



# Recreation Research Update



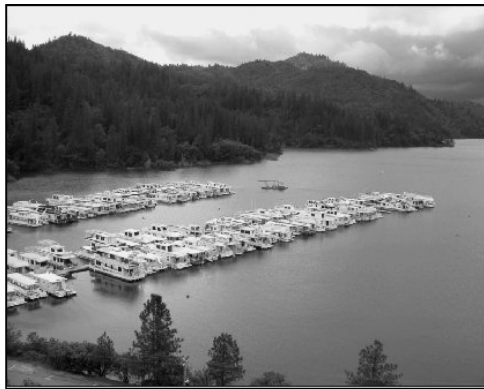
Pacific Southwest Research Station  
Wildland Recreation and Urban Cultures

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## Boating Carrying Capacity Study – Summary Report

Last August we announced the completion of the Shasta-Trinity Lakes Boating Carrying Capacity study (Update #49: “Boating Capacity at Shasta and Trinity Lakes” by Dr. Alan Graefe and James Absher). For various reasons the report was delayed and re-written. A revised version is now available in multiple forms: a full report version with appendices (178 pages), a main report version without the added questionnaires and basic data (70 pages) and a very short two-page executive summary.

We wish to announce that a new 11-page, color summary report has been added as a companion product. It highlights the main findings, conclusions and methodology without data tables and statistical detail and is ideal for lay audiences. All four versions are available in hardcopy (limited quantities) or pdf



form, except the full report which is in pdf form only. Although some versions are large pdf files (2-3 mb) we will email them

or send a CD upon request. For simplicity, the CD has all versions included.

The study began with concerns over crowding and user conflicts during peak use periods at Shasta and Trinity Lakes in northern California. Objectives included: developing a profile of recreation users; measuring recreation use patterns at the lakes; and assessing visitors’ expectations, satisfaction, perceptions of existing conditions, and opinions about lake management. Boating use patterns were measured through aerial and ground (parking lot) counts. Visitor data were collected through a series of on-site and mail surveys of key user groups. The use measurement and visitor surveys were conducted simultaneously to allow evaluation of the relationships between use levels and the quality of visitor experiences.

A total of 789 on-site interviews were completed at major boat access points on 21 sampling days during the 2002 boating season. A follow-up mail survey seeking more detailed data was sent to 432 of these, and responses were received from 254 people (59% response rate). Additional mail-only surveys were conducted with three key lake user groups (houseboat permit holders, marina moorage customers, and rental customers). Of 1,998 questionnaires mailed, 1,236 responses were received for a response rate of 62%.

Results showed striking differences in use levels and visitor perceptions between Shasta and Trinity Lakes. The larger Shasta Lake receives heavier boating use, accompanied by higher levels of perceived crowding and related impacts. Analysis of the correlations between aerial and ground counts indicated that counts at certain boat ramps provide a good indicator of the total number of boats on the lakes (Pearson  $r = .70 - .71$ ).

A GIS analysis was used to analyze lake use patterns. Integration of the spatial and attitudinal data revealed the reasons underlying site choices and different responses to varying conditions. These maps quickly show how the use is distributed and key points for potential conflict or capacity issues.

Overall, study results suggest that boating on Shasta and Trinity Lakes has not reached problematic levels but may be near capacity at this time. The data support a recommendation that future management actions should emphasize targeted incremental changes and subsequent monitoring. This will allow more lake access for the public with minimal impact on boating capacity and sustain the quality of the visitor experience. *For more information about this study contact Jim Absher at 951-680-1559 or [jabsher@fs.fed.us](mailto:jabsher@fs.fed.us).*

## Perceptions of Innovations Among USFS Personnel

Significant changes in recreation activities and behaviors have been evident for some time now in the Pacific Southwest Region and the changes represent a continuing challenge for recreation professionals responsible for managing facilities and use areas for all organizations providing recreation services. An active research agenda by the Wildland Recreation and Urban

Cultures Research (WRUCR) Unit in Riverside is one response to the uncertainty that change presents. For a decade and a half, the WRUCR Unit has investigated the nature and magnitude of demand for recreational opportunities in urbanized areas. From these studies came new management practices, communication tools and design strategies to keep up with the changing times. However, until this summer, more appeared to be known about the visitor behind the force of change than the

professional who must respond to it. New tools in recreation management are the focus of a recent investigation by Dr. Bob



Pfister, East Carolina University, entitled “*Perceptions of innovations among USFS personnel*”. Initial data was collected from over one hundred managers considered to be among the more proactive federal employees. They were proactive in the sense they requested reports and publications from the WRUCR Unit and/or they attended a federal recreation management short course. An initial examination of the data reveals a preliminary profile of field staff interested in one or more of the WRUCR Unit projects.

The survey instrument contained questions to describe the respondent and to measure their perceptions about the potential use and effective application of new information employing five constructs of innovations derived from the work of Everett M. Rogers. The respondent could comment on each of the four research emphasis areas of the unit which encompass (1) Changing Recreation patterns, (2) Communication (3) Social Aspects of Fire, and (4) Values, Attitudes, Behaviors and Conflict. Thus far, 49 percent expressed an area of interest concerned with behavior and conflict projects, 34 percent expressed an area of interest concerned with changing recreation patterns, ten percent identified the investigation covering communication, and six percent identified the social aspects of fire as their first areas of interest.

The degree to which an employee can voluntarily apply innovative tools is an important factor in rate of adoption. The preliminary results to date indicate eighty-seven of the respondents do not feel pressured in regards to making changes but rather do so of their own volition. The work responsibilities of the respondents are largely in the area of management, planning and design, or administration. They have on average eight

or more years working within their agency. Sixty-five percent stated they enjoyed being among the very first in their organization to try out new ideas and practices. Thus, the degree to which this segment of the workforce is inclined to be “proactive” is evident in the preliminary results. Clearly it is the perception of the end user or manager that is important in the final analysis. Scott and Jaffe have suggested, “when five percent of the people in a group adopt a change, the change is *imbedded*.” Understanding potential adopters’ perceptions of innovation is a classic issue in diffusion research. The next task of data analysis is to examine what specific attributes of innovation contributes to successful adoption of new management tools within the well-established organizational setting. *For more information about this study contact Debbie Chavez at 951-680-1558 or dchavez@fs.fed.us, or contact Bob Pfister at pfisterr@mail.ecu.edu.*

## Unit Publications

- Bright, A.D.; Vaske, J.J.; Kneeshaw, K.; Absher, J.D. 2005. **Scale development of wildfire management basic beliefs.** *Australasian Parks and Leisure* 8, 2, 44-48.
- Graefe, A.R., Absher, J.D., Ye, Y. and Nyaupane, G. 2005. **Shasta and Trinity Lakes Boating Carrying Capacity Study — Summary Report.** Riverside, CA: USDA Forest Service, Pacific Southwest Research Station. 11p.
- Kyle, G.T.; Absher, J.D.; Chancellor, C. 2005. **Segmenting forest recreationists using their commitment profiles.** *Journal of Park and Recreation Administration* 23, 2, 64-86.
- 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.
- Vogt, C.A. 2004. **Consideration of property risk reduction at the time of home purchase by wildland-urban interface (WUI) homeowners.** 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. 11-17.