

**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**

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1.	<b>Project Title:</b> Social science to support wilderness planning at Yosemite National Park	<b>Submission Date:</b> 6-25-2012
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2.	<b>Abstract:</b>	This study will use on-site and mail questionnaires to address Yosemite wilderness visitors' perceptions of resource conditions, attitudes toward management, and experience quality. To maximize the response rate, survey data will be collected via on-site self-administered questionnaires during summer 2012 from approximately 1,200 adult visitors (with 600 each from high use and moderate use trails) on randomly selected days. A random sample of 1,000 visitors to low-use trails will be drawn from wilderness permits; they will receive the survey via postal mail because it is not feasible to administer the survey on-site at these locations. This study is being conducted at the request of Yosemite National Park to support a wilderness planning effort. All survey questions qualify for the National Park Service Programmatic review process.
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(not to exceed 150 words)

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**3. Principal Investigator Contact Information**

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

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**Project Information**

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5. **Park(s) For Which Research is to be Conducted:** Yosemite National Park

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6. **Survey Dates:** 7-4-2012 TO 8-31-2012

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

☒ Mail-Back  
Questionnaire

☒ On-Site  
Questionnaire

☐ Face-to-Face  
Interview

☐ Telephone  
Survey

☐ Focus Groups

☐ Other (explain)

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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.*
- (Use as much space as needed; if necessary include additional explanation on a separate page.)**

At Yosemite National Park, social science research is needed to understand visitor's wilderness experiences as well as determine public reaction to potential management policies and actions as part of a new effort to create a wilderness management plan. Managers at Yosemite want to know about visitor and trip characteristics, social and biophysical conditions experienced, and attitudes toward management. No such wilderness-wide social data have been collected in Yosemite in recent decades. We propose to use a combination of on-site and mail surveys, using questions from previous peer-reviewed research, to collect these data.

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9. **Survey Methodology:** **(a) Respondent Universe:** All adult visitors (18 years and older) exiting wilderness trails from May 1 through August 31, 2012.
- (b) Sampling Plan/Procedures:** Based on consultation with Yosemite wilderness managers, wilderness trails will be stratified by relative level of use into high, moderate, and low use categories. Several comparisons among managerially relevant subgroups of visitors are planned (for instance, high vs. moderate vs. low use trails; day vs. overnight users), so target sample sizes have been set at 600 completed surveys per use stratum (1,200 total surveys).
- (Use as much space as needed; if necessary include additional explanation on a separate page.)**

Table 1 provides estimates for the average number of surveys expected per day and the number of sample days required to reach our target number of completions for high-use and moderate-use trails.

**Table 1.** Target number of sampling days required to meet sample size requirements for high- and moderate-use trails (on-site survey)

Stratum	Estimated surveys/ day	Days of sampling	Estimated Initial Contacts	Target (n)
High use trails	20	30	1,715	600
Moderate use trails	15	40	1,000	600
Total		70	2,715	1,200

Guided by the numbers in Table 1, we will draw a random sample of dates for surveying. For each sample date, a trail from within the specified stratum will be randomly selected for survey administration. Surveys will be administered for six hours per day, during the highest use time of day.

For low-use trails, the physical layout of trail access to Yosemite Wilderness makes on-site sampling very inefficient, because trailheads are remote and very few visitors can be expected per day. Therefore, mail surveys will be used to sample visitors to low-use trails. Assuming a response rate of approximately 60%, we plan to draw a random sample of 1,000 wilderness permits.

### (c) Instrument Administration:

#### On-site survey

All adult (18 years of age and older) visitors who exit the wilderness on sampled days will be asked to participate in the study. The researchers will adhere to both Federal and University of Idaho standards for informed consent by stating the purpose of the research, assuring people that participation is voluntary and anonymous, and offering to answer any questions about the research. Visitors will be read the following script:

*“Hello, my name is xxx. I am a graduate student from the University of Idaho [or park volunteer] and I am conducting a survey for the National Park Service at Yosemite. This survey will help the Park Service managers to provide enjoyable experiences for wilderness visitors. You have been randomly selected to participate in the study. If you agree, your responses will be completely anonymous. Would you be willing to answer some important questions regarding your visit here? This will only take about 20 minutes. Are you willing to participate? I need to speak to the person that has the next birthday (**at least 18 years old**).*

➔ If “NO” then, would you mind answering a few questions for me?

1. On this visit to Yosemite Wilderness, how long did you and your personal group spend visiting the **wilderness**? (daytrip or overnight)
2. How did you travel during this trip (foot or stock)?
3. Where do you live?

➔If NO again then, *“Thank you, I hope you enjoyed your visit.”*

➔If “YES” then, *“Your opinions do count. I am happy to answers any questions about the survey instructions and to discuss the survey further after you have completed the questionnaire. Have a great day.”*

People who agree to participate will be given a clipboard, pencil, and a copy of the questionnaire. They will be asked to return the questionnaire to the researcher once they have finished.

When refusals occur, any stated reasons for refusal will be recorded on a log-sheet. The researcher will also ask two non-response bias questions and record observable information such as gender, activity, and group size. People who fully decline to participate will be thanked and the researcher will proceed to the next group until the time block ends for each site.

