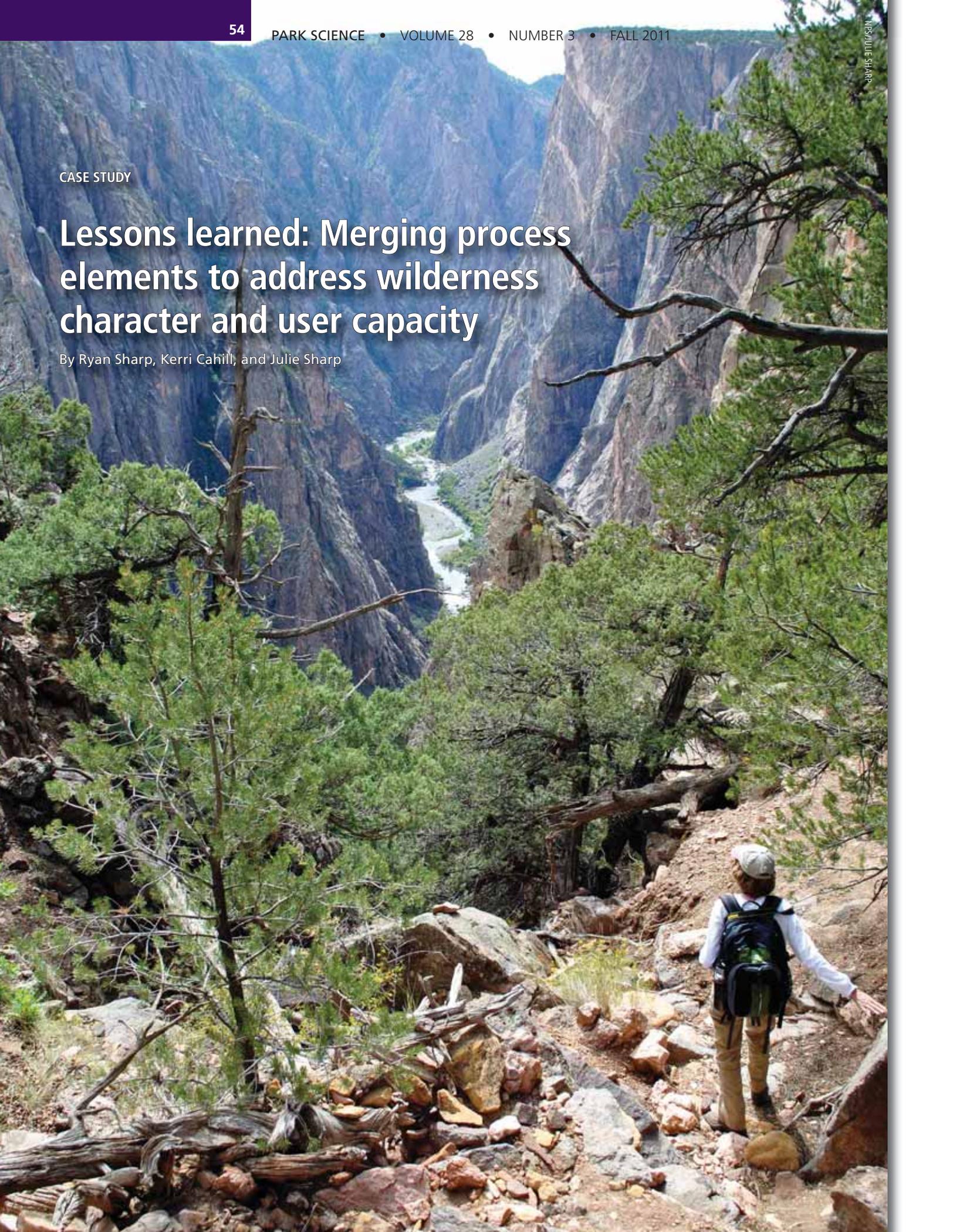


CASE STUDY

Lessons learned: Merging process elements to address wilderness character and user capacity

