

Box 65: Commentary from the GWS Office and Our Members**“To Provide for the Enjoyment”:
Recreation Management in the National Parks****Introduction**

Perhaps no congressional mandate has created such an apparent dilemma as the Organic Act of the U.S. National Park Service (NPS). The operative and familiar passage mandates that national parks be managed “to conserve the scenery and the natural historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” Clearly the national parks are to be preserved, but just as clearly, they are to be made available for public use and enjoyment. The question of how much and what type of public use is the heart of the NPS dilemma.

In the early years of the Park Service, this dual, but seemingly conflicting, mission was less troubling. Most of the national parks were virtually inaccessible. The work of Stephen Mather, Horace Albright, and others to open the national parks to public use is legend. Roads, railroads, hotels, campgrounds, and other facilities were constructed to attract the public to the fledgling national parks. A clientele for the national parks was needed. In the “middle” or post-World War II years, overwhelming public demand for outdoor recreation dictated a renewed emphasis on facility development. Additional roads, lodges, campgrounds, visitor centers, and other facilities were constructed to meet exponentially growing public use. The Mission 66 Program is emblematic of this period. In recent years, the Park Service has become more reticent in providing

recreation opportunities. Enhanced understanding of park ecology, along with growing public environmental appreciation, has demonstrated many of the potentially negative implications of large-scale or otherwise inappropriate public use of the national parks. As a consequence, facilities for public use are generally not expanding and limitations on public use have been enacted or are being considered in many parks. But the demand for public use of the national parks continues to grow. The current situation has only intensified the inherent dilemma of the NPS.

The purpose of this essay is to offer some observations on how the NPS might best fulfill its mission “to provide for the enjoyment” of the national parks. The essay is organized from the general to the specific. It begins with a brief examination of some basic concepts of outdoor

recreation drawn from the scientific literature and concludes with recommendations on how these concepts might be applied specifically to the national parks through a series of goals and policies.

Concepts of Recreational Management

The study of outdoor recreation is a relatively young field of academic endeavor. Nevertheless, an expanding body of literature, both conceptual and empirical, has developed. A number of basic concepts of recreation management emanate from this literature.

These concepts provide a theoretical foundation upon which to build a recreation management policy and program for the national parks.

Carrying capacity. The question of how much and what type of public use is appropriate in a park is often framed in terms of carrying capacity. Indeed, much has been written about carrying capacity of the national parks. The concept of carrying capacity has a rich history in the natural resource professions. In particular, it has proven a useful concept in wildlife and range management, where it refers to the number of animals that can be maintained in a given habitat. Carrying capacity has obvious parallels and intuitive appeal in the field of recreation management.

In fact, it was first suggested in the mid-1930s as a recreation management concept in the context of the national parks. However, the first rigorous applications of carrying capacity to park and recreation management did not occur until the 1960s.

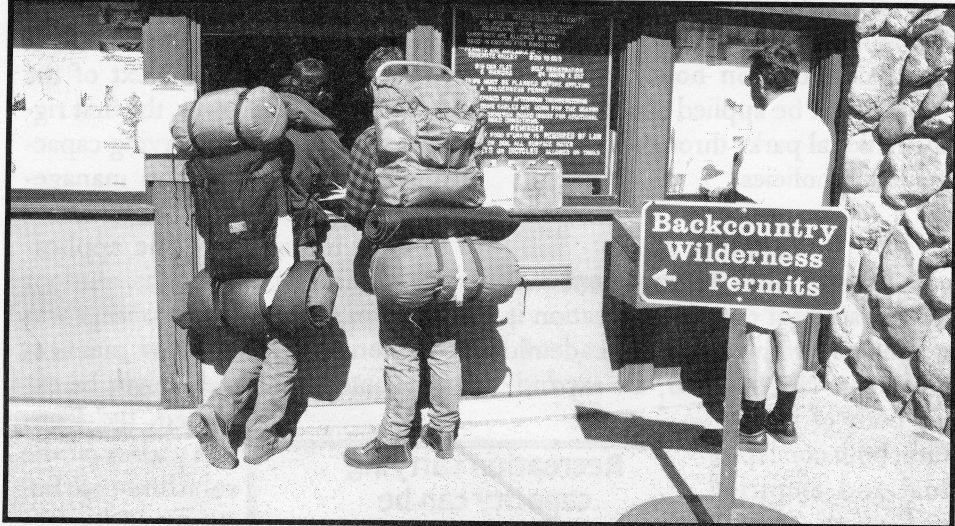
These initial, scientific applications of carrying capacity to outdoor recreation suggested the concept was more complex in this new management context. At first, as might be expected,

the focus was placed on the relationship between outdoor recreation activity and environmental conditions. The hypothesis was that

