



## 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:** 6/10/2015

**Project Title:** Yellowstone National Park Visitor-Bison Survey

### **Abstract** (not to exceed 150 words)

This proposed study is designed to understand visitor perceptions and social norms about distances to animals while viewing wildlife in Yellowstone National Park. An evaluation of information sources regarding viewing bison while in Yellowstone National Park will be conducted to understand how information is being used and where areas of improvement in communication exist. The sample will be drivers stopped at viewing turn-outs in the Hayden Valley. Information from this collection will be used to help park managers understand visitor perceptions of distance from wildlife, how social norms influence their behavior, and the extent to which current wildlife viewing communication efforts are working and how they can be improved in Yellowstone.

### **Principal Investigator Contact Information**

**Name:** Wayne Freimund  
**Title:** Professor  
**Affiliation:** Department of Society and Conservation - The University of Montana  
**Address:** 32 Campus Dr.  
Missoula, MT 59812  
**Phone:** (406) 243-6656  
**Email:** Wayne.freimund@umontana.edu

### **Park or Program Liaison Contact Information**

**Name:** Tami Blackford  
**Title:** Deputy Chief, Interpretive Planning and Media Development  
**Park:** Yellowstone National Park  
**Address:** P.O. Box 158  
Yellowstone, National Park, WY 82190  
**Phone:** (307) 344-2204  
**Email:** Tami\_blackford@nps.gov

## Project Information

### Where will the collection take place? (Name of NPS Site)

In Yellowstone National Park

### Sampling Period

Start Date: 07/01/15

End Date:08/23/15

### 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 - Samsung Galaxy Tablet

## 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.*

Wildlife-viewing is one of the most popular reasons visitors come to Yellowstone National Park. However, people sometimes act inappropriately in the presence of wildlife, putting themselves and park resource in danger. Because Yellowstone is one of the nation's largest wilderness parks with limited staffing, effective communication strategies play a major role when it comes to informing park visitors about wildlife-safety. Because of an increase in human-wildlife interactions, park managers recognized the need to evaluate their current wildlife-safety communications protocols specifically related to bison. This project was requested because significant resources have been devoted to developing safety messages and it is essential to understand visitor behaviors to ensure the effectiveness of visitor safety messages.

Managers at Yellowstone National Park are dealing with an increasing amount of inappropriate human-wildlife interactions. Bison are responsible for most front-country injuries to visitors and have already severely injured two visitors this year (NPS, 2015)<sup>1</sup>. Managers are currently looking for ways to improve communications efforts concerning wildlife-safety to encourage safe behaviors presence of wildlife. One goal of this collection is provide managers with information about visitors' perceptions of "safe" distances from bison. Visitors are required to stay a minimum of 25 yards away from bison in the park, however, it is unknown how people determine what is a safe distance away from bison while at Yellowstone. Lastly, we will evaluate the information sources about viewing bison available in the park to understand the use, importance and helpfulness of the publications. Collectively, this research will provide Yellowstone managers with usable information that will help to explain the factors that influence the perception of safe distances from wildlife and to provide an evaluation of the effectiveness of the current communication efforts about wildlife viewing safety.

<sup>1</sup> NPS. (2015). *Second Park Visitor Injured in Bison Encounter this Year*. Retrieved from <http://http://www.nps.gov/yell/learn/news/15034.htm>

## Survey Methodology

### (a) Respondent Universe:

All adults (18 years and older) parked or standing in designated turn-out areas in the Hayden Valley during daylight hours from 07/01/15 to 08/23/15 in Yellowstone National Park. This area is heavily used viewing area for bison.

### (b) Sampling Plan/Procedures:

Drivers who are “legally” stopped at one of the turn-outs in Hayden Valley will be randomly intercepted by a member of the research crew.

Drivers will be sampled from 8:00 AM to 6:00PM. There will be two sampling periods, from 8:00 AM to 4:00 PM (earlier) and from 10:00 AM to 6:00 PM (later). We will develop a systematic random schedule based upon 50 potential sampling days during the sampling period (June 1, 2014 to August 23, 2014). On the first day of the study, the initial sampling period (earlier/later) will be randomly selected. Following that day the sampling periods (earlier/later) will be rotated systematically to ensure that each study period is equally sampled.

