

Supporting Statement for a New Collection RE: Winter Visitor Experiences in Yellowstone National Park

OMB Control Number 1024-New

A. Justification

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

From the Organic Act of 1916 to enabling legislation for specific parks, the National Park Service (NPS) has received a viable Congressional mandate for collecting information to assist in the management of national parks, monuments, and historic sites. Specifically, 16 U.S.C. 1 through 4 (NPS Organic Act of 1916) provides the authority for the Director of the NPS to manage the parks. Part 245 of the Department of the Interior Manual delegates to the Director of the NPS the Secretary of the Interior's authority to supervise, manage, and operate the National Park System. The National Parks Omnibus Management Act of 1998 (Public Law 105-391, Section 202; 16 U.S.C. 5932) requires that units of the NPS be enhanced by the availability and utilization of a broad program of the highest quality science and information. The NPS *Management Policies 2006*, Section 8.11.1, further states that the NPS will facilitate social science studies that support the NPS mission by providing an understanding of park visitors and human interactions with park resources.

This study will provide the NPS and park managers with critical information on winter visitor experiences at Yellowstone National Park (YNP). The purpose of this research is to assist Park managers in identifying efficient, salient and effective dimensions of the visitor experience for applications in monitoring efforts. Those monitoring efforts can then be tailored to the evaluation of NPS policy and management actions. Recent changes to Yellowstone National Park's winter use policy have driven a need for social science research on winter visitor experiences in the park. The proposed study will provide key information for implementation of a decision on winter use planning in Yellowstone National Park.

Winter use activities in the park are guided by monitoring, mitigation and adaptive management. As such, "Scientific studies and monitoring of winter visitor use and park resources (including air quality, natural soundscapes, wildlife, employee health and safety, water quality, and visitor experience) will continue. Selected areas of the parks, including sections of roads, may be closed to visitor use if studies indicate that human presence or activities have unacceptable effects on wildlife or other park resources that could not otherwise be mitigated." (NPS Winter Use EIS, 2007 P. 32) Additionally, the two most recent studies of behavioral responses of wildlife to oversnow vehicles (White et al. 2006, White et al. 2005) suggest that regulations restricting use level and travel routes are effective and that conflicts regarding motorized use and wildlife is "largely a social issue" (White et al., 2005 P. 1). However, no winter-specific social science

research has been conducted since the managed winter program went into effect in 2002; this was identified as a weakness during scoping and in cooperating agency discussions.

One of the first steps in monitoring is inventory. The visitor experience component of the park's Monitoring and Adaptive Management program is at the inventory level. With two exceptions, prior visitor surveys date to 2002-2003 and before, and do not reflect the managed winter use program that has been in place since December 2004. Those exceptions include a wildlife-watching and economics related survey that focused on wheeled vehicle travel (not oversnow travel) and a snowcoach passenger survey. Both are useful (and cited in the FEIS), but neither truly helps the park understand if the visitor experience indicators and standards listed on Page E-10 of the FEIS are valid and applicable. NPS believes they are, but NPS also believes that the proposed surveys this winter will greatly assist in their validation. Thus, the park intends to use the results to first clarify or confirm the visitor experience thresholds and indicators portions of the Monitoring and Adaptive Management Program.

This proposed research will provide needed information by evaluating three components: (1) The role of the natural soundscape in visitor experiences, (2) visitor perceptions of human-wildlife interactions, and (3) snowcoach and snowmobile guides' perceptions of the effectiveness of the guide-only policy.

Specifically, four information collections are proposed:

- A qualitative interview of visitors (n=45) about the winter experience in Yellowstone, including the soundscape experience (Appendix A)
- A quantitative survey of visitors (n=400) about the winter experience in Yellowstone, including the soundscape experience (Appendix B).
- A quantitative survey of visitors (n=400) about human-bison interactions in the park (Appendix C)
- A qualitative interview (n=30) with snowcoach and snowmobile guides in the park to elicit their impressions about the impacts of guided tours on visitors' experiences.

If changes are to be made in the implementation of the winter use plan, these four surveys would not be the only, or even primary, reason for making such a change. The NPS would use all the monitoring and inventory information available (such as air quality, soundscapes, wildlife, personal exposure, pollution deposition, staff observation and expertise, and other relevant literature) to determine if a change was warranted. That is, it would be the sum of the whole information and learning that would be used by the NPS in proposing a change (such as increasing or decreasing snowcoach numbers).