By Ryan Sharp, Kerri Cahill, and Julie Sharp



Abstract

The Wilderness Act of 1964 and the National Park Service (NPS) management policies require that conditions and long-term trends of wilderness character be monitored. This monitoring is based on the four key wilderness qualities: untrammeled, natural, undeveloped, and opportunities for solitude or primitive and unconfined recreation. The interagency “Keeping It Wild” framework was developed to guide wilderness character monitoring, but there has been limited application within the National Park Service to date. One of the primary reasons for this has been the need to develop specific guidance on implementing the framework and integrating it into agency planning efforts. As part of 2010 initiatives to develop guidance for “Keeping It Wild” field application, NPS staff found an opportunity to merge elements of the “Keeping It Wild” framework with the framework to address user capacity. Although the frameworks use slightly different terminology, the end goals are largely the same: to provide a process that guides planning and management to preserve resources while also protecting the visitor experience. In three case studies, some elements and methods of the processes to address wilderness character and user capacity were merged, resulting in lessons for guiding future wilderness stewardship planning and management.

Key words

indicators, measures, monitoring, standards, user capacity, wilderness character

WILDERNESS CHARACTER MONITORING SEEKS TO ANSWER

the question, “How is wilderness character changing over time?” Similar but slightly different, user capacity approaches in wilderness evaluate “at what point . . . visitor use [is] causing undesirable impacts to wilderness resources and visitor experiences.” There is a nexus between these questions as they relate to wilderness management. This article examines the similarities in approaches to addressing wilderness character and user capacity, and more specifically lessons learned from the respective processes in three planning examples.

Both the 1964 Wilderness Act and 2006 National Park Service (NPS) *Management Policies* require natural and cultural resource condition monitoring and long-term trend identification in wilderness character. This monitoring is based on the four wilderness qualities: untrammeled, natural, undeveloped, and opportunities for solitude or primitive and unconfined recreation. The interagency “Keeping It Wild” framework (Landres et al. 2008) was developed to monitor wilderness character, but there has been limited application within the Park Service to date.

Figure 1 (left). A hiker pauses to enjoy the view along one of the many routes into the wilderness area at Black Canyon of the Gunnison National Park, Colorado.

One of the primary reasons for this is the need to develop specific guidance on implementing the framework and integrating it into agency planning efforts. As part of 2010 initiatives to develop guidance for field application, NPS staff found an opportunity to merge elements of the “Keeping It Wild” framework with the framework to address user capacity. Although these frameworks use slightly different terminology, the end goals are largely the same: to provide a process that guides planning and management to preserve resources while also protecting the visitor experience. In three examples, some elements and methods to address wilderness character and user capacity were merged, resulting in lessons for guiding future wilderness stewardship planning and management.

Frameworks for wilderness character and user capacity assessments

Two separate but related frameworks exist within the National Park Service to monitor wilderness. The “Keeping It Wild” framework is an interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System (Landres et al. 2008). The purpose of the framework is to improve wilderness stewardship by offering managers a process for monitoring and assessing how wilderness character changes over time (Landres et al. 2008). The Visitor Experience and Resource Protection (VERP) framework offers a process for managing visitor use and related impacts to protect park resources and provide high-quality visitor experiences (NPS 1997). User capacity is defined as the type and level of visitor use that can be accommodated while sustaining the desired resource and visitor experience conditions in a park (NPS 2006). The VERP framework was developed to elevate the science and practice of planning for and managing user capacity beyond a focus on simply use limits into the larger arena of visitor use management. As such, this framework has been integrated into NPS planning processes and is now considered part of the agency’s protocol to address user capacity rather than a stand-alone framework.

The general purposes of the two frameworks overlap and they also include some of the same basic elements (table 1, next page). At the core of both frameworks are measurable variables monitored to track changes in conditions over time and inform ongoing management. In fact, the concept of *measures* in “Keeping It Wild” is analogous to the concept of *indicators* in VERP. The wilderness character measures, and the equivalent concept of user capacity indicators, are defined as specific, measurable variables tracked to assess progress at attaining desired conditions and preserving wilderness character (Landres et al. 2008; NPS 1997). However, “Keeping It Wild” also uses the term “indicators.” These indicators are at a more topical level than the measurable

Table 1. Basic elements of processes to address wilderness character and user capacity

