



Social Science Division

Expedited Approval for NPS-Sponsored Public Surveys

1. <b>Project Title</b>	Exploring Visitor Safety and Risk Communication at Delaware Water Gap National Recreation Area	<b>Submission Date:</b> June 23, 2011
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**Abstract:** The proposed collection will use an internet-based survey to assess perception of risk. This will include risk management, risk-related behavior and safety in national parks. Responses to the proposed questions are critical for park managers when creating and implementing effective risk management strategies. The results of the proposed collection will contribute to the NPS goal of ensuring safe, injury-free visits.

(not to exceed 150 words)

3. **Principal Investigator Contact Information**

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

**First Name:** Sara **Last Name:** Newman

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**Park:** WASO

**Park Office/** Division of Risk Management

Division:

Street Address:

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State:

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### Project Information

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

6. Survey Dates:  (mm/dd/yyyy) to  (mm/dd/yyyy)

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

<input checked="" type="checkbox"/> Mail-Back Questionnaire	<input type="checkbox"/> On-Site Questionnaire	<input type="checkbox"/> Face-to-Face Interview	<input type="checkbox"/> Telephone Survey	<input type="checkbox"/> Focus Groups
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Other (explain)

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

*Legal Justification: The National Park Service Act of 1916, 38 Stat 535, 16 USC 1, et seq., requires that the National Park Service (NPS) preserve the national parks for the use and enjoyment of present and future generations. At the field level, this means resource preservation, public education, facility maintenance and operation, and physical developments that are necessary for public use, health, and safety. Allocation of funding is to be roughly in proportion to the seasonally adjusted volume of use (P. L. 88-578, Sect. 6) and in consideration of visitor characteristics and activities for determining carrying capacity (92 Stat. 3467; P. L. 95-625, Sect. 604 11/10/78). Other federal rules (National Environmental Policy Act, 1969 and NPS guidelines) require visitor use data in impact assessment of development on users and resources as part of each park's general management plan.*

The proposed collection will explore the linkages between attribution of responsibility, risk perception theory, and risk communication with regard to safety promotion in the context of three U.S. national parks. Whether sightseeing or spelunking, camping or bird watching, hundreds of millions of people enjoy visits to national parks each year

A survey of visitor safety and risk communication in 30 national parks commissioned by NPS in 2000, found that visitor opinions regarding the attribution of responsibility for safety varied from park to park (Tuler & Golding, 2002). In general, the majority of visitors to "backcountry parks" (i.e., parks where popular activities included off-trail pursuits such as backpacking) believed the visitor to be responsible for his safety. On the other hand, the majority of visitors to "frontcountry parks" (i.e., parks that offer limited or no backcountry activities) placed the burden of responsibility on both the visitor and the park staff. Finally, very few visitors at any of the parks

surveyed felt that park employees should be held entirely responsible for guaranteeing visitor safety. In explaining the differing attributions of responsibility reported by those visiting backcountry and frontcountry parks, Tuler and Golding (2002, p. 60) noted that this distinction may reflect the perception that risks in frontcountry parks can be more easily “controlled” “since visitor activities tend to be less physically rigorous and the venues tend to be more ‘benign,’ with many paved walkways, regular stairs, and buildings.” On the other hand, as the authors note, such deviating attributions may reflect the perceptions, characteristics, and expectations of visitors who frequent each type of park.

Results from the 2008 study of park managers (e.g., Superintendents, Chief Rangers) in 51 national park units in the Pacific West Region revealed that managers tended to attribute the responsibility for visitor injury to the visitor themselves, while viewing park facilities and infrastructure as appropriate for ensuring safe visits.

While the NPS is engaged in risk management as part of a larger institutional mission, the on the ground goals are to prevent unintentional injury among visitors. The latter goal could be met by developing engineering controls and enforcing rules (e.g., banning particular activities), such strategies might run counter to the primary goals of sustaining landmarks and attracting visitors. As such, NPS must rely on educational programs and public communication (e.g., signs, brochures, employees) to relay preventative risk and safety messages to its visitors.