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increasing outdoor recreation activity causes greater environmental impact, as measured by soil compaction, destruction of vegetation, disturbance of wildlife, and other variables. It soon became apparent, however, that there was another dimension of carrying capacity dealing with social aspects of the recreation experience. Again, the hypothesis was that increasing outdoor recreation activity causes greater social impacts as measured by crowding, conflicting uses, dissatisfaction, and other variables. Thus, as applied to park and recreation management, carrying capacity has two components: environmental and social.

Considerable empirical work has gone into testing variations of the above hypotheses. While both hy-



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potheses are often supported, the relationships between recreation and environmental and social impacts are often complex, indirect, and take many forms. A detailed elaboration of these relationships is beyond the scope of this paper. However, even when the relationship between recreation and resulting impacts has been clarified, the point at which carrying capacity has been reached is not necessarily obvious. The difficulty with carrying capacity determination lies in deciding how much impact or change in environmental or social conditions is appropriate or acceptable. This issue is often referred to as "the limits of acceptable change."

The solution to carrying capacity determination lies in the formulation of recreation management objectives. Indeed, no theme has recurred so frequently in the numerous treat-

ments of recreation carrying capacity. Management objectives provide an answer to the question of how much change is acceptable by describing the type of recreation experience to be provided. Recreation carrying capacity can be determined only in light of well-formulated management objectives.

From the above discussion, it seems clear that there is no absolute or inherent recreation carrying capacity of national parks. Rather, every national park, or unit thereof, has a range of recreation carrying capacities depending upon the type of recreation opportunity to be provided. Experience with carrying capacity has led researchers away from the original emphasis on a search for numerical limits and refocused attention on the formulation of appropriate recreation management objec-

tives.

Recreation management objectives. From the above discussion, it is clear that management objectives are needed to guide provision of appropriate recreation opportunities. But how are such recreation management objectives formulated? The answer is that they are an artful blend of science and management judgment.

Science can provide helpful, even vital inputs into the formulation of recreation management objectives. Empirical relationships between recreation activity and environmental and social impacts provide an important, factual base of information. Without such knowledge, we are unaware of the ways in which alternative types and levels of recreation activity might influence environmental and social conditions. Research should be conducted on a variety of factors which will influence the formulation of appropriate management objectives. These factors can be grouped into three broad categories:

- *Environmental factors.* The biophysical characteristics of the environment determine in large part the degree of environmental impacts that result from recreation activity. Some environments are inherently more fragile than others. The environmental characteristics of the area in question should be studied and may influence the formulation of management objectives.
- *Social factors.* People vary in their desire for recreation activities and

their sensitivity to both environmental and social impacts of recreation. Park visitors should be the focus of studies to determine the types of recreation opportunities desired. This information should help guide formulation of management objectives.

- *Management factors.* The NPS operates in an institutional environment. Legal directives and agency mission statements, for example, provide some guidance in formulating management objectives. The preservation mission of the NPS dictates considerable emphasis on protection of park resources, and this will influence formulation of appropriate management objectives. Availability of personnel and financial resources may also influence choice among competing management objectives. For example, intensive recreation use is generally not feasible or sustainable without the ability to provide comparably intensive management.

While the information described above is necessary, it is not sufficient for the formulation of recreation management objectives. An important element of management judgment must ultimately be applied. As noted earlier, the relationships between recreation and resulting environmental and social impacts are, at best, suggestive of the level at which such impacts are appropriate or acceptable. Likewise, information on the environmental, social, and man-

agement factors described above may offer guidance about appropriate management objectives, but several feasible alternatives are likely. In the end, some management judgment is inescapable in the formulation of recreation management objectives.

Crowding in outdoor recreation.

The emergence of a social component of carrying capacity has focused considerable attention on the issue of crowding in outdoor recreation. Crowding is usually seen as the most direct, physical

manifestation of increasing recreation and is traditionally viewed as the dominant social im-

act of recreation activity. An assumed negative relationship between the intensity of recreation use and visitor satisfaction is at the heart of concern over crowding.

