

Developing Indicators to Monitor the “Outstanding Opportunities” Quality of Wilderness Character

BY PETER LANDRES

Wilderness managers are often faced with difficult and complex tasks. One such task is fulfilling the legal mandate of the 1964 Wilderness Act (Public Law 88-577) to provide opportunities for use and enjoyment of wilderness while protecting and preserving the wilderness character of the area. The ideas of *use and enjoyment* and *wilderness character* are expressions of societal values for wilderness, but we lack a full understanding of what these ideas mean. As a result, it may be difficult for managers to evaluate the success of their accomplishments as well as some of the far-reaching outcomes of their decisions and actions in wilderness.

This article describes an effort by the USDA Forest Service Wilderness Monitoring Committee to develop national protocols to monitor trends in selected conditions and stewardship actions related to wilderness character. An important part of this effort is to develop monitoring related to the “outstanding opportunities for solitude or a primitive and unconfined type of recreation” dimension of wilderness character. This article then describes the purpose and scope of a workshop held in February 2004 to develop a better understanding of these “outstanding opportunities” that would be used in developing this monitoring. Last, the article introduces several perspectives from the workshop on this dimension of wilderness character.

Why Monitor Wilderness Character?

Although several agency programs (e.g., air, water, wildlife) monitor a variety of resources in wilderness, none systematically monitors at the national scale what makes wilderness unique among all other lands—its wilderness character. There are two basic reasons for monitoring wilderness character:

(1) fulfilling the statutory mandates of the 1964 Wilderness Act and subsequent wilderness legislation, and (2) to improve wilderness stewardship. The 1964 Wilderness Act mandates agency responsibility for preserving wilderness character. Section 2(a) states that wilderness areas “shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, *and so as to provide for the protection of these areas, the preservation of their wilderness character*” (emphasis added). In addition, legal scholars Rohlf and Honnold (1988) and McCloskey (1999) assert that Section 4(b) gives the primary management direction for wilderness agencies, that “each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area.” This assertion is reinforced by the *Congressional Record* (U.S. Congress 1983): “The overriding principle guiding management of all wilderness areas, regardless of which agency administers them, is the Wilderness Act (section 4(b)) mandate to preserve their wilderness character.”

Monitoring wilderness character provides information to help improve wilderness stewardship in several ways. First, describing wilderness character in tangible terms allows planners and managers at all administrative levels to evaluate potential impacts of proposed actions and decisions on this fundamental wilderness concept and ideal. Second, a formal monitoring program allows the information to become a legacy that managers may then use to evaluate trends in how wilderness character is changing over long periods of time that may span many careers. Third, using nationally consistent monitoring protocols allows the information to be compiled at the regional and national levels to help program managers review and revise current programs and policies.

What Is Wilderness Character?

The 1964 Wilderness Act doesn't define wilderness character, there is no legislative history on the meaning of this phrase (Scott 2002), and there are many meanings and ways to describe wilderness character. For the purpose of monitoring, wilderness character can be described as the combination of biophysical, experiential, and symbolic ideals that distinguishes wilderness from all other lands. These ideals combine to form a complex and subtle set of relationships among the land, its management, and the meanings people associate with wilderness.

There are certain aspects of these biophysical, experiential, and symbolic ideals that apply to every wilderness because all wilderness legislation contains a provision that ties management of the specific wilderness back to the provisions of the 1964 Wilderness Act (Hendee and Dawson 2002). Although individual wilderness acts often include specific exceptions or special provisions, for example allowing the use of motorized vehicles or installations in particular wildernesses, no act changes the 1964 Wilderness Act, Section 2(c) Definition of Wilderness or the Section 4(b) mandate for "preserving the wilderness character of the area" (Hendee and Dawson 2002). There are also unique, place-dependent aspects of these same ideals that apply to each wilderness.

How Will Wilderness Character Be Monitored?

The Forest Service Wilderness Monitoring Committee developed the conceptual foundation for this monitoring in the draft "Monitoring Selected Conditions Related to Wilderness Character: A National Framework" (hereafter called the Framework). This

Framework is currently under review and will be published in late 2004. The committee, through subject-matter experts and their associated teams, is currently developing detailed monitoring protocols—the what, when, where, and how data will be collected and used—in the "Technical Guide for Monitoring Selected Conditions Related to Wilderness Character."

The Framework develops a set of logical steps linking the statutory requirement to preserve wilderness character ultimately with indicators and measures (See Figure 1). This figure, and the logic behind it, forms a conceptual model that is the basis for this monitoring effort. The two elements of this figure enclosed by the box are derived directly from the 1964 Wilderness Act, whereas the Committee developed the four elements outside the box. The first step uses the Section 2(c) Definition of Wilderness to identify specific qualities of wilderness that are related to the concept of wilderness character. Each of these legislative qualities of wilderness is sequentially broken down into a set of relevant monitoring questions, indicators, and measures. This hierarchical approach ensures that key national indicators and measures are logically linked to the Section 2(c) Definition of Wilderness, and by inference to wilderness character.

