



Recreation Research Update



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International Symbols in Southern California

The goal of this research was to evaluate the comprehension of International Symbols (graphical symbols depicting ideas without words) used on the Angeles and San Bernardino National Forests in southern California. Data were collected from 262 recreationists at day-use sites during summer 2002. The survey instruments were available in English and Spanish. International Symbols selected included those from the usual available sources as well as seven Forest-produced symbols.

Each unique response for the symbols was coded for level of correctness by two independent coders using the International Standards Organization tool adapted for this study. Any disagreement in coding was resolved by a third independent coder.

The typical visitor was male, 37 years old with 12 years of education, and Hispanic. Most visitors were recreating with family and/or friends and most were on repeat visits to these sites. Typical activities were picnicking, relaxing, hiking and camping.

Only 11 of the 20 symbols in the study were considered well-understood, that is, there was a high percentage of respondents who correctly comprehended them. At least two-thirds of respondents were able to name the activity/facility to which the symbol was referring [these were symbols for *Fishing*, *Swimming*, *Restrooms*, *Horse Trail*, *No Fireworks*, *Picnic Area*, *No Trucks*, *Hiking Trail*, *Camp (tent)*, *Drown Campfires*, and *Hikers*]. These need no further management action.



Fishing



Swimming

Of the remaining nine symbols, three were moderately understood, and six were misunderstood. The three moderately understood

symbols probably need modification to clarify the intended message--perhaps these should only be used if there is accompanying text (these were *Off-road Vehicle Trail*, *Information*, and *Automobiles Permitted*). The usual rule is to provide textual messages for three years when putting out these symbols. It may be necessary to use textual messages for five years with these three symbols.

The six misunderstood symbols (these symbols were *No Alcohol*, *No Charcoal Grills*, *Amphitheater*, *Carry Water Back to the Site*, *Fish Hatchery* and *Conserve Water*) require major modification or discontinued use. Most of the respondents did not understand the intended message of these six symbols.



Amphitheater



Fish Hatchery

For more information about this study contact Debbie Chavez at 909-680-1558 or dchavez@fs.fed.us.

Southwesterners' Opinions on Wildland and Wilderness Fire Management

Fire and fire management is of great interest in the southwestern United States, given the incidence of fire in this region, and the mounting costs of suppression and prevention. A previous issue of the update focused on Californians' attitudes about fire and fire management. Here, we feature findings from the states of Arizona, Colorado, New Mexico and California. The data were collected through cooperative agreement with San Diego State University and Pat Winter.

While there are similarities across the southwest, significant geographic variations are evident. Respondents shared a concern about wildland and wilderness fires, with the majority selecting above the mid-range on the scale. Concern varied significantly by state however, with Californians' having the lowest concern ratings. Concern tended to be highest

among the older respondents, and those who completed the survey in Spanish.

Knowledge about wildland and wilderness fires was, on average, within the neutral range. Californians' had the lowest knowledge ratings, as did our youngest respondents, those who had not visited National Forests, those who completed the survey in Spanish, and those who had not lived in the United States all of their lives.

Respondents tended to trust the Forest Service in its efforts to manage forest fires. However, Californians' tended to trust the Forest Service more than respondents from the other three states, and Arizonans had higher trust of the Forest Service than did respondents from New Mexico. Higher trust was found among those who tended to participate in outdoor recreation less, had not visited National Forests, had completed the survey in Spanish, and had not lived in the United States all of their lives.

General statements about fire, rated as true or false, revealed significant variations by state in five out of nine cases. For example, residents of New Mexico were more likely to rate as true the statement "Controlled burns are likely to burn up more area than planned."

These findings suggest it is not sufficient to view public opinion as homogeneous. The geographic variations appear to be linked to dramatic differences in population characteristics, revealing each state's uniqueness. Management strategies, public information, and education efforts, will need to be adjusted based on the unique characteristics of publics. *For further information please contact Pat Winter at 909-680-1557 or pwinter@fs.fed.us.*

Unit Publications

Absher, J.D. 2002. **Basic beliefs about fire management: Regional and socio-demographic comparisons.** Book of Abstracts. Global Challenges of Parks and Protected Area Management, International Symposium on Society and Resource Management; 2002 October 10-13; La Maddalena, Sardinia, Italy; La Maddalena, Sardinia, Italy: University of Sassari and Colorado State University, p.3.

Absher, J.D.; Vaske, J.J.; Bright, A.D.; Kneeshaw, K. 2002. **Assessment and modeling of beliefs, value, and social norms related to wildland-fire management in southern California.** Program and Abstract. 2002 Fire Conference: Managing Fire and Fuels in the Remaining Wildlands and Open Spaces of the Southwestern United States; 2002 December 2-5; San Diego, CA. Rancho

Cordova, CA: The Western Section of the Wildland Society and The Association for Fire Ecology, p. 25.

Absher, J.D.; Graefe, A.R. 2002. **Communicating with visitors: Results from studies in the U.S.** Book of Abstracts. Global Challenges of Parks and Protected Area Management, International Symposium on Society and Resource Management; 2002 October 10-13; La Maddalena, Sardinia, Italy; La Maddalena, Sardinia, Italy: University of Sassari and Colorado State University, p.3-4.

Chavez, D.; Hendricks, W. 2003. **Fire & recreation research on a fire-prone ecosystem: The Big Sur region.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 16 p.

Chavez, D.J.; McCollum, D.G.; Knap, N.E. 2003. **International symbols report 2002: The Gifford Pinchot National Forest.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 33 p.

Chavez, D.J.; McCollum, D.G.; Knap, N.E. 2003. **International symbols report 2002: The San Bernardino and Angeles National Forests.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 41 p.

Chavez, D.J.; McCollum, D.G.; Knap, N.E. 2003. **International symbols report 2002: The Willamette National Forest.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 31 p.

Chavez, D.J.; Olson, D.D. 2003. **Day use of National Forest series: The Cleveland National Forest Southern California Planning Places, 2002.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 69 p.

Chavez, D.; Tynon, J.; Knap, N. 2003. **Successful law enforcement: Case studies in the U.S. Forest Service.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 37 p.

Cvetkovich, G.; Winter, P.L. 2003. **Trust and social representations of management of threatened and endangered species.** *Environment and Behavior* Vol 35, 2, p. 296-307.

James, K.; Absher, J.D. 2002. **Effectiveness of visitor information programs in Giant Sequoia National Monument.** Unpublished Technical Report. Riverside, CA: Pacific Southwest Research Station. 57 p.

Winter, P.L.; Cvetkovich, G. 2002. **The role of trust, knowledge, concern, and sociodemographic characteristics in the prediction of Californians' reactions to fire management.** Program and Abstract. 2002 Fire Conference: Managing Fire and Fuels in the Remaining Wildlands and Open Spaces of the Southwestern United States; 2002 December 2-5; San Diego, CA. Rancho Cordova, CA: The Western Section of the Wildland Society and The Association for Fire Ecology, p. 94-95.