Relative to NPS vehicles and soundscapes, the park has an aggressive program to address administrative sources of oversnow vehicle sound. Concessionaires, contractors (whose vehicles comprise a substantial portion of the administrative noise in the park), and the NPS will be required to use best-available-technology (BAT) snowmobiles (or snowcoaches in lieu of snowmobiles) to accomplish administrative work. Should the survey reveal findings related to NPS vehicles, NPS will do its best to address the concerns. NPS has an aggressive administrative snowmobile use and safety program that

addresses a variety of issues.

Relevant documents are contained in the attachments to this statement. **Attachment A** provides a copy of The Organic Act of 1916. **Attachment B** contains the National Parks Omnibus Management Act of 1998. **Attachment C** contains section 8.11.1, “Social Science Studies,” of the NPS Management Policies. **Attachment D** contains a copy of the NPS Winter use EIS.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection. [Be specific. If this collection is a form or a questionnaire, every question needs to be justified.]

This research has been requested by Yellowstone National Park itself and has three components: 1) the role of the natural soundscape in visitor experiences, 2) visitor perceptions of human-wildlife interactions, and 3) snowcoach and snowmobile guides’ perceptions of the effectiveness of the guide-only policy. Both on-site interviews and surveys will be used to collect data. This information will assist park staff in understanding how changes to park winter use policies are affecting park visitors’ experiences.

Justifications for the interview and survey questions follow, organized by topic and question number.

SOUNDSCAPE INTERVIEW (Appendix A)

This qualitative research will be the first of its kind. No previous qualitative research has been done on the role of natural sounds in visitor experiences in National Parks. Its purpose is to map out the range of experiences on the ground to gain a sense of the diversity of experiences that exist and the ways in which visitors understand natural sounds in their park experience. This qualitative study is unique. Interviews provide the opportunity for more in-depth and valid measurement because: (1) data collection is not limited and restricted by prior assumptions about what issues/questions are relevant as is the case a mail survey, (2) the researcher can clarify questions to ensure interviewees understand what is being asked and probe answers to ensure she understands the interviewee means by a response, and (3) the research can more meaningfully explore complex issues (issues for which responses such as yes/no, strongly agree/strongly disagree do not adequately represent the nature of responses subjects wish to express) and multifaceted issues (issues for which the standard multi-item scales used in advanced survey designs cannot adequately capture respondents views). The focus of this study, perspectives on natural sounds, its role in visitor experiences, and willingness to support or oppose different management strategies, reflects the type of complex and multifaceted issues that are more readily explored in an interview, rather than a survey, approach.

Visitor Characteristics (Questions #1 through #3): These questions are necessary

for contextualizing the rest of the interview. They establish basic visitor characteristics helpful in directing the interview and later analysis.

Undirected Broad Experience Questions (Questions #4 through #7): These questions are necessary to give the visitors an opportunity to express what elements of their experience are particularly important to them.

More Directive Sound Questions (Questions #8 through #12): These questions are necessary to determine how visitors understand and evaluate their experiences of park sounds. They also provide information on how visitors perceive the importance of park soundscapes to their experience.

Natural Sounds (Questions #13 through #20): These questions are necessary to understand how visitors characterize the natural sounds of the park in winter. They allow the respondent to describe specific natural sounds in the park and provide an opportunity for visitors to explain meanings and significance associated with such sounds. They are necessary for understanding the unique sounds of Yellowstone National Park in the winter, for understanding how visitors perceive impacts to the natural soundscape, and for evaluating visitor perceptions of the appropriate role the National Park Service may or may not have in protecting the natural soundscape.

Mechanical and Human Sounds (Non-natural Sounds) (Questions #21 through #27): These questions are necessary for determining visitor perceptions of non-natural sounds in the park, including understanding how visitors characterize the existence of motorized sounds in the park. These questions will allow park managers to gain a better sense of how visitors perceive NPS policies that affect both motorized sounds and the natural soundscape.

Background Information Survey (Questions #1 through #11): Information from these questions will be used to contextualize the interview data and to characterize the interview sample.

