



# Recreation Research Update



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## Wildland/Urban Interface Within Fireprone Ecosystems

The wildland/urban interface presents many challenges within fire-prone ecosystems. One of these ecosystems is the Big Sur region of the Los Padres National Forest, a popular destination due to its scenic beauty and spectacular coastal range environment. Debbie Chavez and Bill Hendricks, California Polytechnic State University, San Luis Obispo, are cooperatively conducting a study to examine issues related to recreation and fire management at Big Sur. This study was supported by National Fire Plan research funds. The first study phase took place during summer 2001. Data were collected on randomly selected days and at eight randomly selected day-use and overnight recreation sites. Four hundred ninety-eight visitors completed the on-site questionnaire.

Respondents were mostly Californians (78.5%), white (80%), with some college education (85%). Reported household income was above \$55,000 (55%), with some above \$75,000 (38%). Activities during their trip to Big Sur were camping, hiking, walking for pleasure, beach combing, picnicking, wild/marine life viewing and sightseeing. The top three primary activities were camping, surfing, and sightseeing.

Recreation constraints were measured with a 4-point scale. The highest mean scores for recreation constraints due to fire management were: no fires in pits/grills, decreased air quality, traffic delays due to fire suppression, decreased visibility due to smoke from a fire, and developed campground closure due to a fire.

How often fire management practices were observed and their influence on quality of visit was examined with a 5-point scale. The highest rated observed fire management practices were fireworks prohibition, evidence of a wildland fire, prescribed fire evidence, and fire restrictions when backpacking. Fire practices that most influenced visit quality were: large bonfires, no fires in pits/grills, and evidence of campfires in non-designated areas.

Place attachment was measured with an 11-item scale. A t-test was conducted to determine if place attachment varied by subjects who had visited Big Sur previously and those who had not. There was a significant difference for all 11 items. Overall mean scores were above 3.5 on a 5-point scale for 7 of the items.

The results suggest that Big Sur visitors are rather homogenous, very educated, report high household incomes, and are attached to Big Sur. They do not seem to be overly concerned with fire management, although they do report some recreation constraints that may deserve attention by managers. *For further information please contact Debbie Chavez at 909-680-1558 or [dchavez@fs.fed.us](mailto:dchavez@fs.fed.us).*

## Californians' Opinions on Wildland and Wilderness Fire Management

A statewide survey of California residents was recently completed, in cooperation with San Diego State University and supported by National Fire Plan research funds. Fire management is of great interest in the west, in part due to the high cost of fire suppression; and social values play an important role in fire management.

The sample was stratified by geographic region in the state and by gender. The final cooperation rate was 83.9%. Data were weighted to match the population in each region, based on a total of 606 usable surveys.

Most respondents were concerned about wildland and wilderness fires in the state (mean of 6.27 on a scale from 1=not at all concerned, 8=very concerned), though they saw others as less so (mean of 5.28). It may be quite true that respondents were more concerned about fires, since they took the time to participate in our survey. However, it is also the case that individuals tend to view themselves more positively than how they see others (the self-serving bias).

The greatest percentage agreed that "we probably have to let some fires burn, but must protect residences" (60.1%), although about one-third agreed with the statement "all fires must be extinguished regardless of cost" (31.5%). Very few (5.4%) thought "fires must be allowed to take their natural course...even if structures are involved."

A series of statements about fire were rated as true or false, for example the vast majority (90.5%) felt that "controlled burns reduce the risk of larger, uncontrolled fires".

Possible management techniques for wildland and wilderness fires were rated for expected effectiveness and approval. In order of greatest to least expected effectiveness were closures of areas, prescribed burns, signs in recreation settings, restrictions on types of use (e.g., fires only in fire rings), mechanical techniques such

as chipping, and bans on mechanically based recreation. Approval ratings from highest to lowest were signs, closures, restrictions, burns, mechanical techniques such as chipping, and bans.

Trust in the Forest Service's efforts to manage forest fires was fairly high (6.8 on scale from 1=do not trust the FS at all, to 8=trust the FS completely).