Crowding has been the subject of considerable conceptual and empirical study, and has been found to be more complex than originally envisioned. A number of empirical studies have explored the relationships between the level of recreation use, perceived crowding, and satisfaction among visitors to a variety of park and recreation areas, including national parks. Most of these statistical relationships have been found to be only moderately strong at best, and many are weak or nonexistent. Why is this?

Several explanations are forthcoming. First, and most importantly, crowding is properly understood as a

normative concept. Norms are personal beliefs or standards about appropriate behaviors or conditions. Thus crowding norms are personal beliefs or standards about appropriate recreation use levels. Normative theory makes an important distinction between recreation use level and crowding. Use level is a purely mathematical concept relating number of people per unit of space; as such it has no psychological or experiential meaning. Crowding, on the other

hand, has a definitive psychological or experiential meaning; it is a subjective and negative judgment of a given

use level. Thus, for the individual, use level may increase to a point where it is perceived to interfere in some way with one's desired experience. At this point, crowding begins.

A number of studies demonstrate that normative judgments about crowding are dependent upon a variety of circumstances. These circumstances can be grouped into three broad categories.

- *Visitor characteristics.* The characteristics of visitors, including their preferences and expectations for various types of recreation experiences, their attitudes toward recreation management practices, and the extent of their recreation experience, can influence crowding norms. In general, preferences and expectations for recreation opportunities high in naturalness

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and solitude, more environmentally "purist" attitudes toward recreation management, and increased recreation experience result in greater sensitivity to recreation use levels and, therefore, lower crowding norms.

Characteristics of those encountered. The characteristics of other visitors encountered during the recreation experience, such as type and size of group and overt behavior, can also influence crowding norms. Encounters with large groups and those traveling by motorized vehicles or pack stock are often found to lower crowding norms. The same is true for groups who behave in ways which are viewed as somehow inappropriate.

Situational variables. The environment in which encounters with others occur, including type of recreation area, location within an area, facility design, and environmental quality, can influence crowding norms. Crowding norms are generally lower in areas, such as wilderness, which are obviously intended for experiences high in naturalness and solitude. Crowding norms are often lower at campsites than along trails, and are generally lower in the interior of recreation areas as opposed to periphery locations such as trailheads. Poor facility design can also lower crowding norms through lack of privacy and insufficient number and quality of facilities. Finally, crowding norms may be

lower where the perceived quality of the environment is poorer, particularly where environmental degradation is linked to the impacts of recreation, as is the case with litter.

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The second explanation for the lack of strong relationships between use level, perceived crowding, and satisfaction is found in the process called displacement. Park visitors who are sensitive to high use levels (i.e., have low crowding norms) may alter their recreation activity patterns, ultimately seeking out new areas or times with lower use levels. Thus visitor studies conducted at relatively high-use areas or times may find a predominance of visitors with high crowding norms.

A third explanation concerns the use of visitor satisfaction as a measure of recreation quality. Research has shown that visitor satisfaction is a global, multidimensional concept; that is, satisfaction is a function of many variables. It may be unreasonable to expect one variable, such as level of perceived crowding, to explain all or even a substantial proportion of the variation in such an all-encompassing measure as visitor satisfaction.

Several management implications arise from the literature on crowding. First, it is apparent that, for some



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recreationists, low-intensity use opportunities are needed. Without such opportunities, recreationists with low crowding norms may be displaced or dissatisfied in important ways. Second, for some recreationists, use level may be unimportant, perhaps until it reaches exceptionally high levels. However, at some point, high use levels may manifest themselves in ways that interfere with a desired recreation experience. Examples might include traffic congestion and excessive waits for access or needed services. Third, it is possible to manage crowding in ways other than limiting use levels. Since perceived crowding is influenced by a variety of intervening variables, it should be possible to manage many of these variables as a means of reducing per-

ceived crowding. Examples include more informed design of recreation facilities, more intensive management of natural resources to maintain high environmental quality, better communication with visitors as to use conditions which might be expected, more effective educational programs designed to encourage appropriate behavior, and zoning of recreation areas to ensure more homogeneous, compatible visitor groups.

Recreation as human experience.

The physical manifestation of recreation is participation in activities such as camping, hiking, and fishing. But this is a somewhat superficial view. Study of behavior suggests that human activity is goal-oriented; that is, we undertake activities to achieve certain outcomes or experiences.

This is true of recreation as well.

