



National Park Service
U.S. Department of the Interior
Social Science Program

OMB Control Number 1024-0224
Current Expiration Date:8-31-2014

Programmatic Approval for NPS-Sponsored Public Surveys

1.	Project Title: Transportation and User Capacity Assessment at Sequoia and Kings Canyons National Parks (SEKI)	Submission Date 1-2-2013
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2.	Abstract: Sequoia and Kings Canyon National Parks (SEKI) are increasingly focused on the relationship between transportation systems and the quality of the natural environment and visitors' experiences. Management concerns include effects on visitor crowding, traffic congestion, visitor stress, parking shortages, air pollution, noise pollution, and impacts to wildlife and roadside vegetation. This project will involve cooperative research and planning activities conducted in partnership between Sequoia and Kings Canyon National Parks and researchers at Arizona State University. The study will employ a cross-sectional survey design with data collected from a stratified random sample of current SEKI visitors through an onsite questionnaire. The study aims to understand the psychological, social, and behavioral dimensions of national park visitors' transportation-related experiences and decisions to inform transportation planning and management and visitor use capacity decision making in the parks. On-site sampling will occur April – August 2013.
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(not to exceed 150 words)

3. Principal Investigator Contact Information

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Project Information

5. **Park(s) For Which Research is to be Conducted:** Sequoia and Kings Canyon National Parks

6. **Survey Dates:** 04/2013 TO 08/2013

7. **Type of Information Collection Instrument (Check ALL that Apply)**

Mail-Back
Questionnaire
Other (explain)

☒ On-Site
Questionnaire

Face-to-Face
Interview

Telephone
Survey

Focus Groups

8. **Survey Justification:** *Social science research in support of park planning and management is mandated in the NPS Management Policies 2006 (Section 8.11.1, "Social Science Studies"). The NPS pursues a policy that facilitates social science studies in support of the NPS mission to protect resources and enhance the enjoyment of present and future generations (National Park Service Act of 1916, 38 Stat 535, 16 USC 1, et seq.). NPS policy mandates that social science research will be used to provide an understanding of park visitors, the non-visiting public, gateway communities and regions, and human interactions with park resources. Such studies are needed to provide a scientific basis for park planning, development.*

Data are needed to develop management options and planning alternatives that will be used to address visitor capacity in the Sequoia and Kings Canyon National Parks. Park managers need to understand how current transportation systems are used to facilitate visitor movement, provide for quality visitor experiences, and protect resources. It is explicitly stated in the Code of Federal Regulations that consideration shall be given to strategies that promote alternative transportation systems, reduce private automobile travel, and best integrate private automobile travel with other transportation modes. These efforts to investigate the transportation system will add value (protection/rejuvenation of resources, improved visitor experience) to the park (CFR Title 23 970.214).

This study builds upon research and planning efforts focused on visitors' experiences and transportation in national parks (see: White, 2007; White et al., 2011; Youngs et al., 2008). The goal of this research is to understand the psychological, social, and behavioral dimensions of park visitors' transportation-related experiences. This information collected will be used to inform transportation planning and management and visitor use capacity decision making.

9.

Survey Methodology: (Use as much space as needed; if necessary include additional explanation on a separate page.)

(a) Respondent Universe:

The respondent universe for this study will include adult park visitors (aged 18 and older) visiting SEKI during randomly selected on-site sampling dates during the study period (April – August, 2013). A total of 550 visitors will be contacted and asked to participate in the survey.

(b) Sampling Plan/Procedures:

The study will employ a stratified random sampling strategy. Sampling will be stratified by entrance station (Big Stump and Ash Mountain); time of day (8:00am-1:00pm and 1:00pm-6:00pm) and by weekend and weekday, proportionate to visitation estimates provided by the park.

(c) Instrument Administration:

Surveys will be administered by Student Conservation Association (SCA) interns and ASU undergraduate research assistants working under the supervision of SEKI staff and an ASU graduate research assistant project manager. The questionnaire will be administered using tablet computer to facilitate skip patterns. The respondent will be handed the tablet to complete the questionnaire and surveyor will be available for assistance.

Intercept locations will be park entrances/exits that provide adequate space for pulling over vehicles and collecting data safely. Each location will have one surveyor to serve as a flagger to control the traffic and one to serve as a data collector. A general traffic control plan will be used and modified for effectiveness at each location. At high-volume locations, a random start time will be selected at the beginning of the sample period and a visitor group will be intercepted approximately every 20 minutes (this sampling interval may be adjusted if and when traffic volume fluctuates). At low-volume locations, all visitor groups will be contacted. Groups will be greeted by the surveyor after they pull off the road segment and introduced to the purpose of the study.

“Excuse me, sir/ma’am. We’re conducting a study for Sequoia and Kings Canyon National Parks to understand visitor use in this area. Participation is voluntary and all responses are anonymous. Would you be willing to take 15 minutes to help?”