### (c) Instrument Administration:

Visitors will be intercepted by a trained crewmember associated with the study. A self-administered electronic questionnaire will be used to collect information. A systematic sampling schedule will be used, starting with the first available group during the sampling period. Visitors who are in groups will be asked to present the individual with the most recent birthday to randomize the selection process. After the first group of the sampling period is selected, every  $n^{\text{th}}$  person parked will be selected to participate in the survey.

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

We expect a 90% response rate will be achieved due to the researchers' recent experience in intercept surveys in national parks (where 90%+ response rates were achieved over the last decade), as well as a generally high response rate for survey research undertaken in parks and protected areas. In order to achieve this high response rate, we will ensure that research staff is well trained and has the necessary skills and experience. In case this response rate is not achieved, we will collect observational data as well as ask 3 quick questions to heck for any non-response bias

Location	Number of Initial Contacts	Expected Response Rate	Expected Number of Responses	Margin of Error +/- %	Confidence Level
Hayden	1000	90%	900	5%	95%
TOTAL	1000	90%	900	5%	95%

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

We will maintain a log that will include group size, assumed group type (e.g., couple, family with kids, tour participant, etc.), and gender of all visitors refusing to take the survey. This information will be compared to the demographic data obtained from all respondents. This comparison will be used to assess if non-respondents are significantly different from respondents.

During the initial contact, the interviewer will ask all visitors the 3 questions taken from the survey. The following questions will be used in a non-response bias analysis:

1) *Have you visited Yellowstone before today?*

2) *What is your state of residence?*

3) *What year were you born?*

Responses will be recorded on a log for every survey contact. Visitors may decline to give this basic information as well. If so, their refusal to participate will be recorded on the log sheet. The results of the non-response bias check will be described in a report and the implications for park planning and management will be discussed.

---

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

All versions of the survey instruments were reviewed by multiple faculty members at the University of Montana to ensure the quality and validity of each question. Additionally, the survey was taken by 9 undergraduate students assess the clarity of the questions and the amount of time to complete the questionnaire. Dr. Norma Nickerson and Dr. Libby Metcalf (Faculty members at The University of Montana in the Department of Society and Conservation) peer reviewed the survey instruments and design of this research.

---

**Burden Estimates**

This research plans to contact 1000 visitors in the park during the sampling period (n=1000). With a response rate of 90%, we expect to receive 900 responses for this collection.

We expect the initial contact time to be 1 minute per person (1000 X 1 minute = 16.7 hours). We expect that 10% (100) of visitors will refuse to participate during the initial on-site contact. For those individuals who do refuse, we will record their refusal and ask them to answer the three questions that will be used for a non-response bias check. This is estimated to take no more than 2 minutes per person (100 X 2 = 3.3 hours).

For those who agree to participate (n=900), we expect that 900 people will complete the survey adding an additional 10 minutes will be required. (900 X 10 = 150 hours).

The burden total for this collection is estimated to be 170 hours.

Estimated Total Number		Estimation of Time (minutes)		Estimation of Burden (hours)	
Initial Contacts	1000	Initial Contact	1	Initial Contact	17
On-site Refusal/ nonresponse	100	On-site Refusal/ nonresponse	2	On-site Refusal/ nonresponse	3
Completed Responses	900	To complete response	10	To complete response	150
<b>Total</b>	<b>900</b>			<b>Total</b>	<b>170</b>

---

**Reporting Plan**

All surveys will be analyzed using descriptive statistics, construction of social norms curves graphs, and hypothesis testing for differences among any key groups of interest (e.g., perceptions of safety, etc.).

A series of technical reports will be submitted to Yellowstone National Park. If requested by park managers, a workshop will be held in the fall following data collection. Finally, we will submit copies of the technical reports, as required, to the NPS Social Science Program for inclusion in the Social Science Studies Conclusion.