



Recreation Research Update



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Environmental Risk Communication

An annotated bibliography focusing on environmental risk communication was recently completed through cooperative agreement between Decision Research (a non-profit research institute based in Eugene, Oregon) and PSW. Authored by Joseph Arvai, Robyn Wilson, Louis Rivers and Ann Froschauer, the document summarizes 153 citations from the literatures on risk research, stakeholder involvement, decision science and risk management.

Researchers and practitioners have long advocated improved interactions between technical experts and stakeholders. To this end, the field of risk communication emerged in the mid-1980s and was motivated by the need, or in some cases desire, to inform people through risk messages and to facilitate their involvement in decision making processes. Despite growing attention, however, the components for successful risk communication and participation processes have received little attention. The annotated bibliography brings together articles from the four key research areas in order to shed light on this important topic.

For example, several of the reviewed articles focused on the use of case studies dealing with past risk communication efforts as a means of identifying components of processes that are both necessary for success and useful for evaluative purposes. Many of the components of success are highlighted in the bibliography.

Another set of reviewed articles focused on the importance of equipping managers and decision makers with the ability to make choices based on the outcomes of the participatory process, thus avoiding symbolic participation.

Since accurate risk information presented in an honest and understandable manner is an important component of risk communication, other articles contained in the review focused on means of presenting risk information and data. Publics need to be treated with respect, and need to be shown the potential benefits along with the costs or risks involved. Data should be balanced with a recognition of the emotional and social aspects of the decision to be made. Moreover, risk communicators need to be trustworthy and, where possible, known by the community involved in the risk communication.

Incorporating diverse publics in risk management decision making is crucial for acquiring a balanced evaluation of options, therefore, some of the articles point to the importance of considering cultural and ethnic/racial variations in perceptions of risk alongside the degree and types of risks individuals are willing to accept.

Overall, incorporating input from informed and diverse publics alongside information about their values—through a thoughtfully designed risk communication process—can be linked to improved outcomes as well as broader acceptance of risk management decisions.

Further detail on risk communication and its various aspects is found in the bibliography, available upon request. The document is available in print and electronic version on CD. *For more information about this study contact Pat Winter at 951-680-1557 or pwinter@fs.fed.us.*

National Off-Highway Vehicle Conservation Council Members

Drs. Michael Schuett (Texas A&M University) and Deborah Chavez (PSW) conducted this study of off-highway vehicle (OHV) users in 1997. Questionnaires were mailed to 1,195 OHV enthusiasts. Contact information was obtained from the National Off-Highway Vehicle Conservation Council (NOHVCC), a publicly supported, educational foundation organized for the purpose of promoting OHV recreational experiences. After two mailings and postcard follow-up, 488 questionnaires were received (41% response rate). The respondents were fairly homogeneous (white, male, average age was 37). It is possible that these are the people most likely to be associated with NOHVCC, or the ones most likely to be listed as a contact person, resulting in a rather large emphasis on males.

This was a fairly active group of respondents. They owned several OHVs with many purchases made in years recent to the survey. They rode OHVs for an average of about 15 years. Most self-rated their skill level at intermediate to advanced, and many rode more frequently on private lands and city parks/lands. Fewer reported riding often on lands managed by public land management agencies; still riders utilized these lands four to six times in a year period. Because recent

studies indicate off-highway vehicle use has grown exponentially in recent years, managers can expect continued use for this activity although it is not clear whether the land utilization patterns of this group will be consistent (i.e., they will continue utilizing private lands more than public lands).

Many respondents were supportive of NOHVCC and reported that their lives and the lives of their children would be improved if NOHVCC achieves their goals. They also felt that their contributions to NOHVCC would result in improved opportunities, and that some important aspects of their lives are touched by OHV problems and issues. The data does speak to the high regard that members have for the NOHVCC organization, as well as to the length of time they expect the outcomes to continue.

Trail preferences of these NOHVCC members were many. Some of these interests were related to signs and education, others were resource related. One-quarter or more of the respondents felt trails should always have signs posted at trailhead indicating trail difficulty; be controlled for erosion; be free to the user if on public land; have signs posted at trailhead indicating trail length; be well maintained; have a variety of scenery; have maps available at the trailhead; and have markers at regular intervals along the trail.

Respondents listed important issues in an open-ended question. The top five issues were: lack of trails/legal places to ride; loss of public lands; actions of unsafe/discourteous behaviors creates a negative image; access to public lands; environmental problems (i.e., erosion); and opportunities equal to other recreation groups.

The environmental attitudes of NOHVCC members were also assessed using the New Environmental Paradigm (NEP) scale. There was one NEP item for which one-quarter or more of the respondents strongly agreed: humans must live in harmony with nature in order to survive. Yet, a large number strongly agreed that "environmental issues are important to me." Relatively few strongly agreed that their life was organized around environmental issues, or that environmental issues say a lot about who they are. Managers can use this information to better communicate environmental concerns to NOHVCC members/riders, and possibly other OHV enthusiasts.

This project establishes preliminary information that can be used to understand some OHV users and initiate strategies to improve recreation opportunities for this outdoor recreation group. *For more information about this study contact Deborah Chavez at 951-680-1558 or dchavez@fs.fed.us.*

Unit Publications

Absher, J.D.; Kasul, R.L.; Chang, W. 2004. **Methodological And conceptual issues in the development of customer service measures for the National Recreation Reservation Service.** In Murdy, J.J. (comp/ed). Proceedings of the 2003 Northeastern Recreation Research Symposium; 2003 April 6-8; Bolton Landing, NY. General Technical Report NE-317. Newtown Square, PA: Northeastern Research Station, Forest Service, U.S. Department of Agriculture: p. 54-59.

Arvai, J.; Wilson, R.; Rivers, L.; Froschauer, A. 2004. **Environmental risk communication: A review and annotated bibliography.** Unpublished report. Eugene, OR: Decision Research. [available in hardcopy or cd from unit] 165 p.

Chavez, D.J.; Knap, N. 2004. **Technology and natural areas: Issues and actions for off-highway vehicle management.** [Proceedings paper]. Hawaii International Conference on Social Sciences; 2004 June 16-19; Honolulu, HI. [on CD ROM only] p. 595-608.

Dwyer, J.F.; Chavez, D.J. 2004. **The challenges of managing lands in the wildland-urban interface.** In Vince, S. and Duryea, M. (eds.) *Forest management and urbanization: The wildland-urban interface*. Boca Raton, FL: CRC Press, p. 269-283.

Graefe, A.R.; Absher, J.D.; Thapa, B. 2003. **Applying uses & gratification theory to outdoor recreation: A national forest case study.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U. S. Department of Agriculture. 46 p.

Perez-Verdin, G.; Lee, M.E.; Chavez, D.J. 2004. **Outdoor recreation in a protected area in southern Durango, Mexico: Analysis of local residents' perceptions.** *Society and Natural Resources* 17, 10, 897-910.

Schneider, I.; Chavez, D. 2004. **Caching-in on geocaching.** *Pathways: The Ontario Journal of Outdoor Education* 16, 3, 21.

Thapa, B.; Absher, J.D.; Graefe, A.R.; Kyle, G.T. 2003. **Communication and information needs at Mono Basin National Forest Scenic Area.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U. S. Department of Agriculture. 49 p.