If YES: “Thank you. Who in your group (who is at least 18 years old) has the next birthday? Would you be willing to fill out this survey? Have you completed a survey at a different location in the park?”

If YES: “Thank you, but we can only accept one response per group. Thank you for your time.”

If NO: “Thank you. Please feel free to ask me any questions you have about the survey.”

If NO: “I understand. I hope you enjoyed your visit.”

Although the questionnaire will be self-administered, the surveyor will be available to provide assistance when necessary.

(d) Expected Response Rate/Confidence Levels:

A total of 275 visitor groups will be intercepted at each of the sampling locations (Big Stump and Ash Mountain) for a total of 550 overall contacts. Based on previous on-site surveys conducted in Yosemite National Park (White et al., 2011) and Canyon de Chelly National Monument in 2006 (White, van Riper, Wodrich, Aquino, & McKinney, 2007), a final response rate of 75% is anticipated. A 75% response will yield approximately 412 completed questionnaires overall. Based on this, the overall sampling error will be approximately +/- 5% at the 95% confidence interval.

Number of Initial Contacts	Expected Response Rate	Expected Number of Responses	Margin of Error +/- %
550	75%	412	5%

(e) Strategies for dealing with potential non-response bias:

A large color postcard will be provided to all groups contacted to encourage participation in the study and to minimize non-response. To assess potential non-response bias, surveyors will use an on-site contact log to document sampling location, time of day, gender, number of children present, personal group size, and comments regarding reason for refusal. Analyses will be performed to determine if respondents differed significantly from non-respondents, and the implications, if any, for interpreting the results will be discussed. If necessary, data weighting may be applied during the analysis phase.

(f) Description of any pre-testing and peer review of the methods and/or instrument (recommended):

Survey research methods and the questionnaire instrument were reviewed by NPS officials. The methods and instrument have also been reviewed by nationally-recognized scholars including: Dr. Randy Gimblett, University of Arizona; Dr. Steve Lawson, Resource Systems Group; and Dr. Geoff Lacher, Arizona State University. Questionnaire items are identical to those used in previous studies in several other national park sites and nearly all appear in the NPS Pool of Known Questions (OMB Control Number 1024-0224).

- 10 **Burden Estimates:** We plan to approach at least 550 individuals during the sampling period. With an anticipated response rate of 75%, we expect to receive 412 total responses for this collection.

We expect that the initial contact time will be at least one minute per person (550 x 1 minute = 9hours). We expect that 138 (25%) visitors will refuse to participate during the initial on-site contact, for those individuals we will note their reason for refusal and record information that will be used for the non-response check on the on-site contact log: sampling location, time of day, gender, number of children present, personal group size. This is estimated to take no more than 2 minutes (138 x 2 = 5 hours) to complete each session.

We expect that 412 agree to participate and will complete the questionnaire. With that, an additional 20 minutes will be required to complete the process (412 response x 20 minutes = 137hours). The burden for this collection is estimated to be 151 hours.

Estimated Number of Contacts		Estimation of Time		Estimation of Respondent Burden	
Total Number of Initial Contacts	550	Estimated Time (mins.) to Complete Initial Contact	1	Estimated Burden Hours	9
Estimated number of on-site refusals	138	On-site Refusal/ nonresponse	2	Estimated Burden Hours	5
Total Number of Responses (Spring and Summer – combined)	412	Time to complete and return surveys	20	Estimated Burden Hours	137
				Total Burden	151

11. **Reporting Plan:** Analysis and results will include frequency distributions and descriptive statistics for all questionnaire variables as well as selected cross-tabulations and other comparisons. Depending on the variable, appropriate statistical analyses will be conducted, including correlations (Pearson’s rho), Chi-square, Analysis of Variance (ANOVA), factor analysis, and scale reliability analysis.

Electronic version (in PDF and MS Word file formats) of the completion report will be provided to the park representatives. NPS Denver Service Center; and the NPS Social Science Program for inclusion in the Social Science Studies Collection within 12 months after the collection is completed.

References

- White, D. D. (2007). An interpretive study of Yosemite National Park visitors' perspectives toward alternative transportation in Yosemite Valley. *Environmental Management*, 39(1), 50-62.
- White, D. D., van Riper, C. J., Wodrich, J. A., Aquino, J. F., & McKinney, C. (2007). Canyon de Chelly National Monument Visitor Survey Final Technical Report. Phoenix, AZ: Arizona State University.
- White, D. D., Aquino, J. F., Budruk, M., & Golub, A. (2011). Visitors’ experiences of traditional and alternative transportation in Yosemite National Park. *Journal of Park and Recreation Administration*, 29(1), 38-57.
- Youngs, Y. L., White, D. D., & Wodrich, J. A. (2008). Transportation systems as cultural landscapes in national parks: The case of Yosemite. *Society & Natural Resources*, 21(9), 797-811.