Wilderness Character	User Capacity
1. Define desired conditions that are consistent with the park's wilderness qualities (the qualities are found in the Wilderness Act: untrammeled, natural, undeveloped, and opportunities for solitude and unconfined recreation).	1. Define desired conditions for resources and visitor experiences that are consistent with the park's purpose and significance.
2. Identify indicators and measures.	2. Identify indicators, standards, and management strategies.
3. Assess trends related to wilderness character.	3. Assess conditions related to visitor impacts.
4. Manage adaptively	4. Manage adaptively.

indicators identified in the VERP framework. In the context of wilderness character monitoring, indicators are defined as the distinct and important elements within each quality of wilderness character related to standard monitoring questions. For example, “actions authorized by the federal land manager that manipulate the biophysical environment” is one of the 13 indicators defined in “Keeping It Wild” and relates to evaluating the untrammeled quality (Landres et al. 2008). Standards, defined only in the VERP framework, are management decisions on the minimum acceptable condition for indicators and serve as triggers for management actions (NPS 1997). In “Keeping It Wild,” standards are not identified, but rather measures are monitored to assess trends in conditions for wilderness character and to inform management decisions (Landres et al. 2008).

Although there are many similarities between the two frameworks, there are also differences. First, the “Keeping It Wild” framework is primarily a monitoring strategy, but it provides information that can inform wilderness stewardship planning and management. The VERP framework is broader in scope and includes the steps of visitor use planning, monitoring, and management. Second, the “Keeping It Wild” framework addresses a more comprehensive set of influences that include not only visitor use-related impacts but also the influence on wilderness character of agency management actions and surrounding land uses. However, when addressing user capacity, the focus is entirely on visitor use-related impacts on resources and visitor experiences.

Third, the “Keeping It Wild” framework provides a predetermined list of indicators with an associated menu of measures that park staff can choose from to best meet their needs. In contrast, when addressing user capacity, indicators are identified through a facilitated process of discovery with park staff, based on the issues and alternatives explored in the planning process. Although examples from parks with similar issues may be provided, typically no consistent menu of user capacity indicators is presented at user capacity workshops. Fourth and finally, as already noted, the “Keeping It Wild” framework focuses on monitoring trends that inform management decisions, whereas the VERP framework includes quantitative standards that trigger management action. Combining elements of the

two processes in wilderness stewardship planning and management presents an opportunity to draw on the strengths of both to improve outcomes and better protect wilderness character.

Examples

The integration of the two processes was recently assessed by planning teams from three NPS regional offices (Intermountain, Alaska, and Pacific West); the Denver Service Center; and three parks: Black Canyon of the Gunnison National Park (Colorado, fig. 1), Gates of the Arctic National Park and Preserve (Alaska), and Death Valley National Park (California). Projects at these parks presented an opportunity to merge elements and methods from both processes to explore the effectiveness and efficiency of addressing wilderness character and user capacity in current planning efforts.

A combination of the basic elements outlined in table 1 was used during the different planning processes at each park (e.g., a general management plan at Gates of the Arctic and wilderness/backcountry management plans at Black Canyon and Death Valley). However, a consistent and general method was used in these various projects, adapted as detailed below:

1. Examine the suggested measures provided in “Keeping It Wild” (Landres et al. 2008) and the “Technical Guide for Monitoring Selected Conditions Related to Wilderness Character” (Landres et al. 2009).
2. Prioritize each potential wilderness character measure to determine its viability as a measure for the park.
3. Assign the measures to applicable management zones (which define desired conditions for resources and visitor experiences), develop standards for the selected measure, and identify appropriate management strategies for each measure.

Accordingly, in the three case studies, potential measures were either adopted or modified from those listed in these two publications. In addition, park staff was encouraged to add new measures

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important to their particular wilderness, as appropriate. Each measure was scored on a scale of one (low) to three (high) based on four criteria, modified from typical user capacity workshops and the VERP framework (NPS 1997): (1) level of importance of the measure for protecting the associated wilderness character indicator and quality; (2) level of vulnerability of the measure of wilderness character (i.e., is it currently at risk or likely to be at risk over the next 10–15 years?); (3) degree of reliability of the measure to be monitored accurately with a high degree of confidence if measured by different people at different times; and (4) degree of reasonableness of monitoring without significant additional effort.