A web-based survey will used to collect data from visitors and NPS employees to determine the effectiveness of current risk communication efforts. The information collected will include individual characteristics, trip/visit characteristics, individual activities, individual perceptions of their park experiences and individual opinions on park management. Park visitors will be randomly selected to participate in the study as they visit Delaware Water Gap National Recreation Area during a 1 month-long period.

The findings will be used:

- To understand the ways in which visitors are using current risk communication information resources, both inside and outside of the park.
- To understand how different user groups interpret risk and safety issues in the park, in order to better provide adequate informational, interpretive, and educational resources and programs.

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

**(a) Respondent universe:**

All adult visitors (18 years and older), will be contacted by trained interviewers at designated locations within the park.

**(b) Sampling plan/procedures:**

Most questions appear in the NPS Known Pool of Questions, or are closely related. A systematic sampling procedure will be based on the park’s visitation statistics from the previous year. We will intercept every *n*th visitor group to participate in the study. Each interviewer will be trained in the intercept and interview procedures. A supervisor will be on-site during the survey to ensure that interview procedures are

followed. On-site visitors will be intercepted at locations shown below:

Park	Intercept Locations
DEWA	<ul style="list-style-type: none"><li>• Raymondskill Falls,</li><li>• Dingman’s Falls Visitor Center,</li><li>• Dingman's Campground,</li><li>• Eshback Boat Launch,</li><li>• Bushkill Access,</li><li>• Smithfield Beach,</li><li>• Hialeah Picnic Area,</li><li>• Watergate Recreation Site,</li><li>• Crater Lake,</li><li>• Lower Van Campens Glen,</li><li>• Turtle Beach,</li><li>• Kittatinny Point Visitor Center.</li></ul>

Surveys will be distributed at eight recreation sites selected to maximize differences in use and setting characteristics, including campgrounds, boat ramps, day use areas, and dispersed lake shore/beach sites. We will randomly select 30 days for survey administration. The 12 sites will be divided into four groups so only four sites will be visited per sample day (i.e., 15 days of sampling per site). This will allow the researcher to spend 30 minutes in transit and 60 minutes surveying at each site each day. The start time at each site will be randomized to ensure coverage between 10:00 a.m. and 5:00 p.m. each sampling day.

The surveyors will recruit study participants by contacting a random sample of visitors as they walk past the study site and ask them to participate in the survey. If members of the visitor group agree to participate, the eligible person in the group whose birthday is closest to the sampling day will be asked to participate in the study. All visitors who volunteer will be asked five questions to collect information used in a non-response bias check. They will also be asked to record their first name and email address on the interviewer’s log sheet. Email addresses will be used to send the link to the web survey, to follow up, and check on non-response bias among non-respondents. Each respondent will be informed that the survey will be completed electronically.

When refusals occur, the next eligible person will be contacted. Any reasons for refusal will be recorded on the log-sheet. The researcher will also record observable information such as gender, activity, and group size (see Survey Log).

At the end of each 60-minute time period, the researcher will travel to the next study site and repeat the process.

**(c) Instrument administration:**

The initial contact with visitors will take approximately 1 minute. This time will be used to explain the study and determine interest of participation.

Visitors selected for participation in any of the surveys included in this study will be

read the following script:

*“Hello, my name is Laura Rickard and I am a student Cornell University and I am conducting a survey for the National Park Service here at Delaware Water Gap National Recreation Area. This survey will help the Park Service adopt management practices that provide enjoyable and safe experiences for visitors, while protecting and preserving the natural resources for future generations to enjoy. You have been randomly selected and your responses will be completely anonymous. Would you be willing to take an on-line survey, when you return home, to answer some important questions regarding your experience during your visit? It should only take about 15 minutes.”*

*If “NO” then, “Thank you, I hope you enjoy your visit.”*

*If “YES” then, “the survey is really important and I am happy that you’ve agreed to participate. If you have any additional questions, my contact information is on this card and you can feel free to contact me. Have a great day.”*

