



PROGRAMMATIC REVIEW AND CLEARANCE PROCESS FOR NPS-SPONSORED PUBLIC SURVEYS



The scope of the Programmatic Review and Clearance Process for NPS-Sponsored Public Surveys is limited and will only include individual surveys of park visitors, potential park visitors, and residents of communities near parks. Use of the programmatic review will be limited to non-controversial surveys of park visitors, potential park visitors, and/or residents of communities near parks that are not likely to include topics of significant interest in the review process. Additionally, this process is limited to non-controversial information collections that do not attract attention to significant, sensitive, or political issues. Examples of significant, sensitive, or political issues include: seeking opinions regarding political figures; obtaining citizen feedback related to high-visibility or high-impact issues like the reintroduction of wolves in Yellowstone National Park, the delisting of specific Endangered Species, or drilling in the Arctic National Wildlife Refuge.

SUBMISSION DATE: September 7, 2018

PROJECT TITLE: Informing road noise reduction and visitor experience for the Badwater Road of Death Valley National Park

ABSTRACT: (not to exceed 150 words)

Death Valley National Park's (DEVA) 3.4 million acre span makes it largest NPS site in the contiguous United States of America. Since 2007, visitation to the park has increased 84%. As a means of reducing the impact of visitor-caused noise on the natural soundscape, the park will be installing quiet pavement on eight sections of Highway 178 (Badwater Road). The impact of this management action on visitor experience is of great interest to the NPS. This study includes an examination of visitor perceptions of road noise acceptability and a comparison of the utility of various management strategies to quiet pavement and assessment of opportunity cost of noise abatement. The results of this quantitative research will be used to help inform current and future visitor use management in DEVA.

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PROJECT INFORMATION:

Short IC Title: Road noise reduction survey in Death Valley National Park

Where will the collection take place? Death Valley National Park

Sampling Period Start Date: 10/13/2018 **Sampling Period End Date:** 11/30/2018

Type of Information Collection Instrument: (Check ALL that Apply)

- Mail-Back Questionnaire Face-to-Face Interview Focus Groups
 On-Site Questionnaire Telephone Survey
 Other (List)

Will an electronic device be used to collect information? No Yes – Type of Device: iPads

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 and development.

Natural and cultural sounds have been identified by the National Park Service (NPS) as a resource that must be protected. Visitor-caused noise is considered a threat to the natural soundscapes of America's antiquities. In recent decades, social science has begun examining both visitor impacts on park soundscapes and visitor perceptions of noise and natural sounds. This science has been applied in park settings with the intent to make sense of the matrix of noise, natural sounds, recreation, and wildlife in their management strategies. In Muir Woods National Monument, educational signage and quiet zones were implemented in response to a visitor study. In Sequoia National Park, social scientists measured visitor perceptions of military aircraft overflights and in Grand Teton National Park researchers examined the effects of road noise on visitor perceptions and driving behavior. However, little has been done to examine visitors' physical reactions to road noise or the tradeoff values related to management actions aimed at preserving natural quiet (i.e., natural quiet and access or intervention and freedom).

The NPS recently installed segments of quiet pavement in sections of Badwater Road in Death Valley National Park. This is an effort to reduce automobile noise in this heavily trafficked corridor that runs through the heart of the park. This corridor is popular for both wildlife and recreationists alike. Reducing human-caused noise in the area is of the upmost concern to preserve habitat and visitor experience. Quiet pavement reduces the friction between tires and pavement through its smooth surface thereby reducing the noise of cars passing through the park. the lack of noise buffering vegetation and the physical structure of the park, road noise has been a historical management issue in the park. In order to protect the natural soundscape of the park, noise abatement has become a management priority as it

can effect both humans and wildlife. The impact of this management action on visitor experience is unknown and visitors’ preferences for quiet pavement versus other noise abatement techniques is largely unexplored. Additionally, before being implemented elsewhere in the national park system, this study has been commissioned to examine the impact that quiet pavement has on the human experience. Therefore, this research seeks to inform future management action of the natural soundscape by examining the effect of quiet pavement on visitor experience. The management issue at play in this situation is the recurring need to balance visitor enjoyment with resource preservation.

SURVEY METHODOLOGY:

(A) Respondent Universe:

All adult, recreational users and drivers (18 years and older) visiting DEVA from October 13 to November 30, 2018.

