

Science Consistency Review Southern California Forest Plans Revision -- 2004:

Assumptions about Visitor Behavior in Response to Conservation Education.

Is the relevant scientific information considered?

Only two documents directly related to conservation education are included in the bibliography of the Draft Environmental Impact Statement. Neither one is a research report nor are they based on reviews of the literature.

There is a substantial body of research on the effects of environmental education and related communication on human behavior. The research literature is even more extensive in allied areas such as health communication.

Is the scientific information reasonably interpreted and accurately presented?

The following are examples of conclusions about conservation education identified in the DEIS.

- “Conservation education is a broad category that includes interpretation, environmental education, and visitor information....”
- Communication will “develop public awareness,” “appreciation,” and “support for conservation issues and policies.”
- “...provide people with the tools they need to take informed stewardship actions.”
- “Also, user behavior could be modified through conservation education to reduce some types of conflicts and resource impacts.”
- “Environmental education and volunteer programs are expected to have a positive effect on the behavioral patterns of forest visitors and to help prevent unlawful actions from occurring.”

The consensus of the research literature is summed up by this quotation, “Although providing information and promoting awareness of a problem are often important components of an intervention, information alone is seldom sufficient to change behavior.” (Lehman & Geller, 2004) The literature is equally clear that public communication campaigns can be successful in changing and reinforcing behaviors if they go beyond information and knowledge communication.

Backer, et al, (1992) provide 27 generalizations about practices that make health communication campaigns more effective. Those generalizations are developed from a review of the research literature supplemented by interviews with public communication campaign designers. Examples from their list include these:

- More effective campaigns use multiple media (television, radio, print, and so on).
- More effective campaigns combine mass media with community small group, and individual activities, supported by an existing community structure (this involves using a “systems approach’ to campaigns.”
- More effective campaigns carefully target or segment the audience that the campaign intends to reach.
- Segmentation of campaign audiences by demographics is often relatively ineffective, compared with segmentation by psychographic variables based on attitudes, values, and beliefs.
- Campaigns for preventative behavior are more effective if they emphasize positive behavior change rather than the negative consequences of current behavior. Arousing fear is rarely successful as a campaign strategy.
- If fear appeals are used in campaign messages, they should be coupled with mechanisms for reducing the anxiety that is created.

Are uncertainties associated with the relevant scientific information acknowledged and documented?

No. There is still considerable uncertainty about the relationship between attitude and behavior, for example. It is apparent that communication can be effective but other variables are important in the chain of effects between information, education, and other messages and resulting behaviors.

Are the relevant management consequences identified and documented, including associated risks and uncertainties?

No. Apparently effective communication will require taking the messages to the different audience segments in different ways. Much of the communication will have to be off-site and during the anticipation and recollection stages for recreation users. It will be difficult to get outdoor recreation and environmental issues on the media agenda, especially in the LA Basin. There, the media face thousands of competing stories each day. Media focus on issues is short lived and shifts abruptly. National Forest Information programs described in the DEIS are innovative and already extend into the community off-forest. However, the communication strategy will need to be redesigned within the principles of public communication campaigns. Forest management plans do not appear to have made provisions for that.

The four forests, Bureau of Land Management Areas, and National, State, Regional and local Parks all compete for the same user market. Attention will need to be paid to positioning the different providers with respect to each other along the Recreation Opportunity Spectrum (as modified by appropriate local market research that addresses how urban users actually conceive of the opportunity spectrum) and that will require a common communication and conservation education plan for the four forests and at least the other providers offering relatively undeveloped wildland recreation resources and opportunities.

The research suggests that communication (conservation education, interpretation, etc) can effectively influence human behavior toward the environment and other users.

However, the simple dissemination of information or even typical interpretation and education programs are not likely to yield the kinds of behavior changes needed at the scale necessary to address the problems identified in the DEIS. It will be necessary to carefully design public communication campaigns paying careful attention to research-based principles such as those described above.

With respect to psychographic segmentation, it is essential to recognize that most of the intended audiences will be at leisure. In this case, “leisure” refers to a state of mind, not simply meaning that people are using free time. People in a leisure state of mind have a particular psychology that strongly influences their openness to communication and how they interpret and use messages that they receive. It is also important to recognize that the outdoor recreation experience is divided into several stages. Information seeking and communication with friends and acquaintances differs from stage to stage.

There is no doubt that effective public communication campaigns can be designed that will contribute significantly to reductions in undesirable impacts of outdoor recreation on natural resources and minimize inter-use conflict and unlawful behavior. However, it will require close attention to communication principles soundly grounded in communication, education (including adult learning) psychological, and sociological research.

References cited

Lehman, Philip K. and Geller, E. Scott. 2004. *Behavior analysis and environmental protection: accomplishments and potential for more.* Behavior and Social Issues, 13, 13-32.

Backer, Thomas E., Rogers, Everett M., and Soport, Pradeep. 1992. Designing Health Communication Campaigns: What Works? Newbury Park, CA: SAGE Publications, Inc.

*Ronald W. Hodgson, Ph.D.
Fire Social Scientist/Fire & Aviation Management
Bureau of Land Management
2850 Youngfield Street
Lakewood, CO 80215*