Lessons learned

Merging elements of the processes to address wilderness character and user capacity resulted in several lessons. First, the planning teams for all three projects tested a blend of methods when selecting wilderness character measures. In the workshops the suggested measures in “Keeping It Wild” were used as a starting point, providing focus and efficiency to the process. However, park staff was also encouraged to modify the measures or select new ones to best address the specific needs of their wilderness based on the issues and alternatives explored in the respective plans. The proposed measures were then evaluated based on criteria modified from those used in typical user capacity workshops and the VERP framework. These criteria helped ensure that the set of measures selected was both meaningful and practical for long-term monitoring.

Second, because these workshops were focused on the four wilderness qualities, it was unclear at the outset whether or not the outcomes would fully support the user capacity needs of the project. In particular, the degree to which visitor use-related impacts would be captured as part of the selection of wilderness character measures was unknown. In all three projects, however, the emphasis on tailoring the measures to specific wilderness needs and the planning effort seemed to result in a comprehensive list of visitor use-related measures that were similar to the indicators that would be identified in a user capacity workshop. These measures seem to provide sufficient guidance for the user capacity needs of the projects. Example measures are extent and

magnitude of human-caused change in water quality, number and severity of human-caused disturbances to cultural resources, and number of encounters with other visitors.

Third, including standards for each measure as part of the process to address wilderness character seemed to help provide clearer direction for future management response. However, in all three projects the emphasis on quantitative standards when addressing user capacity was recognized as possibly insufficient in the context of wilderness character. Given the broad scope of the wilderness character measures across the four wilderness qualities, and that many of the conditions evaluated are outside of an agency’s management control (e.g., impacts to night skies and air quality), some standards may need to be qualitative rather than quantitative. For some wilderness character measures, the standards may be qualitatively defined as a significant change in trends, which triggers the modification or initiation of management actions. However, most of the visitor use-related standards should be quantitative since management of visitor use is largely within the agency’s management control.

Fourth, identification of a general menu of adaptive management strategies that relate to each wilderness character measure was also included in the planning process, which is another element borrowed from the process to address user capacity. For the most part, the addition of this element seemed useful to the planning project without much deviation from how it is approached in a user capacity workshop. However, at the Death Valley workshop, additional time was spent to identify more detailed visitor use management actions for specific areas in the park. These actions were tied directly to the visitor use-related measures and standards that had been defined earlier in the same workshop. Other project teams may find this additional level of detail useful, depending on the specific needs of the wilderness.

Finally, the Gates of the Arctic workshop highlighted special challenges that may be faced when applying the proposed measures from “Keeping It Wild” to a park in Alaska because of particular uses authorized under the Alaska National Interest Lands Conservation Act (e.g., airplanes and snow machines). Many measures from the “Keeping It Wild” framework were not applicable, and unique situations such as subsistence use did not fit well within the four qualities of wilderness. The workshop emphasized the need to maintain flexibility when applying methods from either process to ensure a meaningful outcome that directly addresses park needs.

Conclusion

The processes for addressing wilderness character and user capacity overlap in both concept and practice. Methods related to

both processes were merged at Black Canyon, Gates of the Arctic, and Death Valley and resulted in useful lessons for guiding field application. The suggested menu of measures from the “Keeping It Wild” framework should be the starting point for all workshops, along with an opportunity to refine and prioritize these measures based on the specific needs of the wilderness and the planning effort. The user capacity elements seem sufficiently addressed with the selection of wilderness character measures and standards structured around the four wilderness qualities, but more specific visitor use management actions may be needed in particular situations. Adding standards to the process for addressing wilderness character is a useful step that provides clearer direction on a management response, but these standards could be either qualitative or quantitative in the context of wilderness character. Finally, certain situations, such as in Alaska, may require a high level of flexibility when applying methods from either process. These case studies indicate that a combination of elements of these processes could create a meaningful and practical set of measures, standards, and management strategies that can support ongoing wilderness stewardship planning and management.

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