SOUNDSCAPE SURVEY (Appendix B)

This quantitative survey was not informed by previous qualitative research. It is based on a scale previously used in Yellowstone National Park and published in peer-reviewed journals. We have added soundscape variables to the scale and will analyze the extent to which visitor perceptions of park purpose and sounds demonstrate patterns of support or opposition for management actions that affect both park soundscapes and visitor access.

Visitor Characteristics (Questions #1-5): These questions are necessary to evaluate basic visitor trip characteristics that will be used to characterize/describe the visitor sample. The activity questions are particularly important for analyses to determine if soundscape experiences/evaluations (Questions #7-10), evaluation of the park in general (Questions #11-12), and support for management actions (Question #13)

differ by user group.

Perceived value of Yellowstone National Park (Question #6): This question provides information on visitor perceptions of the purpose and value of Yellowstone National Park. These types of enduring values (as opposed to trip-specific goals) were found to be related to visitors' views about management policies in an earlier winter use study at YNP (Freimund and Borrie, 2001; Borrie et al., 2002; Davenport et al. 2002) and are included in the present study due to their potential to help analyze/explain patterns of responses related to visitor evaluations of the soundscape experience (Questions #7- #11), evaluation of the park in general (Questions #12- #13, and support for management actions (Question #14). Question #6 is identical to that used in the earlier YNP winter use studies by Freimund, Borrie, and Davenport (Freimund and Borrie 2001; Borrie et al. 2002), except the current survey adds 3 new items exploring the value of the park's soundscape.

Natural Sounds and Visitor Experiences (Questions #7-#13): These questions are the heart of the soundscape survey. They assess visitors' perceptions of the importance of natural sounds to the overall value of the park (Question #7) and to their experience at the park on the day they were contacted (Question #8). Question #9 is needed in order to understand how individuals' experiences with natural sounds affected their experience. Question #10 asks respondents about their ability to find the experience they were looking for at Yellowstone National Park during their visit. Question #11 and Questions #12 are necessary for assessing visitor satisfaction with their experience of natural sounds in the park. Finally, because this survey focuses on visitors' evaluation of their experiences, it is important to give them an opportunity to evaluate the overall winter setting rather than focus solely soundscape issues. Question #13 accomplishes this. It complements an identical question in the perception of Human-Bison Interaction survey (described below), providing a larger response base for the park regarding visitors' overall evaluations of the park. It will also provide an opportunity to assess how perceptions of the soundscape are related to overall evaluation of the YNP winter setting. It adopts the same semantic differential response format used in several questions included in the Human-Bison Interaction survey described below. All questions in this section follow wording and response formats commonly used in visitor surveys.

Management Actions related to Soundscape Management and Visitor

Management (Question #14): A second central aspect of the study is visitors' support/opposition to various management actions that affect both the natural soundscape conditions of the park and visitor access to the park. This is important to aid decision making and also in light of findings from the prior winter-use survey that indicated visitors may value a certain aspect of the park while not being supportive of management actions to protect that value (Davenport et al., 2002) The management actions evaluated reflect existing policies (items 1-4), even more restrictive policies that were contemplated in earlier planning efforts (items 5-6), and a policy that focuses on automobile rather than oversnow vehicle access (item 7). The first four items will provide information of visitors' perception of current management actions,

while information on alternative actions will help put these responses in context.

Background Information (Questions #15-#20): These provide important information for describing the sample of visitors, comparing the sample to the population of visitors, and analyzing the survey as a whole. They provide important information that may be related to patterns in responses to the dependent variables.

HUMAN-BISON INTERACTION SURVEY (Appendix C)

Trip Characteristics (Questions #1-#5): These questions are necessary to evaluate basic visitor trip characteristics that will be used to characterize/describe the visitor sample. The activity questions are particularly important to determine if perceptions about human-bison interactions and the park setting differ by user group.

About Bison Encounters (Questions #6-#13): Questions #6 and #7 are necessary to assess the frequency of bison encounters experienced by visitors and provide a greater context for understanding visitor appraisals. Specifically, this information will provide information about the types/nature of encounters/interactions that are the basis for the responses to subsequent visitor perception/appraisal questions. This information will help assess the extent to which the nature of interactions influence visitor appraisals/perceptions regarding bison and the NPS's stewardship of bison.