(B) Sampling Plan / Procedures:

This proposed collection will use an on-site questionnaire to survey visitors for 10 sampling days (October 13 until November 30th, 2018). The days will be evenly stratified by day of week (Monday through Sunday), time (7AM to 7PM), and location (Mesquite Flat Sand Dunes Trail Head and Golden Canyon Trail Head). The sample sites were selected because the trailheads are adjacent to major park roads, offer similar recreational opportunities and unique pavement types. We anticipate intercepting 25 individuals at each sampling location per day during the sampling period (Table 1).

Table 1. Sampling Schedule during the Sampling Period

LOCATION	Weekend* Day		Week Day						Weekend Day		TOTAL
	1	2	3	4	5	6	7	8	9	10	
Mesquite Flat Sand Dunes Trail Head	25	25	25	25	25	25	25	25	25	25	250
Golden Canyon Trail Head	25	25	25	25	25	25	25	25	25	25	250
TOTAL	50	50	50	50	50	50	50	50	50	50	500

* There is no evidence to suggest that DEVA recreational visitation varies on weekends.

All park visitors will be randomly selected to participate in the study. Both locations will be sampled simultaneously on the same days and times from 7am to 7pm. Trained research assistants will contact every *n*th visitor group as they enter the trail systems from the parking lots in the study area. We will ask the person over 18 years old having the most recent birthday in the group to complete the survey before leaving the sampling area. All visitors refusing to participate will be asked if they would be willing to answer the non-response bias questions. After each refusal, the research assistant will wait until the next *n*th visitor enters the sampling area before requesting participation.

We expect to contact at least 500 visitors during the sampling period. Based upon experiences using similar sampling methods, in studies conducted by this research team at other National Parks throughout the country, we anticipate contacting at least 250 visitors at Mesquite Flat Sand Dunes Trail Head and 250 at Golden Canyon Trail Head during the sampling period. This is an estimate of initial on-site contacts, and does not indicate the results of completed surveys.

(C) Instrument Administration:

Trained researchers will randomly select each visitor group and ask if they are willing to participate in the study. The following text is an example of the script used upon the initial contact.

“Hello, I am conducting a study for the National Park Service to better understand visitor experiences with and perception of noise while recreating within the Death Valley National Park. Your participation is voluntary and your responses will be anonymous. The survey should take no more than 16 minutes to complete. Would you be willing to participate?”

If YES: “Thank you for your willingness to assist with this study. Who in your group (who is at least 18 years old) has the next birthday? Would you be willing to participate in the study?”

After the visitor agrees, the research assistant will read the instructions and verbally administer the questionnaire using an iPad to record the responses.

All visitors unwilling or unable to participate in the study will be read the following text during the initial contact:

“Hello, I am conducting a study for the National Park Service to better understand visitor experiences while recreating within the Death Valley National Park. Your participation is voluntary and your responses will be anonymous. The survey will take about 16 minutes to complete. The survey will ask about the experiences you hope to have in the park. Would you be willing to participate?”

If NO: “Do you mind if I ask you a question? From this list, which of the following is the primary activity you plan on participating in during today’s visit? Thank you for your time and consideration. I hope you enjoy your visit.”

The non-response bias questions (listed below) will be recorded in a contact log. This information will be combined with the responses to the non-response bias questions to determine any non-response bias.

(D) Expected Response Rate / Confidence Level:

Based on previous on-site surveys at DEVA and other national parks, we estimate of the 500 visitors we approach, that at least 80% ($n=400$) will agree to take the time to complete the questionnaire. The remaining 20% ($n=100$) will refuse, however we are anticipating that of those that refuse at least 95 visitors will agree to answer the two non-response bias questions, and the remaining 5% ($n=5$) will completely refused to participate. In order to attain an 80% response rate, surveyors are trained in communicating with park visitors in a professional manner, the nature and application of

on-site research methodology, and how to professionally respond to unforeseen questions (Salant and Dillman, 1994; Vaske, 2008).

Table 2. Estimated Response Rate of Participants

Location	Initial Contacts	Acceptance 80%	Non-respondents (Soft refusals) 20%	Non-response survey 95%	Hard Refusals 5%
Mesquite Sand Dunes Trail Head	250	200	50	47	3
Golden Canyon Trail Head	250	200	50	48	2
TOTAL	500	400	100	95	5

Based on the survey sample sizes for the population in this research, there will be 95 percent confidence that the survey findings will be accurate to within 5 percentage points. With that, the proposed sample size should be adequate, but will not be used to produce results that will be generalizable beyond the scope of this collection. The sample will suffice for bivariate comparisons and more sophisticated multivariate analysis. For dichotomous response variables, estimates will be accurate within the margins of error and confidence intervals will be somewhat larger for questions with more than two response categories.

