



### Expedited Approval for NPS-Sponsored Public Surveys

1. **Project Title | Submission Date:**

2. **Abstract:**

(not to exceed 150 words)

### 3. Principal Investigator Contact Information

**First Name:**  **Last Name:**

**Title:**

**Affiliation:**

**Street Address:**

**City:**  **State:**  **Zip code:**

**Phone:**  **Fax:**

**Email:**

### 4. Park or Program Liaison Contact Information

**First Name:**  **Last Name:**

**Title:**

**Park:**

**Park Office/Division:**

**Project Information**

5. **Park(s) Where 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)**

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

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

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, operations, management, education, and interpretive activities.

The purpose of this study is to determine if behavioral standards of quality for the carriage roads are violated.

**Background**

Crowding and behaviors on the carriage roads were studied intensively in the mid-1990s (Manning et al 1996, 1998a, 1998b, 1998c, 1999, 2000, Manning 2001, Manning and Friemund 2004) because of visitor complaints about the number and behaviors of visitors and management concerns about a rapid increase in use. Park staff then applied the Visitor Experience Resource Protection framework to the carriage roads, selecting indicators and establishing standards for crowding and four problem behaviors in 1997 (Jacobi 1997a). Maintaining a high-quality experience on the carriage roads is an important park goal.

Since 1997, the park has monitored the numbers of visitors on the carriage roads annually and compared them to the established crowding standard. Behaviors (e.g. speeding bicycles) have been monitored every three years since 1997 using a short, simple questionnaire as the most efficient means of obtaining this information. Five of the six monitoring questions are taken directly from the research questionnaires; the sixth asks about use of the Island Explorer bus which began service in 1999. The behavior monitoring results are then compared to the behavior standard. A close approach or violation of standards would prompt management action.

Past monitoring has shown that existing conditions have sometimes approached the behavior standards. Continuing to periodically survey visitors on the carriage roads builds upon this important monitoring effort and assists the park in maintaining a high-quality carriage road experience.

(see Jacobi 2008a, 2008b, 2007a, 2007b, 2006, 2005a, 2005b, 2003a, 2003b, 2002, 2001, 2000, 1998, 1997b for carriage road monitoring results.)

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

(a) Respondent universe: The respondent universe is all adult users (16 & older) of the carriage roads in July and August 2010. To be included in the survey, a potential respondent must have visited the carriage roads for at least 15 minutes.

(b) Sampling plan/procedures: A representative sample of carriage road users stratified by location of entry and time of day will be contacted to participate in the survey. Sampling will be based on carriage road census data developed in 2001-2002 and designed to contact an equal number of visitor parties who have spent most of their time in either the high-use zone or the low-use zone of the carriage roads. This same sampling design has been used in all our previous monitoring questionnaires. There is no stratification by day of week because we know from census data that weekday and weekend visitation are equivalent during the peak summer season.

The high-use zone consists of the carriage road segments connecting intersections 1-10 and 14-17 covering the Paradise Hill, Witch Hole Pond, Eagle Lake, Jordan Pond, and Bubble Pond areas. It also includes only the hours between 10:00 a.m. and 5:00 p.m., and only the days between June 20 and Labor Day, plus two days each of the Memorial and Columbus Day weekends. All three conditions (location, time of day, and time of year) must occur together to define the high-use zone. The low-use zone consists of all locations and times other than those of the high-use zone. The same indicators for crowding and problem behaviors were selected for each zone, but different standards were established.

For the low-use zone, we will sample at six access points before 10:00 a.m. or after 5:00 p.m. (Eagle Lake, Visitor Center, Duck Brook Bridge, Jordan Pond, Bubble Pond, and Wildwood Stables) and two access points from 10:00 a.m.-1:30 p.m. or 1:30 p.m.-5:00 p.m. (Brown Mountain, Parkman Mountain). For the high-use zone, we will sample at five access points from 10:00 a.m.-1:30 p.m. or 1:30 p.m.-5:00 p.m. (Eagle Lake, Visitor Center, Duck Brook Bridge, Jordan Pond, and Bubble Pond). In each case, we will make an equal number of contacts before 10:00 a.m. and after 5:00 p.m. or from 10:00 a.m.-1:30 p.m. and 1:30 p.m.-5:00 p.m. Each sampling day, we will vary the exact time we start administering questionnaires (e.g. 10:00, 11:00 12:00) so collection is distributed across all the hours of the time strata (e.g. 10:00 a.m.-1:30 p.m.).