Research suggests that human experiences sought through recreation can be wide-ranging. Examples include developing and applying skills, getting exercise, learning about and appreciating natural and cultural resources, strengthening family ties, reflecting on personal values, and escaping adverse stimuli. Many of these experiences are widely shared by relatively large groups of recreationists.

Thinking about recreation as human experience can lead to a better understanding and appreciation of park visitors. This in turn can lead to

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provision of better recreation services and more satisfying recreation opportunities. For example, camping is a popular recreation activity which can potentially provide many satisfying experiences to participants. But the type of camping opportunity provided—a developed campground versus a backcountry campsite—influences the type of experiences which might be attained. Recreation opportunities should be planned and managed not simply for recreation activities, but for the types of human experiences they are intended to fulfill.

Diversity in outdoor recreation.

Over the past two decades or more, there have been many studies of visitors to parks and recreation areas. While the objectives, scope, and

methods of these studies have been highly variable, at least one general finding can be concluded with certainty: public tastes in outdoor recreation are diverse. The brief exploration of the above concepts of recreation management suggests that recreationists vary considerably in the experiences they seek to fulfill and their tolerance for the environmental and social impacts of recreation activity. Recreationists also vary, of

course, by age, gender, physical ability, income, place of residence, race, ethnic background, and a host of other socio-demographic variables. Moreover,

visitors to recreation areas themselves change as they gain experience, evolve through their life cycles, and otherwise adjust to the flow of time.

The overriding management implication of this diversity in public tastes for outdoor recreation is that there should be a corresponding diversity in recreation opportunities. This does not mean, of course, that any one park or recreation area should attempt to provide a full spectrum of recreation opportunities. Rather, each area should contribute as best or appropriately as it can to this spectrum. This suggests that recreation opportunities should be planned and managed on a more comprehensive, or systematic basis; that is, each park and recreation area

should be viewed as part of a larger system. This system may be local, regional, national, or international depending upon the significance of the area in question. Then, considering appropriate environmental, social, and management factors (as described above) a determination should be made about the type or types of opportunities that might best serve the diverse recreation needs of the public.

The notion of diversity in outdoor recreation has been formalized in the management framework known as the Recreation Opportunity Spectrum (ROS). Perhaps the most significant contribution of ROS is that recreation opportunities can be defined and described by the three broad categories of factors referenced above: environmental (e.g., the degree of naturalness), social (e.g., the level of use), and managerial (e.g., the type of management). Alternative combinations of these factors produce a range of recreation opportunities. The specific provisions of ROS need not be adopted formally, but its conceptual foundation provides a useful perspective in planning and managing recreation opportunities for a diversity of public tastes.

Quality in outdoor recreation. As in most areas of life, "quality" is the underlying goal of those involved in outdoor recreation. Managers want to provide high-quality outdoor recreation opportunities, and visitors want to have high-quality outdoor recreation experiences. But what determines quality in outdoor recre-

ation?

The traditional measure of quality in outdoor recreation has been visitor satisfaction. The focus on satisfaction arises out of the need for some evaluative communication between visitors and managers. Because outdoor recreation in the public sector is traditionally free or priced at a nominal level, managers generally lack the clear feedback mechanism available in the private sector in the form of consumption rates and price signals. Visitor satisfaction is designed to provide this feedback.

But experience has suggested that visitor satisfaction is not a fully adequate measure of recreation quality. First, it is inadequate from the visitors' point of view. From the earlier discussion of crowding, it was noted that satisfaction is a multidimensional concept; that is, it is affected by a number of parameters. High overall satisfaction with a recreation experience does not mean that every aspect of the experience was satisfactory or that there were not aspects of the experience which could have been improved upon. More specific measures of satisfaction are usually called for.

Second, and perhaps more importantly, visitor satisfaction is an insufficient measure of quality for park and recreation managers. As described earlier, recreation visitors are a highly diverse group. A given recreation opportunity may be highly satisfactory to some visitors but unsatisfactory to others. Thus, measures of visitor satisfaction may depend as much on the type of visitor present as the type of

opportunity offered. Again, more specific measures are needed.

Recognition of these shortcomings in visitor satisfaction has lead to a new thrust in defining, measuring, and managing quality in outdoor recreation. For the visitor, quality might best be defined as the degree to which the experiences sought are fulfilled. For the manager, quality might best be defined as the degree to which recreation opportunities fulfill the experiences for which they were designed.