The instructions preceding Question #8 (which will be explained to visitors by a researcher during the interview phase) focus visitors on a specific bison interaction that will serve as the basis for responding to questions #8 through #13. Responding to a specific encounter helps make the responses more meaningful. Questions #8-#11 collect information about the specific encounter being described. These questions will help stimulate the visitors' recall about the specific encounter. Just as importantly, Questions 8-11 will provide information that can be used to help analyze the extent to which the nature of interactions influence visitor perceptions regarding bison and the NPS's stewardship of bison. These questions were developed based on participation observation of visitors-bison encounters during two trips to YNP in the winter of 2006 and were reviewed by YNP staff.

The need to include questions #12 and #13 stems from prior research findings. First, recent studies of the responses of wildlife to snowmobiles and snowcoaches in YNP concluded that the continuing conflict over motorized recreation is largely a social rather than biological issue, because there is no evidence from the last 35 years suggesting an adverse effect on population dynamics (White et al. 2005; 2006). Thus, monitoring visitor perceptions of these issues is important, especially since changes in management policies are thought to have changed the nature of the visitor population. Further, prior research on YNP winter visitors (Freimund and Borrie, 2001; Davenport et al. 2002) suggested that visitors' experienced-based appraisals were one of the major factors influencing views about human-bison interactions and related management policies. These conclusions were based on interview data. Questions #12 and #13 were developed partly on the basis of these interviews and partly on the

basis of prior research on these types of visitor perceptions. Question #12 explores visitors' affective appraisals (judgments or evaluations attributed to objects; see Russell and Snodgrass, 1987) and was adapted from similar measures used to study visitor perceptions of animals in zoos (see Finlay et al., 1988; Reade and Waran, 1996). Question #13 explores visitors' normative appraisals (visitors' prescriptive judgments about the acceptability of situations encountered). Both types of appraisals (affective and normative) have a long history of application in applied research seeking to understand visitors' views and perceptions. Additionally, these two types of visitor appraisals seem to capture the relevant experience-based factors that interviews by Davenport et al. (2002) found influenced the views of YNP winter-use visitors regarding bison management policies.

Overall Visitor Experience of Bison (Questions #14-#15): The previous question focuses on visitors' perceptions related to a specific interaction. It is also important to assess visitors' overall perceptions of bison and the bison-viewing experience. Question #14 follows a widely used satisfaction approach based on importance-performance analysis and is adapted from prior visitor studies (see Borrie and Birzell, 2001; Tomas et al. 2003). Question #15 uses the same semantic differential response format used in Question #12 to assess affective appraisals of bison overall in YNP and is adapted from questions used by Finlay et al. 1988 and Reade and Waran, 1996).

Beliefs about Bison (Question #16): This question is necessary to understand the beliefs visitors have about the value and role of bison in relation to YNP. This question includes important information on visitors' symbolic beliefs related to bison, including bison's importance in park planning and management, and their existence and heritage values. The importance of including this question stems from prior research. Prior studies of YNP winter-use visitors indicated that, in addition to experience based appraisals, these types of enduring values influenced views about management policies (Freimund and Borrie, 2001; Davenport et al. 2002). Additionally, wildlife studies suggest that symbolic beliefs about wildlife often influence views about wildlife management (see for example, Bright and Manfredi, 1996; Patterson et al. 2000). The specific items included in Question 16 were adapted specifically to bison and YNP from existing scales used with studies of other species in other places (see Bright and Manfredi, 1996; Teel et al. 2005).

Beliefs About the Winter Setting of the Park (Question #17): Because this survey focuses on visitors' evaluation of their experiences, it is important to give them an opportunity to evaluate the overall winter setting, rather than focus solely on the bison interactions. This question compliments an identical question in the soundscape survey providing a larger response base for the park. It will also provide an opportunity to assess how perceptions of the bison interactions related to overall evaluation of the YNP winter setting. It adopts the same semantic differential response format used in questions #12, #13, and #15 and assesses aesthetic, affective and normative appraisals.