These opinions are helpful in understanding public perceptions of, and reactions to fire management. ***For further information please contact Pat Winter at (909) 680-1557 or [pwinter@fs.fed.us](mailto:pwinter@fs.fed.us).***

### **Wildfires and Tourist Behaviors in Florida**

Wildfires can pose a serious threat to tourism, a main economic engine in virtually all states. A representative sample of 771 tourists (66% response rate) to Florida counties that had a recent wildfire and received fire suppression funds completed a mailback survey that assessed their perceptions of risk, attitudes and knowledge towards wildfire, and behavioral changes due to them. In general, wildfires have had a minimal impact on past Florida trips and most feel there is little risk for future trips. Although 61 percent agreed that wildfires were a factor in evaluating travel destinations, 70 percent also reported that they would not let wildfires keep them from traveling to their final destination in Florida. Florida tourists varied in their knowledge about and understanding of the role of fire in Florida's landscape. Two-thirds of the tourists knew what a prescribed fire is, but only 25 percent thought the natural areas in Florida should be burned periodically. Other questions revealed that three situations would result in substantial alterations (cancel or change destinations) to their trip by about half of the tourists. These were the presence of high fire danger conditions; reported health problems from smoke and ash, and the spread of fire to a nearby vacation region. The report further discusses the implications of these and other findings for land management decisions, tourism promotion and communications in general, e.g., providing information about prescribed burning or fire locations may mitigate the impact of wildfires on the tourism sector. This study was supported by National Fire Plan research funds. ***For further information please contact Jim Absher at (909) 680-1559 or [jabsher@fs.fed.us](mailto:jabsher@fs.fed.us).***

### **Wildland Fire Beliefs, Norms and Management Preferences**

Because public values and norms about wildfire management often drive agency policies and landowner or recreationist behaviors (e.g., defensible space, campfires) a model for understanding and predicting public acceptance of wildland fire management is being developed. Using cognitive hierarchy as an underlying theoretical framework, fire-specific measures of visitors'

value orientations (patterns of basic beliefs), and norms were developed and pretested. Over 3,000 visitors to three geographically dispersed western urban-interface National Forests were sampled. Six separate scales were developed for notions of responsibility, biocentrism, anthropocentrism, freedom, trust, and the benefit-harm of wildfire. Second, social norms data (acceptability of management practices in different situations) were measured using eight scenarios with combinations of various types of situational factors (e.g., fire origin, recovery time) across three fire management choices (let burn, contain fire, put out immediately). Analyses demonstrate the reliability and construct validity of the measurement model and provide insight regarding public support for different fire management activities. It also provides a general model of situational-specific ways to assess public acceptance of fire management choices. In this case, the effect of human origin, quick recovery and loss of property are notable influences on support. This study was supported by National Fire Plan research funds. ***For further information please contact Jim Absher at (909) 680-1559 or [jabsher@fs.fed.us](mailto:jabsher@fs.fed.us).***

### **Unit Publications**

Cindrity, S.; Vogt, C.A. 2001. **Full-year and seasonal residents living in the interface: Considerations for fuel treatment programs.** Program and Abstracts, The Wildland-Urban Interface: Sustaining Forests in a Changing Landscape; 2001 November 5-8; Gainesville, FL, p. 79.

Ewert, A.; Voight, A.; McLean, D.; Hronek, B.; Beilfuss, G. 2002 Book of Abstracts, The Ninth International Symposium on Society and Resource Management, Revised Edition; June 2-5; Bloomington, IN. Bloomington, IN: Indiana University. 272 p. Included are:

Cindrity, S.; Vogt, C.A. 2002. **A changing landscape in the wildland-urban interface: Seasonal and permanent residents' adoption and approval of fuel mitigation programs.** p. 172-173.

Hendricks, W.W.; Chavez, D.J.; Phippen, K.D. 2002.

**Placement [Place] attachment in Big Sur: Observance-influence of fire management practices.** p. 107-108.

Kneeshaw, K.; Bright, A.D.; Vaske, J.; Absher, J.D. 2002.

**Scale development and predictive validity of fire management value orientations.** p. 242-243.

Winter, P.L.; McColum, D. [McColum, D.] 2002.

**Californians' opinions of wildland and wilderness fire management.** p. 143-144.

Thapa, B.; Holland, S.M. 2002. **Wildfires and tourist behaviors in Florida.** Unpublished report. Gainesville, FL: Center for Tourism Research and Development, Department of Recreation, Parks and Tourism, University of Florida. 49 p.

Winter, P.L. 2002. **Californians' opinions on the management of wildland and wilderness fires.** Unpublished report. Riverside, CA: Pacific Southwest Research Station, Forest Service, U. S. Department of Agriculture. 42 p.