



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

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Programmatic Approval for NPS-Sponsored Public Surveys

Submission Date 03-04-2013

1. **Project Title:** Visitor Use and Experience Study in Grand Canyon National Park's (GRCA) Corridor Zone

2. **Abstract:** Public comments solicited to help inform Grand Canyon's backcountry management plan illustrate that there are a number of issues related to crowding and conflict in the park's corridor zone. Management concerns include the amount and type of use the corridor can accommodate before impacts to visitor experience, managerial facilities, or resources become unacceptable. This study aims to understand not only what the appropriate types and amounts of visitation are, but also what potential management actions are the most acceptable to visitors of Grand Canyon's corridor. On-site survey will occur April - June and September - November 2013.

(not to exceed 150 words)

3. **Principal Investigator Contact Information**

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4. **Park or Program Liaison Contact Information**

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Project Information				
5. Park(s) For Which Research is to be Conducted:	Grand Canyon National Park			
6. Survey Dates:	04/2013	TO	11/2013	
7. Type of Information Collection Instrument (Check ALL that Apply)				
Mail-Back Questionnaire Other (explain)	<input checked="" type="checkbox"/> On-Site Questionnaire	Face-to-Face Interview	Telephone Survey	Focus Groups
8. Survey Justification: (Use as much space as needed; if necessary include additional explanation on a separate page.)	<p><i>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.</i></p> <p>Data are needed to develop management options and planning alternatives that will be used to address visitor capacity in Grand Canyon National Park. Park managers need to understand how current visitor use levels and types are impacting visitor experience, resources, and facilities.</p> <p>This study builds upon research and planning efforts focused on visitors' experiences traveling in Grand Canyon's corridor (see: Backlund et. al.2006 & 2008; Manning et al., 1999; Stewart, 1997). The goal of this collection is to understand the psychological, social, and behavioral dimensions of park visitors' corridor travel experiences. This information collected will be used to inform backcountry planning and management and visitor use capacity decision making.</p>			
9. Survey Methodology: (Use as much space as needed; if necessary include additional explanation on a separate page.)	<p>(a) Respondent Universe: The respondent universe for this study will include adult park visitors (aged 18 and older) visiting GRCA during the study period (April - November, 2013). A total of 450 visitors will be contacted and asked to participate in the survey.</p> <hr/> <p>(b) Sampling Plan/Procedures: The study will employ a purposive sampling strategy. Sampling will be stratified by trail location (North and South Kaibab and Bright Angel trails), and target peak use days (weekends) and hours (0800-1600) as estimated by the park.</p> <hr/> <p>(c) Instrument Administration: Surveys will be administered by National Park Service employees and possibly undergraduate and graduate research assistants working under the</p>			

supervision of GRCA staff. The questionnaire will be completed on-site. The respondent will be handed the questionnaire to complete and the survey administrator will be available for assistance.

Intercept locations will be trail junctions and attraction sites that provide adequate space for accommodating visitors without adversely impacting park resources. Each location will have one survey administrator to serve as a data collector. At each location, at the beginning of the sample period, each visitor group will be intercepted as they approach the site. No more than 4 surveys will be conducted at any one time. Groups will be greeted by the surveyor as they approach the site and will be introduced to the purpose of the study.

“Excuse me, sir/ma’am. I’m conducting a study for Grand Canyon National Park to understand visitor use in this area. Participation is voluntary and all responses are anonymous. Would you be willing to take 10 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 150 visitor groups will be intercepted at each of the three sampling locations (North and South Kaibab and Bright Angel) for a total of 450 overall contacts. Based on previous on-site surveys conducted along popular National Park trails (Newman et al., 2005; Manning et al., 2003) a final response rate of 90% is anticipated. A 90% response will yield approximately 405 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 +/- %
450	90%	405	5%

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

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. Robert Manning, Professor and Director of the Park Studies Laboratory at the University of Vermont and Dr. Rudy Schuster, Branch Chief of Policy Analysis and Science Assistance for the United States Geological Survey. Questionnaire items have been used in previous studies in several other national park sites and all appear in the NPS Pool of Known Questions (OMB Control Number 1024-0224).

10 Burden Estimates: We plan to approach at least 450 individuals during the sampling period. With an anticipated response rate of 90%, we expect to receive 405 total responses for this collection.

We expect that the initial contact time will be at least one minute per person (450 x 1 minute = 7.5hours). We expect that 45 (10%) 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 (45 x 2 = 1.5 hours) to complete each session.

We expect that 405 agree to participate and will complete the questionnaire. With that, an additional 10 minutes will be required to complete the process (405 response x 10 minutes = 67.5 hours). The burden for this collection is estimated to be 63 hours.

Estimated Number of Contacts		Estimation of Time		Estimation of Respondent Burden	
Total Number of Initial Contacts	450	Estimated Time (mins.) to Complete Initial Contact	1	Estimated Burden Hours	8
Estimated number of on-site refusals	45	On-site Refusal/nonresponse	2	Estimated Burden Hours	2
Total Number of Responses (Spring and Fall - combined)	405	Time to complete and return surveys	10	Estimated Burden Hours	68

Total Burden 78

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.

Electronic version (in PDF and MS Word file formats) of the completion report will be provided to the park representatives. A final copy of the report will also be submitted to the NPS Social Science Division for archiving in the Social Science Studies Collection as required by the programmatic approval process.

References

Backlund, E., Stewart, W., Schwartz, Z. (2008). Overnight Backcountry Visitors at Grand Canyon National Park. Report submitted to Grand Canyon National Park.

Backlund, E., Stewart, W., Schwartz, Z., McDonald, C. (2006). Backcountry Day Hikers at Grand Canyon National Park. Report submitted to Grand Canyon National Park.

Manning, R., Cole, D., Stewart, W., Taylor, J., Lee, M. (1999). Day Use Hiking in Grand Canyon National Park. Report submitted to Grand Canyon National Park.

Manning, R., W. Valliere, B. Wang, S. Lawson, and P. Newman. (2003). Estimating Day Use Social Carrying Capacity in Yosemite National Park. *Leisure: The Journal of the Canadian Association for Leisure Studies*.

Newman, P., R. Manning, and D. Dennis. (2005). Informing Carrying Capacity Decision-Making in Yosemite National Park, USA Using Stated Choice Modeling. *Journal of Park and Recreation Administration*. 23: 75-89

Stewart, W. (1997). Grand Canyon Overnight Backcountry Visitor Study: Use of diary-like techniques. Report submitted to Grand Canyon National Park.