Role of Yellowstone National Park (Question #18): Question #18 provides information on visitors' perceptions of the purpose and value of Yellowstone National Park. These types of enduring values were found to be related to visitors' views about management policies in an earlier winter use study at YNP (Freimund and Borrie, 2001; Borrie et al., 2002; Davenport et al. 2002) and are included in this study due to their potential to help analyze/explain patterns of responses related to visitor evaluations of bison and the park overall (Questions #12, #13, #15, #17). Question #18 is identical to that used in the earlier YNP winter-use studies by Freimund, Borrie, and Davenport (Freimund and Borrie 2001; Borrie et al. 2002), except the current question adds 3 new items exploring the value of the park's soundscape. These items will make this question parallel to the values question used in the soundscape survey described above.

Demographic Information (Questions #19-#24): These provide important information for describing the sample of visitors, comparing the sample to the population of visitors, and analyzing the survey as a whole. They provide important information that may be related patterns in responses to the dependent variables.

GUIDE INTERVIEW (Appendix D)

Characteristics (Questions #1, #2): provide essential information about the respondent, which is necessary for contextualizing the data collected from the entire interview.

Perceptions of Visitor Experience Related to Clean and Quiet Technology (Questions #3, #4): Question #3 is necessary for assessing guides' perceptions of the general visitor experience provided in the park and its relationship to recent policy changes requiring clean and quiet technology on snowmobiles.

Perceptions Related to Guiding Requirement (Questions #5-#9): Questions #5 and #6 are necessary for understanding guides' perceptions of the effect of guiding requirements for snowmobile access to the park on visitor experiences, perceptions and wildlife. Questions #7 and #8 are necessary for understanding guides' perceptions of the effect of group-size limits on snowmobiles accessing the park on visitor experiences, perceptions and wildlife. Question #9 provides guides the opportunity to comment on how well they believe existing policies are functioning.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden.

This information will be collected via on-site surveys and interviews. No automated data collection will take place.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

The questions in the interview and survey instruments address specific knowledge gaps related to winter visitor experiences at Yellowstone National Park. These knowledge gaps were identified by NPS personnel and scholars. A thorough review of previous research revealed that these type of data do not currently exist. The current study does not overlap with the 2002-2003 visitor-use study by MACTECH Engineering and Consulting, Inc. which dealt more with economic expenditures and modeled changes in visitor-use patterns associated with various management alternatives (MACTECH 2005). Recent research by Duffield and Neher (2006) focused on economic impacts associated with visitation to Yellowstone National Park. The proposed research does build and extend on the earlier Yellowstone National Park winter-use research of William Borrie and Wayne Freimund (Freimund and Borrie, 2001; Borrie et al. 2002; Davenport et al. 2002) that focused on visitor perceptions. However, the management policies for winter use have changed significantly since the 1998/1999 studies, and the visitor population is thought to have changed as a result.

5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83-I), describe any methods used to minimize burden.

The data collection will not impact small businesses or other small entities.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Should these data not be collected, management policy evaluations would be made without empirical evidence about actual visitor experiences in the park. This could result in receiving public input that is not representative of the visiting public or designing management policies that incite controversy rather than identify constructive and appropriate management solutions.

The sampling schedule and target sample size efficiently collects the data needed for providing the range and complexity of experiences from the interviews and for providing a robust estimation of survey data. Further restriction of the sample size and schedule would risk compromising the significance and reliability of the resulting information.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:
 - * requiring respondents to report information to the agency more often than quarterly;
 - * requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;
 - * requiring respondents to submit more than an original and two copies of any document;
 - * requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;
 - * in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;

- * requiring the use of a statistical data classification that has not been reviewed and approved by OMB;
- * that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or
- * requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.

These circumstances are not applicable to our collection of data. Ours consists of one-time, on-site surveys and interviews so frequency of reporting, preparation or submission of documents, retaining of records, and revealing of trade secrets do not apply in any way. This research includes an exploratory interview designed to inform park management on the experience of natural sounds and statistical surveys that are designed to produce valid and reliable results that can be generalized. These instruments only use data classifications to be reviewed and approved by OMB. The introductory statements read by researchers at the beginning of the interview and surveys offers a pledge of anonymity.

8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice [and in response to the PRA statement associated with the collection over the past three years] and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.

Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years — even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

We reviewed prior research related to winter use at Yellowstone National Park to examine existing data and determine potential questions for the survey. The current study does not overlap with the 2002-2003 visitor use study by MACTECH Engineering and Consulting, Inc. which dealt more with economic expenditures and modeled changes in visitor use patterns associated with various management alternatives (MACTECH 2005). We also consulted the work of John Duffield and colleagues to ensure that the survey did not overlap with their research which focuses on economic impacts associated with visitation to Yellowstone National Park (see, for example, Duffield and Neher, 2006). The proposed research does build and extend on the earlier Yellowstone National Park winter-use research of William Borrie and Wayne Freimund (a principal investigator on this project). We have adopted a number of the questions directly from their earlier studies of YNP winter-use visitors. Because the visitor population is thought to have changed as a result of changes in management policy since Borrie and Freimund conducted their research in

1998/1999, Yellowstone National Park needs a new study to monitor visitor perceptions and experiences. Additionally, the current study explores research needs identified by the earlier winter-use studies (especially in relation to visitor perceptions related to bison) and expands into exploring the soundscape dimension of visitor experiences (which was not addressed in prior studies). As described in the justifications of individual questions, we also reviewed similar studies and adopted questions they employed in similar situations whenever possible. Finally, in February and March 2005, the investigators of the current study engaged in participant observation as snowmobilers and on snowcoach trips in order to help design the current survey. We also informally interviewed visitors (less than 10) and tested wording (fewer than 10 respondents per question) for interpretability. Based on this review of the literature and the observations during 2005, we designed the interviews and surveys described above. These surveys were subsequently reviewed by staff at Yellowstone National Park and NPS Social Science Program and wording changes were incorporated.

Attachment E contains a copy of the 60-day Federal Register Notice, published on April 24, 2007.

One public comment was received in response to the 60-day notice. The comment, from Kim Raap of the Wyoming State Snowmobile Association (WSSA), raised concerns related to four aspects of the research design: (1) the possible disruption of visitor experiences through asking them to respond to an on-site survey, (2) the adequacy of the sample size, (3) the appropriateness/practical utility of gathering information on visitors' perceptions about their experiences and park management, and (4) the appropriateness of gathering information on guides' perspectives about the snowcoach/snowmobile guide-only policy. We respond to each of these concerns below.

(1) Possible disruption of visitor experiences through asking them to respond to an on-site survey. The methods used in this study are well-established in the research community. A study designed to gather information about visitor experiences and perceptions of on-the-ground management typically uses one of two strategies: asking for responses on site or collecting names and addresses and subsequently mailing surveys to these visitors. Both approaches have been widely used in visitor surveys of this type, and both have advantages and disadvantages. While collecting only names and addresses requires less time during the experience, thus having lower potential to disrupt the experience, it necessarily results in visitors responding to the survey at a time distant from the actual experience (often 1-3 weeks later). An advantage of collecting the information on-site is that visitors' memories about the actual experience are fresher and more accurate. Research has shown that memory decay associated with delays in response required by a mailed survey can affect the results of these types of study. Because the goals of this study include assessing visitors' perceptions of the sounds they experienced in YNP during their visit or their perceptions of the human-bison interactions they witnessed, we believe it is most appropriate to gather responses on-site. We have tried to limit the impact on the

experience by using two separate questionnaires (one focused on sound and the other on bison) and asking each respondent to only fill out one of them. An additional advantage to gathering responses on-site is that potential respondents have the opportunity to ask for clarification about questions if they are confused. Since visitor perceptions of national park soundscapes are a relatively new research focus, and questions on this issue are still being evaluated, we believe on-site data collection is desirable due to the opportunity given to respondents to ask for clarification of questions.

Further, participation in the survey is voluntary. The voluntary nature of participation will be explained to the potential respondents and those visitors who feel that participating would be too disruptive to their experience can decline. Interviews and surveys will not be conducted while the Old Faithful Geyser is erupting so as not to disturb the visitor experience of this unique park feature. Finally, we collected on-site surveys lasting up to 30 minutes with YNP visitors in the winter of 1999 and found visitors were willing and eager to devote this amount of time to responding to questions about their experiences and perceptions of park management.

