



Recreation Research Update



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Urban Proximate Wilderness Visitors' Knowledge and Perceptions of Fire Management

Visitors to urban proximate wildernesses in southern California were contacted during the summer of 2005. Participants completed a self-administered survey onsite (n=368) and a follow-up mailed survey (n=103).

The majority (72%) was on a day trip to the Wilderness, on a repeat visit (75% of the onsite survey respondents), male (66%), and college graduates (54%). The majority was White (58%), although 14% of respondents were Hispanic, 9% were Asian, and 10% identified with multiple ethnicities.

Nearly two thirds (64%) of the mailed survey respondents indicated that they were concerned or very concerned about fire and the risk of fire on National Forest wildernesses. More than half (58%) felt that the Forest Service made decisions consistent with their values, goals and view regarding fire management, and the majority (62%) indicated that they trust the Forest Service's fire management efforts.

The majority of respondents indicated that they approved of controlled burns (72%), restrictions on uses of wilderness areas (73%), signs at trailheads (86%), removal of dead or dying trees (73%), and closing some areas (62%). The majority also saw these measures as effective in decreasing the risk of large, uncontrolled fires, with the exception of signs and area closures, which were expected to be less effective than the other measures. Area closures were expected to have personal impact (some impact to excessive impact) by the majority of respondents.

For the seven items focused on knowledge about fire and safety for recreationists, the majority responded correctly, indicating they knew proper safety measures. However, more than one-fourth of respondents were unsure if they should stay away from trees when near a fire, avoid going uphill if a

fire was coming towards them, and allow a 3-foot clearing if smoking outdoors. Each of the safety items is covered in brochures focused on fire safety distributed to recreationists in visitor centers near the wildernesses where data was collected.

Findings point to support for most fire management efforts, with some issues surrounding area closures. Answers to knowledge items suggest there is an opportunity for additional visitor education to ensure recreationist and resource protection. *For more information about this study contact Pat Winter at 951-680-1557 or pwinter@fs.fed.us.*

Willamette National Forest: Evaluation of International Symbols

The goal of this research was to evaluate the comprehension of International Symbols (graphical symbols depicting ideas without words) on the Willamette National Forest (WNF) in Oregon. Survey teams from Oregon State University at Corvallis collected data under a cooperative agreement. Data were collected from 159 recreationists at day use sites. Instruments were available in English and Spanish. All visitors over age 18 were asked for their voluntary participation in the study. The response rate was 81 percent.

The International Symbols selected included those from readily available on-line sources. The symbols evaluated were randomly selected from a catalog of signs used nationally on public lands. Twenty symbols were chosen from five categories: Water Recreation, Land Recreation, Winter Recreation, General Recreation, and Facilities.

Each unique response for the symbols was coded for level of correctness by two independent coders using the International Standards Organization (ISO) standard adapted for this study. There were seven categories into which judges places responses: 1) correct understanding of the symbol is certain; 2) correct understanding of the

symbol is likely; 3) correct understanding of the symbol is marginally likely; 4) the meaning which is conveyed is the opposite to that intended; 5) the response is wrong; 6) the response given is “do not know”; and 7) no response is given. Any disagreement in coding was resolved by a third independent coder. ISO is a worldwide federation on national standards.

The typical WNF visitor was male, 44 years of age, with 15 years of education, and white. Most visitors were recreating with family and/or friends and most were visiting the sites for the first time. Typical activities were hiking, relaxing, sightseeing, and camping.

Thirteen 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 Swimming, Fishing, Campfire, Hiking Trail, Litter Container, Camping (Tent), Group Picnicking, Rowboating, Hunting, All-Terrain Vehicle, Drinking Water, Pets on Leash, and Information. These need no further management action.

The two moderately understood symbols, Amphitheater and Wading, probably need some modification to clarify the intended message—perhaps these should be used only when accompanied by text. These were correctly understood by fewer than 66 percent and more than 25 percent.



Amphitheater



Wading

Most of the respondents did not understand the intended message of these five symbols:



Interpretive Trail



Winter Recreation Area



Fish Hatchery



Natural Study Area



Environmental Study Area

These were incorrect for at least 66 percent of respondents. The five misunderstood symbols may require major modification or discontinued use on the WNF. *For more information about this study contact Debbie Chavez at 951-680-1558 or dchavez@fs.fed.us.*

Unit Publications

Chavez, D.J. 2005. **Natural areas and urban populations: Communication and environmental education challenges and actions in outdoor recreation.** *Journal of Forestry*, 103, 8, 407-410.

Cialdini, R.B., Demaine, L.J., Sagarin, B.J., Barrett, D.W., Rhoads, K., Winter, P.L. 2006. **Managing social norms for persuasive impact.** *Social Influence*, 1(1), 3-15.

Crano, W., Quist, R., Winter, P.L. 2006. **Getting the Forest Service's Message to all the People.** Unpublished report. 60 p.

Technology & Development: Making a Difference. 2006. San Dimas T&D Center, Missoula T & D Center, Forest Service, U. S. Department of Agriculture. FY2005-2006, Issue 4. Included are:

- Absher, J. 2006. **Interpretive trail effectiveness.** p. 10.
- Cotti, K. 2006. **Integrated Social Carrying Capacity.** p. 9.
- Winter, P.L. 2006. **Normative messages in recreation signage.** p. 4.
- Winter, P.L. 2006. **The environmental handbook for natural resource managers.** p. 8.

Tynon, J.F.; Chavez D.J., 2006. **Adapting a Tourism Crime Typology: Classifying Outdoor Recreation Crime.** *Journal of Travel Research*, 44, 3, 298-307.