We will approach 525 visitor groups exiting the carriage roads for participation in the survey, selecting one adult volunteer (16 or older) from each group, randomized by closest birth date. Of those, we expect approximately 95%, or 500 individuals, to respond. We expect to sample on about 50 days. The daily number of contacts will vary based on the census data and sampling plan, but not exceed a total of 525 for the sampling period.

(c) Instrument administration: Visitor parties will be approached as they exit the carriage roads at a sampling location. Interviewers will identify themselves and tell visitors the park is monitoring the visitor experience on the carriage roads. The interviewer will state that completing the questionnaire is voluntary and will take about three minutes. If a visitor party refuses to participate, we will record the non-response data on activity type and residency as described in section e below, and the next party exiting will be immediately approached. If they agree to participate, the interviewer will remain with the respondent, collect the completed survey instrument, and then immediately approach the next party exiting the carriage roads. Using carriage road maps, interviewers will assist respondents with Question 1 about their route on the carriage roads.

Sample Contact Script: *Hi. My name is Charlie Jacobi and I'm a ranger here at the park. Have you folks got a moment? It looks like you've just finished a ride/walk on the carriage roads... How long were you out? If less than fifteen minutes, then: Thank you, but we were looking for people who visited longer than*

*that for possible participation in a visitor survey. If more than fifteen minutes, then: If you are interested, we would like to find out about your experience on the carriage roads through a brief questionnaire that takes about three minutes to complete. Participation is voluntary. If you would like to help, we ask that the adult from your group with the closest birth date to today to participate.* Participants will be thanked for their help when finished.

(d)Expected response rate/confidence levels: We will approach 525 visitor parties, approximately evenly distributed between the two use zones. Five hundred responses are expected (about 250 for each zone). This is a 95% response rate, similar to previous carriage road research and monitoring studies (Jacobi 2007a, 2005b, 2001, and 1997b). With a confidence level of 95%, the margin of error is +/- 6.5 percentage points (for 250 respondents).

(e)Strategies for dealing with potential non-response bias: Non-response bias is not expected to be an issue because of the historically high response rate. However, we will observe or ask non-respondents for their primary activity (walking, biking, running, equestrian) and residency (permanent, summer, or not a resident of Mount Desert Island) to compare with the sample and report any implications, if necessary.

(f)Description of any pre-testing and peer review of the methods and/or instrument (recommended): Dr. Robert Manning of the University of Vermont conducted the carriage road research. Several journal articles for various publications and technical reports prepared for the park have all been peer reviewed (Manning et al 1996, 1998a, 1998b, 1998c, 1999, 2000, Manning 2001, Manning and Friemund 2004). This monitoring questionnaire was developed in consultation with Dr. Manning.

10.	<b>Total Number of Initial Contacts   Expected Respondents:</b>	525	500	1 1.	<b>Estimated Time to Complete Initial Contact   Instrument (mins.):</b>	1	3	12.	<b>Total Burden Hours:</b>	34
-----	---	-----	-----	---------	---	---	---	-----	----------------------------	----

13.	<b>Reporting Plan:</b>	An in-house technical report will be prepared and accessioned into the park bibliography. A copy of this report will also be submitted to the National Park Service Social Science Program. A description of the proposed analysis and question purpose is included after the survey instrument.								
-----	------------------------	--	--	--	--	--	--	--	--	--

## Literature Cited

Jacobi, C.

2008a Monitoring visitor capacity for Acadia National Park carriage roads: 2008 (crowding). Acadia National Park Natural Resources Report Number 2008-7. December. 25pp.

Jacobi, C.

2008b Monitoring visitor capacity for Acadia National Park carriage roads: 2007 (crowding). Acadia National Park Natural Resources Report Number 2008-2. February. 32pp.

Jacobi, C.

2007a Monitoring visitor capacity for Acadia National Park carriage roads: 2006 (crowding and behaviors). Acadia National Park Natural Resources Report Number 2007-1. February. 33pp.

Jacobi, C.