(2) Adequacy of the sample size. A second concern expressed by WSSA was the adequacy of the sample size. In response to this concern, we have raised the number of questionnaire surveys to be distributed in the soundscape component to equal the number in the human-bison interaction survey. However, WSSA also expressed concerns about the size of the human-bison interaction sample. A major concern was that the proposed sample size (400) represented a relatively small percentage of the total population of winter-use visitors. However, adequacy of sample sizes is not evaluated on the basis of the percent of the total population included in the sample, but on other factors, such as representativeness of the sample (most strongly influenced by how the sample is selected), degree of variability within the population, and requirements of the specific type of data analysis used. As discussed more fully in the supporting statement, these sample sizes are large enough to address the research needs and will allow for a small standard error of +/- 5%.

A further concern expressed by WSSA was that the sample would under-represent snowmobile users and day users. The concern about day users and snowmobile users stems in part from the concern that day visitors will not be willing to participate due to limited time. As noted above, we did not experience this problem in the 1999 winter-use study. Additionally, the survey collects information on mode of transportation (snowmobile versus snowcoach), length of stay and other visitor characteristics. This will allow us to analyze and compare responses in relation to these characteristics. The information gathered in the survey will also allow us to characterize the composition of the sample and discuss any deviations or limitations of the sample relative to what is known about the population of winter visitors. Further, this park location was chosen as a data-collection site specifically because it is a popular destination for all user groups in Yellowstone National Park.

(3) Appropriateness/practical utility of gathering information on visitor perceptions

about their experiences and park management. Here WSSA expresses concern about collecting information about visitor perceptions related to both soundscape and human-bison interactions because perceptions are subjective opinions that may be biased or based on inaccurate assumptions, and because visitors lack sufficient expertise to make realistic judgments. This comment misconstrues the purpose for collecting information on visitors' perceptions. For example, the goal of studying perceptions of human-bison interactions is not to determine physiologically, biologically, or ecologically if recreationists are having an impact on bison. YNP has collected this type of information using qualified wildlife scientists over a period of several years (White et al. 2005; 2006). Rather, the goal of the proposed study is to assess visitors' perceptions about the appropriateness and acceptability of YNP's stewardship of bison, management of human-wildlife interactions witnessed during their experiences, and management of YNP soundscapes. Thus, this information will have important practical utility for park managers because it can help managers understand visitors' experiences and values, how these are related to support or opposition for management policies, what visitors think about NPS stewardship, and how to design interpretation and education efforts. Further, information on visitors' perceptions complements, rather than replaces, other sources of information, such as biological information from studies by wildlife scientists and existing monitoring data of actual sound levels by experts in acoustic monitoring technology (which YNP has also collected over several years). YNP has a strong commitment to understanding visitor experiences and perceptions, in addition to understanding the biological and ecological issues underlying park management.

(4) Appropriateness of gathering information on guides' perspectives about the snowcoach/snowmobile guide-only policy. The major concern expressed by WSSA here is that responses would be biased because guides have financial ties to the guide-only policy. As WSSA points out, perceptions of policies are subjective and influenced by values, relationship to the issue, and similar factors. However, the guides do represent a constituency with whom YNP interacts, who are impacted by management policies, and who have a wealth of experience and information about winter use. Information about guides' perceptions is therefore another important source of input for understanding winter use. In presenting the results from this portion of the study, we will identify the population represented (guides), so there is no possibility of confusing responses from this sample with those from the sample of actual visitors. To clarify our method, we intend to interview both snowcoach and snowmobile guides. We also will work to identify individuals who guided in the park before the guide-only policy was implemented. While each interview will be valuable, it is these long-term guides who will be able to provide perspective in changes over time.

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

No payments or gifts will be provided to respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in

statute, regulation, or agency policy.

No assurance of confidentiality will be provided to respondents, since the Department of the Interior does not have the statutory authority to protect confidentiality or to exempt the survey from a request under the Freedom of Information Act. Instead, those who inquire about this issue will be told that reports prepared from this study will summarize findings across the sample so that responses will not be associated with any specific, identifiable individuals. Names and addresses will not be collected in association with this research. Thus, anonymity will be ensured, but confidentiality will not be pledged.