Two important corollaries are apparent from the preceding discussion. First, there can be no inherent distinction between type and quality of recreation opportunities. For individuals—both visitors and managers—it is common to associate only certain types of recreation opportunities as high in quality. But from a broader perspective, high quality can and should be found among all types of recreation opportunities. Second, from a societal perspective, many types of recreation opportunities must be offered. Only in this way can the diversity of outdoor recreation tastes be fulfilled and a truly high-quality park and outdoor recreation system be attained.

Recreation Management in the National Parks

The second half of this essay suggests some ways in which recreation might best be managed in the U.S. national parks. It draws on the pre-

ceding discussion of basic concepts of recreation management and applies these findings specifically to the national parks. It begins with a brief statement of the goal for recreation management, then suggests a number of policies needed to bring this goal to fruition.

The goal of recreation management in the national parks. In accordance with the legal mandate of the NPS, the primary recreation goal of the national parks should be to offer a diversity of high-quality recreation opportunities which focus upon and are compatible with preservation of the

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important natural and cultural resources within the parks. Despite the seeming simplicity of this statement, it has an underlying logic and a series of management implications. A closer examination of this goal statement is appropriate.

First, it is a given that the national parks are to provide recreation opportunities to the public. This has been confirmed and reconfirmed in organic legislation from the earliest national parks to the latest. Yellowstone National Park was created as a “public park or pleasuring ground for the benefit and enjoyment of the people” while Great Basin National Park is to be managed “for the enjoyment and inspiration of the people.” The recreation mission is a constant within the National Park System.

Second, there is great diversity in public tastes in recreation, and this suggests a wide diversity in opportunities. It is unreasonable to expect any one national park or even the entire National Park System to provide a full spectrum of recreation opportunities. However, with nearly 400 park units comprising more than 80 million acres, substantial diversity is possible and desirable.

Third, all recreation opportunities within the national parks should be of high quality. It will be remembered that quality in recreation is defined as the degree to which recreation opportunities fulfill the experiences for which they were designed. High quality can and should be found within all types of recreation opportunities offered.

Fourth, recreation opportunities are most appropriately thought of in terms of human experiences, not simply activities. Recreation opportunities are created by providing settings which are composed of environmental, social, and managerial attributes. These settings should be designed to encourage fulfillment of selected human experiences.

Finally, the human experiences to be fulfilled through recreation are, most appropriately, those that focus on and are compatible with preservation of important natural and cultural resources within the parks. Two considerations dictate this focus. First, it will be remembered from the discussion of carrying capacity and related issues that management objectives are needed to determine ap-

propriate types and levels of recreation activity. Recreation management objectives should be determined on the basis of a number of considerations, including legal directives and agency mission statements. In the case of national parks, preservation of important natural and cultural resources is required. Thus, recreation activity must be compatible with this preservation mandate. Second, national parks, like all recreation resources, should contribute as best they can to the entire system of recreation opportunities available to society. By definition, the national parks contain many of the most significant natural and cultural resources of the nation. By focusing recreation experiences on appreciation of these resources, the national parks can make their most unique and valuable contribution to society.

Recreation policy in the national parks. Policy is needed to guide recreation management in the national parks and to attain the goal described above. Many recreation policies, explicit or implicit, are already in effect and many of these should be continued. The following policy recommendations are designed to augment the current state of recreation management.

1. *The National Park Service should consider its recreation mission to be a full and equal partner with its preservation mission.* Recreation in the national parks is sometimes considered a necessary evil. Visitors to national parks are often thought of as threats rather than

opportunities to fulfill an agency mission and serve the needs of society. Recreation and preservation need not be mutually exclusive. In fact, these two missions can be mutually reinforcing. Preservation of natural and cultural resources assures the continued availability of recreation opportunities into the future. And public appreciation of these resources through appropriate recreation experiences builds a powerful constituency for preservation.

Moreover, careful attention to the recreation program of the NPS can help ensure that the types and

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levels of public use within the national parks are fully compatible with resource protection. In the end, a strong recreation program in the NPS will contribute to both the recreation and preservation missions of the national parks.

2. *Clear and explicit recreation management objectives should be developed for all units of the National Park System.* Management objectives describe the type of recreation experience to be provided. In so doing, they help determine the limits of acceptable change which will be allowed in key environmental and social variables. In this way, management objectives help make the concept of recreation carrying capacity operational and help ensure that recreation opportunities are compatible with the protection of park re-

sources. They also provide a standard by which the quality of the recreation experience can be measured.

