longer-term and broader-spatial-scale public engagement processes to help reveal and develop the contextual learning that underlies understanding of the complex issues of visitor management. These are characteristics similar to those specified by ecologists as necessary to more informed understanding and management of ecosystems. Currently, public engagement concerning visitor management tends to focus on specific issues, such as a park management plan, and become embedded in procedural-bound processes such as environmental impact statements. Such public engagement is not directed toward learning and is inherently reactionary and adversarial. As a part of this process, we suggest future-oriented thinking, such as scenario planning that is directed toward creating a public interest in defining desired futures as well as the means through which such futures might be attained.

Third, we encourage the use of innovative processes of citizen engagement, such as citizen juries, to assimilate, process, and deliberate on protected area issues and science. These more formalized types of engagement can be effective in building additional learning, creating innovative resolutions, and stimulating higher-quality, more relevant science.

Fourth, we suggest that federal park agen-

cies engage in planning processes that are more cooperative and collaborative, engaging the public in such a way that fundamental objectives of public participation, such as representativeness, learning, responsibility, and relationship-building are achieved.

Finally, we suggest using the strengths of formalized planning processes, such as VERP (visitor experience and resource protection), LAC (limits of acceptable change), etc., to structure public engagement. Such processes force consideration of major elements and values in visitor management, such as goals, zoning, etc. By following these planning processes in an open, inclusive environment, the public provides information in a timely and constructive manner in the planning process.

Conclusion

Science and technology retain important roles in integrating visitor management goals with those related to biophysical goals in protected areas. That role shifts, however, from one of fashioning mechanistic, rule-bound “answers” to one of informing the dialogue regarding alternatives, consequences, and implications associated with various constructions of the public interest. Public engagement becomes more than simply a way of collecting additional data or of satisfying procedural requirements: it is the principal pathway to learning, consensus-building, and the appropriate accommodation of varying interests. This means that the discourse surrounding visitor management must not be limited to the technical concerns demanded by a carrying capacity approach, but inclusive of the inherent pluralistic character of contemporary society as well.

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