



Limits of Acceptable Change (LAC)

The early scientific work on carrying capacity has blossomed into an extensive literature base on resource and social aspects of park use and their application to carrying capacity (for examples, see the Bibliography). But despite the impressive literature base, efforts to determine and apply carrying capacity to parks have often resulted in frustration. The principal difficulty lies in determining how much resource or social impact is too much. Given the substantial demand for public use of the parks, some decline or change in resource condition and the quality of visitor experience is inevitable. But how much decline or change is appropriate or acceptable? This issue is often referred to as the limits of acceptable change (LAC) and is fundamental to addressing carrying capacity.

In 1985 the U.S. Forest Service published a process for dealing with the issue of recreational carrying capacity in wilderness. The process was first applied at the Bob Marshall Wilderness Complex in Montana. Since that time several planning and management frameworks have been developed to address carrying capacity, including the National Parks and Conservation Association Visitor Impact Management (VIM) process, the Parks Canada Management Process for Visitor Activities (known as VAMP), and the Park Service VERP process. While each framework includes refinements to suit individual agency missions, policies, and procedures, all of the frameworks share a common set of elements. All of these frameworks include a description of desired future conditions for park resources and visitor experiences, the identification of indicators of quality experiences and resource conditions, establishment of standards that define minimum acceptable conditions, the formulation of monitoring techniques to determine if and when management action must be taken to keep conditions within standards, and the development of management actions to ensure that all indicators are maintained within specified standards.

Another way of looking at the basic logic of the LAC process and other frameworks has been articulated by David Cole of the Aldo Leopold Wilderness Research Institute and one of the original authors of the LAC concept. According to Cole, the intent of carrying capacity planning is to develop a compromise between the absolute protection of resources (in this case referring to the environmental conditions and the visitor experience) and the unrestricted access to resources for recreational use. The LAC process was designed to help define this compromise. The basic logic of the LAC process, according to Cole, is as follows:

- **Identify Two Goals in Conflict.** In the case of national parks, the two goals are usually the protection of environmental conditions and visitor experiences (goal 1) and the unrestricted access to resources for recreational use (goal 2).
- **Establish that Both Goals Must Be Compromised.** If one or the other goal cannot be compromised, then the LAC process is not needed – one goal must simply be compromised as necessary to meet the one that cannot be compromised.

- Decide Which Goal Will Ultimately Constrain the Other. In the case of national parks, the goal of protecting environmental conditions and visitor experiences will almost always constrain the goal of unrestricted access.
- Write LAC Standards for this Ultimately Constraining Goal. LAC standards express the minimally acceptable conditions for the environment and visitor.
- Compromise this Goal Until the Standards Are Reached. Allow the environmental conditions and visitor experiences to degrade only to the minimally acceptable standard. Recreational access should not be substantially restricted until the standards are reached.
- Compromise the Other Goal as Much as Necessary. Once standards for environmental conditions and visitor experiences are reached no more degradation is allowed, and recreational access is restricted as needed to maintain standards.

Looking at the basic logic of the LAC process in this way is helpful for several reasons. First, this way of thinking illustrates that the fundamental challenge in visitor use management is not so much the resolution of resource protection and visitor use conflicts. Instead, the emphasis should be on defining complementary visitor experience opportunities and resource conditions, and then determining to what extent unrestricted recreational access can be accommodated. Second, this logic allows managers to recognize that unrestricted access – a value held strongly by many recreationists – is a valid goal, but one which cannot always be accommodated in light of the equally valid goals of visitor experience diversity and resource protection. Third, an understanding of the generic thought process is helpful in understanding how the various frameworks may be adapted or fine-tuned for different situations without losing the critical elements of the frameworks. Fourth, because there has been interest on the part of managers to apply the LAC process to problems other than carrying capacity, the examination of the generic process helps in determining the situations in which such applications may be useful and those situations in which they may not.

Since the inception of the LAC process, land area managers and planners have continued to test, adapt, and refine the process. The VERP framework is one of the adaptations of the LAC process. In VERP planning, the process is expanded to address a wide variety of resource settings and frontcountry as well as backcountry experiences.