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

Non- response bias will be calculated by recording the number of refusals, responses to the non-response questions (see below) and the following observational information (i.e., time of contact, gender, observed mode of transportation or activity, group size, number of adults and children in group, potential language barrier).

- *By what means did you enter Death Valley National Park during this trip?*
- *What is your primary activity in the park today?*

Data from the study will be analyzed for non-response bias by comparing respondent’s characteristics to non-respondent characteristics and responses. Any implications of non-response bias for park planning and management will be reported.

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

This research uses similar methods and questions that have been used in other visitor use studies. In 2014, researchers in the Recreation, Park, and Tourism Management Department at Pennsylvania State University (PSU) conducted a similar soundscape study using the same methods and technology at Denali National Park and Muir Woods National Monument Visitor Use Study. The questions in the survey instrument are from the NPS Pool of Known Questions, though adapted for appropriate context at DEVA. The questions included in the survey instrument were designed, reviewed and pretested by the following: PI, research staff and graduate students (PSU) with expertise in social science research, and DEVA staff. Pre-testing for clarity and estimated burden time was conducted with graduate and undergraduate students at Pennsylvania State University. A member of the research team has also conducted a site visit to DEVA in order to meet with park staff and scout potential sampling locations.

BURDEN ESTIMATES:

The estimated respondent burden for this collection is 115 hours (Table 3). We plan to contact at least 500 people and receive 400 completed questionnaires. Based on our pretesting efforts, the time to make the initial contact, explain the purpose of the study, and determine participation is typically one minute. The average time to complete the questionnaire was 16 minutes. The anticipated respondent burden is estimated by multiplying the number of respondents (n=400) by the initial contact (1 minute) plus the average time to complete to return the questionnaire (16 minutes).

We expect that of all of the people approached approximately 95% of them will refuse to take the questionnaire, however 5% (n=95) individuals will agree to at least answer the non-response bias questions which should take less than one minute. For the remaining 5% (n=5) individuals completely refusing to participate in the study, we will make one final attempt to ask them to answer non-response bias questions and their reason for refusal after that, the burden for the remaining visitors that completely refuse to participate will not be calculated due to lack of participation.

Table 3. Estimated respondent burden for on-site questionnaire

	Responses	Completion Time (minutes)	Burden Hours
Completed Survey	400	17	113
Non-response Survey	95	1	2
Total:		Initial contact added to time to complete the survey	115

REPORTING PLAN:

1. Analyze data and prepare reports: November 2018 – February 2019
 - a. Product: draft reports with visitor frequencies and descriptive statistics regarding visitor experience.
 - b. Product: compiled final draft report for Management, reviewed by colleagues and NPS staff.
2. Write final report to NPS Management Team: April, 2019
 - a. Product: final report to NPS and DEVA management staff
 - b. Product: Presentation of survey results

References

- Salant, P., & Dillman, D. A. (1994). How to conduct your own survey. New York, NY: John Wiley and Sons.
- Vaske, J. J. (2008). Survey research and analysis: Applications in parks, recreation and human dimensions. State College, PA: Venture Publishing.

NOTICES

Privacy Act Statement

General: This information is provided pursuant to Public Law 93-579 (Privacy Act of 1974), December 21, 1984, for individuals completing this form.

Authority: National Park Service Research mandate (54 USC 100702)

Purpose and Uses: This information will be used by The NPS Information Collections Coordinator to ensure appropriate documentation of information collections conducted in areas managed by or that are sponsored by the National Park Service.

Effects of Nondisclosure: Providing information is mandatory to submit Information Collection Requests to Programmatic Review Process.

Paperwork Reduction Act Statement

We are collecting this information subject to the Paperwork Reduction Act (44 U.S.C. 3501) and is authorized by the National Park Service Research mandate (54 USC 100702). This information will be used by The NPS Information Collections Coordinator to ensure appropriate documentation of information collections conducted in areas managed by or that are sponsored by the National Park Service. All parts of the form must be completed in order for your request to be considered. We may not conduct or sponsor and you are not required to respond to, this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number. OMB has reviewed and approved The National Park Service Programmatic Review Process and assigned OMB Control Number 1024-0224.

Estimated Burden Statement

Public Reporting burden for this form is estimated to average 60 minutes per collection, including the time it takes for reviewing instructions, gathering information and completing and reviewing the form. This time does not include the editorial time required to finalize the submission. Comments regarding this burden estimate or any aspect of this form should be sent to the Information Collection Clearance Coordinator, National Park Service, 1201 Oakridge Dr., Fort Collins, CO 80525.