2007b Carriage Road Visitor Attitudes about Equestrian Use on the Witch Hole Pond and Eagle Lake Sections of the Carriage Road System in 2006. Acadia National Park Natural Resources Report Number 2007-2. February. 20pp.

Jacobi, C.

2006 Monitoring carrying capacity on Acadia National Park carriage roads: 2005 (crowding). Acadia National Park Natural Resources Report Number 2006-1. January. 21pp.

Jacobi, C.

2005a Monitoring carrying capacity on Acadia National Park carriage roads: 2004 (crowding). Acadia National Park Natural Resources Report Number 2005-2. January. 21pp.

Jacobi, C.

2005b Monitoring carrying capacity on Acadia National Park carriage roads: 2003 (crowding and behaviors). Acadia National Park Natural Resources Report Number 2005-4. April. 34pp.

Jacobi, C.

2003a Monitoring carrying capacity on Acadia National Park carriage roads: 2002 (crowding). Acadia National Park Natural Resources Report Number 2003-2. January. 21pp

Jacobi, C.

2003b Developing a regression equation to estimate Acadia National Park carriage road use using censuses and electronic trail counters: 2001-2002. Acadia National Park Natural Resources Report Number 2003-1. March. 7pp.

Jacobi, C.

2002 Monitoring carrying capacity on Acadia National Park carriage roads: 2001 (crowding). Acadia National Park Natural Resources Report Number 2002-4. April. 19pp

Jacobi, C.

2001 Monitoring carrying capacity on Acadia National Park carriage roads: 2000 (crowding and behaviors). Acadia National Park Natural Resources Report Number 2001-1. February. 22pp

Jacobi, C.

2000 Monitoring carrying capacity on Acadia National Park carriage roads: 1999 (crowding). Acadia National Park Natural Resources Report Number 2000-4. April. 22pp

Jacobi, C.

1998 Monitoring carrying capacity on Acadia National Park carriage roads: 1998 (crowding). Acadia National Park Natural Resources Report Number 98-5. December. 15pp

Jacobi, C.

1997a Applying the visitor experience resource protection process to Acadia National Park carriage roads: a summary of research and decision-making. Acadia National Park Natural Resources Report Number 97-10. December. 23pp.

Jacobi, C.

1997b Monitoring carrying capacity on Acadia National Park carriage roads:1997. Acadia National Park Natural Resources Report 97-11. December 1997. 20pp.

Manning, R. and W. Freimund.

2004. Use of Visual Research Methods to Measure Standards of Quality for Parks and Outdoor Recreation. *Journal of Leisure Research*. 36: 552-579.

Manning, R.

2001. Visitor Experience and Resource Protection: A Framework for Managing the Carrying Capacity of National Parks. *Journal of Park and Recreation Administration*, 19(1): 93-108.

Manning, R., W. Valliere, B. Minter, B. Wang, and C. Jacobi.

2000. Crowding in Parks and Outdoor Recreation: A Theoretical, Empirical, and Managerial Analysis. *Journal of Park and Recreation Administration*, 18(4): 57-72.

Manning, R., W. Valliere, B. Wang, and C. Jacobi.

1999. Crowding Norms: Alternative Measurement Approaches. *Leisure Sciences* 76. 21(2):97- 115.

Manning, R., C. Jacobi, W. Valliere, and B. Wang.

1998c. Standards of Quality in Parks and Recreation. *Parks and Recreation* 81. 33(7):88-94.

Manning, R., W. Valliere, B. Wang, N. Ballinger, and C. Jacobi

1998b Acadia National Park carriage road study: phase II research. Technical Report NPS/NESO-RNR/NRTR/98-3.

Manning, R., W. Valliere, N. Ballinger, and C. Jacobi

1998a Acadia National Park carriage road study: phase III research. Technical Report NPS/NESO-RNR/NRTR/98-1..

Manning, R., C. Negra, W. Valliere and C. Jacobi

1996 Acadia National Park carriage road study: phase I research. Technical Report NPS/NESO-RNR/NRTR/96-07. January. Department of the Interior. National Park Service. 61pp.

Wang, B. and R. Manning.

1999. Computer Simulation Modeling for Recreation Management: A Study on Carriage Road Use in Acadia National Park, Maine, USA. *Environmental Management* 77, 23(2):193-203.