At the time of the contact, the individual will also receive a postcard with the principal investigator’s contact information and a reminder of the nature of the study. Each potential respondent will receive an email with a link to the web survey within a few days of the on-site contact. The number of visitor groups who refuse will be recorded and used to calculate response rates

The respondent will use his/her own computer, at his/her own convenience to complete the survey. The survey is expected to take approximately 15 minutes, and participants can choose to save their results and return to the survey at a later point. Participants who have not responded will receive up to three reminder emails at two-week intervals. The data will be sent directly to the researcher and will be coded without linking any of the information back to the individual respondents.

**(d) Expected response rate/confidence levels:**

The number of visitors to be contacted is based on the park’s average visitation data during the number of days of surveying. Visitor data collected in 2010 in Delaware Water Gap National Recreation Area (DEWA) averaged 601,358 on-site visitors between June-September 2010. This estimated visitor “population” of 601 358 will require a sample size of 1,080 usable questionnaires are needed for a 95% confidence interval and a 3% margin of error. This sample size should also permit comparisons of managerially relevant subgroups. There will be no attempt to generalize the findings outside the scope of this collection.

The table below gives a projection of the expected sample sizes, response rates, and associated confidence intervals and confidence levels for the park.

Park	Number of Survey Days	Number of initial Contacts	Expected Number of Responses	Expected Response Rate	Margin of Error +/-%
DEWA	30	2,700	1,080	40%	3

For dichotomous response variables, estimates will be accurate within the margins of error and levels of confidence described above. The confidence intervals will be somewhat larger for questions with more than two response categories.

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

During the initial contact, the interviewer will ask each visitor five questions taken from the survey. These questions will be used in a non-response bias analysis.

- 1) Where are you from?
- 2) How many people are in your group?
- 3) How many in your party are 18 years and older?
- 4) How many in your party are 17 years and younger?
- 5) What activity (activities) will you be participating in today?

Each participant will be assigned a unique ID number. This number will be necessary to access the online survey; subsequently, this number will be recorded with the participant's survey responses. The researcher will keep a record of answers to the front-end survey and the associated ID number. As such, the researcher will be able to determine several characteristics of participants who do not respond to the online survey.

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

The questions included in this survey were initially designed and reviewed by the principal investigator and other professors and students Cornell University, with the guidance of Dr. Sara Newman, NPS Division of Risk Management. Many of the questions are from the Known Pool of Questions and adapted from a previous OMB-approved study on risk management and visitor safety in 30 national parks (Tuler & Golding, 2002).

With a response rate of 40%, we plan to approach 2,700 individuals. We expect that the initial contact time will be at least three minutes per person (2,700 x 3 minutes = 135 hours). For those who agree to participate (1,080), an additional 15 minutes will be required to complete the questionnaire (1,080 response x 15 minutes = 270 hours). The burden for this collection is estimated to be 405 hours.

10. Total Number of Initial Contacts	2,700
Expected Respondents:	1,080

11. Estimated Time to Complete Initial Contact	3
Instrument (mins.)	15

12. Total Burden Hours:	405 hours
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13. **Reporting Plan:** A report will be issued to the managers of Delaware Water Gap National Recreation Area and the NPS Social Science Program containing the overall descriptive results of the questionnaires; Analyses of the survey will include descriptive statistics and regression analyses to determine the strongest predictors for risk perception. Additionally, findings will be used and reported as part of a PhD dissertation at the Cornell University.
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#### References Cited

- Tuler, S., & Golding, D. (2002). *A comprehensive study of visitor safety in the National Park System: Final Report*. Worcester, MA: The George Perkins Marsh Institute, Clark University.
- Tuler, S., Golding, D., & Krueger, R. J. (2002). *A review of the literature for a comprehensive study of visitor safety in the National Park System*. Worcester, MA: The George Perkins Marsh Institute, Clark University.
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