#### **Mail survey**

For visitors using the low-use trails, the Dillman (2000) approach to surveying will be used, with an initial survey mailing, a follow-up reminder postcard (after 10 days), and a second survey mailing (two weeks after the postcard). The visitors will be drawn from mandatory visitor permits required by Yosemite National Park. The mail survey will include a cover letter explaining the same information as presented in the approach script for the on-site surveys:

*Dear [Name],*

*The University of Idaho is conducting a survey for the National Park Service at Yosemite. This survey will help the Park Service adopt management practices that provide enjoyable experiences for wilderness visitors, while protecting and preserving the natural resources for future generations to enjoy. You were randomly selected from wilderness permits to participate in the study. If you agree, your responses will be anonymous – your name will not be used and your answers will not be connected to you. The survey will take approximately 20 minutes. When you’ve completed the survey, please send it back in the postage-paid envelope we’ve provided.*

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#### **(d) Expected Response Rate/Confidence Levels:**

For the on-site survey, the nature of the survey and the in-person appeal lead us to expect a response rate of approximately 70%. This level of response has been reached with similar surveys conducted by the University of Idaho in wilderness areas.

For the mail survey, we anticipate a response rate of 60%. While slightly higher than obtained in other mail surveys, the high level of interest in Yosemite and wilderness among potential respondents is expected to lead to high levels of

response. (Note: non-response bias concerns are addressed later.)

203 usable questionnaires are needed for a 95% confidence interval and a 3% margin of error for the type of questions we will ask. However, we plan to conduct factor analysis on various scales, which requires a minimum of 10-15 subjects per scale item (Hair et al. 2010). This sample size will also permit comparisons of managerially relevant subgroups, such as campers vs. day users. Some important user groups – such as High Sierra Camp users and John Muir Trail through-hikers – are somewhat rare, and the target sample size will ensure that adequate numbers of these important subgroups are included in the study. There will be no attempt to generalize the findings outside the scope of this collection.

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

During the initial contact, the interviewer will ask each visitor three questions taken from the survey. These questions will be used in a non-response bias analysis. The following approach will be used during the initial contact:

- ➔ If YES – ask non response bias questions. Record responses in spaces provided on the tracking sheet.
- ➔ If NO– (soft refusal) - ask if they would be willing to answer non response bias questions. Record responses in spaces provided on the tracking sheet

***Non Response Bias Questions.***

1. *On this visit to Yosemite Wilderness, how long did you and your personal group spend visiting the **wilderness**? (daytrip or overnight)*
2. *How did you travel during this trip (foot or stock)?*
3. *Where do you live?*

- ➔ If NO– (hard refusal) - end the contact and record observable data on the survey log sheet and thank them for their time.

- 1) *How many hours did you spend in the wilderness?*
- 2) *How many years have you visiting Yosemite wilderness?*
- 3) *Where do you live?*

Responses to these questions and observable characteristics (e.g., gender, personal group size and type, presence of children, and weather conditions) will be recorded on the survey log will be recorded on a log for every contact. The results of the non-response bias check will be described in a report and the implications for interpreting the results will be discussed.

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

The measures in this study are well established and have been tested for validity and reliability. In the attached instrument, questions are annotated (in shaded boxes) to show the connections to the NPS approved Pool of Known Questions (PKQ). Variations to PKQ are noted. Where questions are not from the PKQ, we provide a citation to published sources that have used the questions.

We have completed a peer-review of the proposed sampling plan and measures by soliciting feedback from faculty within the University of Idaho's Conservation Social Sciences department.

10. **Burden Estimates:** With an anticipated response rate of 70%, for the on-site survey we plan to approach 1,715 individuals. We expect that the initial contact time will be two minutes per person ( $1,715 \times 2 \text{ minutes} = 57 \text{ hours}$ ). For those who agree to participate (1,200 people), an additional 20 minutes will be required to complete the questionnaire ( $1,200 \text{ response} \times 20 \text{ minutes} = 400 \text{ hours}$ ).

For the mail survey, with an anticipated response rate of 60%, we will send questionnaires to 1,000 individuals. The time required to read the cover letter will be two minutes per person ( $1,000 \times 2 \text{ minutes} = 33.3 \text{ hours}$ ). For those who agree to participate (600 people), an additional 20 minutes will be required to complete the questionnaire ( $600 \text{ responses} \times 20 \text{ minutes} = 200 \text{ hours}$ ).

The total burden for this collection is estimated to be 690 hours.

Estimated Number of Contacts	Estimation of Time (Minutes)	Estimation of Respondent Burden
Total Number of Initial Contacts	To Complete Initial Contact	Estimated Burden Hours
On-site 1,715	On-site 2	On-site 57
Mail 1,000	Mail 2	Mail 33
Total Number of Responses	To Complete and Return Surveys	Estimated Burden Hours
On-site 1,200	On-site 20	On-site 400
Mail 600	Mail 20	Mail 200
Total Burden 690		

11. **Reporting Plan:** A report will be issued to Yosemite and the NPS Social Science Program containing (1) overall descriptive results of the questionnaires, and (2) analysis of how visitors' attitudes and perceptions vary among managerially important subgroups, for example, day and overnight visitors and visitors to trails with different use densities. Analyses of the survey data will include descriptive statistics (means, standard deviations, frequencies), comparative analyses (chi-square, t-test, and ANOVA), and regression analyses to determine the strongest predictors for experience quality and support for management policies.

**References Cited**

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York: John Wiley and Sons.

Hair, J.F. Jr., Black, W.C., Babin, B.J., Anderson R.E. (2010). *Multivariate Data Analysis*, 7<sup>th</sup> ed. Prentice Hall: Upper Saddle River, NJ.