Recreation management objectives should ultimately be expressed in terms of indicators and standards of quality. Indicators of quality are discrete, measurable variables which can be used to define recreation opportunities. Examples of environmental indicators might include soil compaction along trails or percentage

of ground-cover vegetation at campsites. Examples of social indicators might include encounters with others along trails or

number of other persons camped within sight or sound. Standards of quality express the acceptable condition of each indicator variable. Examples would include the maximum degree of soil compaction and ground-cover disturbance to be allowed and the highest number of trail and camp encounters to be permitted. The NPS's new carrying capacity framework, Visitor Experience and Resource Protection, is founded on the formulation of management objectives and establishment, monitoring, and management of indicators and standards of quality.

3. *More research emphasis should be placed on visitors to the national parks.* It is well accepted that the parks are complex ecosystems and that research is needed to understand, manage, and protect these

ecosystems. It is less well understood that the parks are complex social systems as well. In fact, national parks are social institutions established to serve the needs of society. This requires a better understanding of societal needs. Formulation of recreation management objectives requires input from visitors. It was suggested earlier that recreation is best understood as a search for human experience. Moreover, recreation opportunities should be designed and evaluated on the

basis of the human experiences they are designed to fulfill. Full and successful integration

of recreation requires regular, systematic information on and about park visitors.

4. *Special recreation research and management attention is needed in the frontcountry or developed portions of the national parks.* National Park Service frontcountry accommodates the vast majority of visitors. Yet more is known about the backcountry situation because this is where most recreation research has been conducted. Some backcountry recreation management plans have relatively well-developed management objectives and clear, quantitative indicators and standards of quality. Recreation management plans are less well developed for frontcountry areas. Recreation experiences sought by frontcountry visitors are less well understood. Consequently, frontcountry management objectives are often

vague, and appropriate indicators and standards of recreation quality are not well developed.

5. *Intensive recreation use of the national parks will require equally intensive management.* Providing a diversity of recreation opportunities within the National Park System will require that some parks or management units be used quite intensively. This is appropriate given that the national parks contain many of the nation's most significant natural and

cultural resources. Public demand for access to these resources is heavy and will only grow more so. But in-

tensive management is needed to cope with intensive use. It will be remembered from the discussion of recreation carrying capacity that there is a relationship between carrying capacity and management activity: the greater the level of management activity, the higher the carrying capacity. Intensive management is especially critical in the national parks in order to protect the integrity of important natural and cultural resources.

6. *National parks must be considered within the context of a greater system of outdoor recreation opportunities.* In this light, the national parks should provide the types of recreation opportunities to which they are uniquely suited. Given the significance of natural and cultural resources and the need to protect their integrity, recreational use should fo-

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cus on appreciation of these significant resources. This is the single most important criterion in determining the types of recreation appropriate in the national parks. Recreation experiences which do not focus on appreciation of the parks' natural and cultural resources should be accommodated outside the national parks.

7. *The National Park Service should place management emphasis on the quality as well as the quantity of recreation in the national parks.* Historically, the principal measure of recreation is the number of visits. These data suggest little about the quality of visitor

experiences. Little is known in any systematic or comprehensive way about the degree to which visitors are finding the experiences they seek, the extent to which recreation opportunities fulfill the purposes for which they were designed, or the extent to

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which the national parks are providing for recreation experiences which are in keeping with their purpose.

8. *The National Park Service must become more pro-active in carrying out its recreation mission.* Recreation should receive the emphasis ascribed to it by the congressional mandate for the NPS. This will require a more pro-active, aggressive program of recreation planning, management, and research. It will

also require creation and exercise of a stronger philosophy of recreation service in the national parks. By definition, the national parks represent

recreation resources of national and even international significance. However, without a strong recreation philosophy and program, this potential will not be fully realized.

Robert E. Manning is a professor at the University of Vermont's School of Natural Resources. He is currently on sabbatical, doing research in Yosemite National Park.

Reminder: this column is open to all GWS members. We welcome lively, provocative, informed opinion on anything in the world of parks and protected areas. The submission guidelines are the same as for other GEORGE WRIGHT FORUM articles—please refer to the inside back cover of any issue. The views in "Box 65" are those of the author(s) and do not necessarily reflect the official position of The George Wright Society.