This first step derives four legislative qualities of wilderness that were chosen to represent the most general level of the different concepts and ideals, and sometimes the subtle distinctions among them, from Section 2(c) of the Wilderness Act. These qualities, quoted from the 1964 Wilderness Act and followed by the Committee's interpretation of this quality, are:

- "Untrammelled"—wilderness is unhindered and free from modern human control or manipulation.

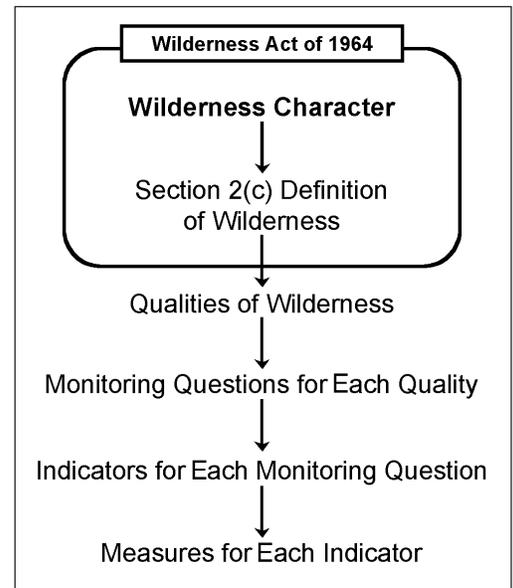


Figure 1—The conceptual or logical basis for this monitoring effort, showing the inferences (arrows) used to develop the indicators and measures. The arrows show that the statutory requirement to preserve wilderness character drives selection of all the subsequent elements and ultimately the data that are collected.

- "Natural"—wilderness ecological systems are substantially free from the effects of modern civilization.
- "Undeveloped"—wilderness is substantially without permanent improvements or modern human occupation.
- "Outstanding opportunities for solitude or a primitive and unconfined type of recreation"—wilderness provides opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.

These four qualities mutually reinforce one another and together comprise an approximation of wilderness character for the purposes of this national monitoring program. All four of these qualities are equally important, and none is held in higher regard or to a higher level of stewardship than the others.

This monitoring provides information about whether selected indicators related to these four qualities of wilderness, and by inference to wilderness



Figure 2—Olympic Wilderness in summer with Mt. Olympus the third largest glacial system in the conterminous United States. Photo by Bryan Bell and courtesy of National Park Service, Olympic National Park, Wilderness Information Center.

character, are stable, improving, or degrading over time within an individual wilderness. No national standards will be developed because every wilderness is unique in its biophysical, social, legislative, and administrative setting (see Figure 2). Moreover, change in the indicators is determined only relative to prior conditions within a particular wilderness; standards and trigger points for action can therefore only be determined by each wilderness.

Key national indicators of selected conditions and stewardship actions will be chosen for each of these four qualities of wilderness. These indicators will apply to all wildernesses regardless of their location, size, ecosystems, use, or place-dependent aspects. Although potential indicators are identified in the Framework document, teams developing the Technical Guide will choose the final indicators. Indicators will be chosen primarily based on three criteria: (1) relevance to the wilderness quality, (2) usefulness to local wilderness managers, and (3) feasibility of using data that are already being collected or could be collected with little or no extra cost as part of an existing monitoring program. For example, the primary potential indicator for the untrammeled

quality is actions that manipulate vegetation, wildlife, or aquatic systems. Forest Service administrative processes already track actions, hence there is no cost to collect data for this indicator, and trends in the number of these actions over time provide direct feedback to managers on their management for this untrammeled quality of wilderness. Similarly, a process for recording most constructed features such as system trails, signs, recreation developments, or administrative structures is already established so there is no additional cost for tracking trends in this potential indicator of the undeveloped quality of wilderness over time.

A Workshop to Develop Indicators for the “Outstanding Opportunities” Quality of Wilderness

The Committee felt that the best way to approach developing indicators for the “outstanding opportunities” quality of wilderness would be to convene a workshop of scientists and managers who had direct experience with this quality of wilderness. There were two purposes for this workshop. First, participants would review and vali-

date, or modify as needed, the Committee’s conceptualization of this “outstanding opportunities” quality. Second, participants would identify a potential set of indicators that the team developing this quality for the Technical Guide would use as a starting point. An additional purpose of the workshop, if time allowed, was to identify information needs and develop a research agenda for this quality of wilderness.

To facilitate discussion the workshop was limited to a small number of people, and included six wilderness managers, two agency scientists, and six academic social scientists. The workshop was structured around discussion of the following questions, which set the goals for monitoring this “outstanding opportunities” quality of wilderness:

- What are the meanings and indicators of solitude?
- What are the meanings and indicators of primitive recreation?
- What are the meanings and indicators of unconfined recreation?

To develop potential indicators for these monitoring questions, the following constraints were imposed on selecting indicators: (1) they would

apply to any wilderness throughout the National Wilderness Preservation System (see Figure 3) and not to the place-dependent aspects of a particular wilderness; (2) they would be useful to local managers and apply to the entire wilderness; and (3) they would measure the opportunities for experiences but not the experiences themselves.

This last constraint is crucial and requires some explanation. The 1964 Wilderness Act mandates that managers provide “outstanding opportunities” for certain types of experiences. Managers have a profound impact on the wilderness setting by what they do as well as what they don’t do, and monitoring this quality provides managers information on how their actions affect the setting for these types of experiences. This setting directly affects, in both positive and negative ways, the opportunity for visitors to have certain types of wilderness experiences (see Figure 4). For example, requiring visitors to use designated campsites reduces resource damage, but also reduces opportunities for experiencing the unconfined quality of wilderness. Providing shelters or toilet facilities reduces resource damage, but also restricts opportunities for the primitive aspect of wilderness experiences. Providing a bridge across a wild river allows visitors to experience parts of the wilderness they may not otherwise be able to, but also reduces opportunities for the challenge and discovery that comes from fording the river. (David Cole explores these issues in greater detail in his article entitled “Wilderness Experiences.”)

Workshop participants generally felt that there is sufficient scientific understanding to begin developing indicators of the “outstanding opportunities for solitude or a primitive and unconfined type of recreation” qual-

ity of wilderness. However, participants also felt that a deeper and better understanding of these foundational concepts of wilderness is sorely needed. Workshop discussions clearly showed a variety of opinions about the dimensions that could be, and should be monitored within this quality of wilderness. There was considerable discussion about these and related issues, including:

- whether the single “outstanding opportunities” quality should be split into three separate qualities of solitude, primitive recreation, and unconfined recreation;
- whether the language from Eastern Wilderness Act of 1975 (Public Law 93-622) on “physical and mental challenge” and “inspiration” applies to all wildernesses and therefore should be part of this national monitoring effort;
- whether monitoring should focus on the opportunities for wilderness experiences or the experiences themselves, or both;
- whether monitoring should focus on the needs of local wildernesses versus national monitoring; and
- how actions taken to protect one aspect of this quality may (and often do) negatively impact a different aspect of this same quality.

The following articles provide readers with an understanding of the different perspectives that exist on these issues. The variety of views expressed demonstrates that there are different ways of looking at these core values of wilderness, and perhaps even more importantly that this variety is an important and vital part of wilderness. The variety of these perspectives also suggests that managing for this quality of wilderness character is fundamentally a difficult and



Figure 3—Great Sand Dunes Wilderness managed by National Park Service (CO). Photo courtesy of NPS.



Figure 4—Washington Islands Wilderness managed by the U.S. Fish and Wildlife Service (WA). Photo courtesy of USFWS.

contentious task, one that requires thoughtful and deliberative discussion among managers, scientists, and the public. Much of this discussion applies to wilderness and similar backcountry areas around the world that may have objectives comparable to the U.S. National Wilderness Preservation System.

In the articles that follow, Chad Dawson shares his perspectives on the nature of solitude, potential indicators, and research questions about indicators of solitude; Steve McCool looks at unconfined recreation by exploring a commonly experienced vignette; Bill Borrie examines the assumptions behind the idea of primitive recreation; and Joe Roggenbuck offers a detailed exploration of the origin, benefits, threats, and indicators of primitive recreation. David Cole completes this set of articles with thoughts about what

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The origin of the notion of primitiveness can partly be found in the early wilderness writings of Teddy Roosevelt, Aldo Leopold, and Bob Marshall.

by the adoption of technology and by engagement (however cautious) with politics, legal negotiation, and economic success (Vivanco 2003).

The pioneering lifestyle, though more myth than reality in its time, might also be difficult to argue for as an ideal. It could be seen as endorsing a hunting and gathering, mobile ethos in clear contrast to an agrarian vision (secure title, permanent habitation, and “improvement” of land). I wonder if the attraction of the pioneer model is its rejection of urban servitude and/or rural peasantry. Although not exactly celebrating poverty, is the attraction of the pioneer lifestyle a reaction to the stalled economic status of rural inhabitants, and the perceived lack of ability to develop sustainable

and harmonious relationships to nature? Is the pioneering lifestyle valorizing distant landscapes, open horizons, and sublime mountain landscapes to the inconsiderability of nearby, less iconic landscapes? Although rightfully celebrating distant landscapes, are we also ignoring the less than admirable state of our relationship to nearby nature? When cast in light of these questions, the celebration of a pioneering lifestyle becomes troublesome.

Conclusion

The search for indicators for the wilderness value of primitive experiences is a consideration of appropriate social and cultural relations with nature. In doing so, we need to be wary of the worldviews we would be endorsing.

Those worldviews may not be as politically appropriate and benign as when they were first suggested. 

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we should be monitoring in this “outstanding opportunities” quality of wilderness, and the differences between monitoring for opportunities versus experiences.

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