- 11.** Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

No questions of a sensitive nature will be asked. In addition, respondents are advised that their answers are voluntary.

- 12.** Provide estimates of the hour burden of the collection of information. The statement should:
- * Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.
 - * If this request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens in Item 13 of OMB Form 83-I.
 - * Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 14.

Instrument	# of Respondents	Frequency of Response	Completion Time	Burden Hours
Soundscape Interview	45	1	30 minutes	23
Soundscape Survey	400	1	15 minutes	100
Bison Survey	400	1	20 minutes	133
Guide Interview	30	1	20 minutes	10
Non-respondents (refusals)	92	1	1 minute	2
TOTAL				268 hours

As shown in the table, in addition to the burden for the respondents, there is minimal burden associated with contacting non-respondents. In the case of this study, there is an

estimated 90% response rate for the soundscape survey, soundscape interview, and bison survey, and an 80% response rate for the guide interview. There will be a total of 92 individuals who are initially contacted but do not respond. These contacts will last one minute. Thus, there will be an additional burden of 2 hours for non-respondents. The total burden associated with this study is 268 hours. Using the Bureau of Labor Statistics national wage information, the most recent published report (June 2006) lists an average hourly wage of \$19.29 (<http://www.bls.gov/ncs/ocs/compub.htm#National>). Thus, the estimated annualized cost to respondents for the hour burden is \$5,169.72.

- 13.** Provide an estimate of the total annual [non-hour] cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14).
- * The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life) and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information [including filing fees paid]. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.
 - * If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.
 - * Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.

The cost burden on respondents and record-keepers, other than hour burden, is zero.

- 14.** Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Items 12, 13, and 14 in a single table.

The NPS estimates that the agency contribution to the study will total \$66,076, making the annual cost to the Federal government \$22,025. The costs include researcher salaries and benefits, contract services, graduate tuition waivers, supplies and printing, communications, travel, and CESU indirect costs.

Budget

Salary

PI (12 days at 300)	\$3,600
Research Assistant (13 months @\$1400)	\$18,200
Research Assistant (5 months @ \$1400)	\$7,000

Benefits

PI (22.75%)	\$819
Research Assistant (1.0%)	\$182
Research Assistant (1.0%)	\$70

Subtotal salary and benefits \$29,871

Contract Services (transcription) \$2,000

Graduate tuition Waivers
3 semesters @ \$5305.00 \$15,915

Supplies/printing \$1,000

Communications

phone/fax \$150

Travel

Research Assistants
4 round trips from Missoula to West (@300/each) \$1,200
26 nights in a motel @ 75 \$1,950
60 days of per diem (@28.00/day) \$1,680

Principal Investigators
2 round trips from Missoula to West (@300/each) \$600
10 nights in a motel (@ 75/night) \$750
8 days of per diem (@28.00/day) \$224

Snowcoach transport
Four trips @ \$120.00/ trip by two assistants \$960
One trip @\$120.00/ trip by two faculty \$240

Total direct costs \$54,490

Indirect costs CESU (17.5% TDC) \$9,536

Total \$66,076

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB Form 83-I.

This is a new one-time collection. No adjustments are involved.

- 16.** For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

For the two quantitative surveys (soundscape and human-bison interaction) analysis will employ standard social statistics for these types of data. Overall frequency distributions will be computed for each variable and perception measures will be analyzed for differences between categories of respondents based on the types of primary recreation activities in the park (i.e., cross-country skiing, snowmobiling, snowshoeing, and snowcoach touring) and key demographic characteristics, such as age.

For the two qualitative interviews (soundscape and guide interview), sessions will be audio-recorded (with permission of the user) and transcribed verbatim. Text from the interviews will be imported into a computerized analysis program (NVivo) and analyzed to find themes of perception and differences among respondents.

Onsite participant observation to aide in the design of this study was conducted in February and March 2005. Design of the survey and interview instruments began in May 2006, aided by input from Yellowstone National Park staff. In the fall of 2006 and the spring of 2007, the instruments were reviewed by Yellowstone National Park staff and faculty at the University of Montana and pre-tested for readability and burden estimates. In the fall of 2006 and the spring of 2007, the survey instrument was refined based on comments from the pre-tests and initial comments from the NPS Social Science Program. The target date to begin survey and interview implementation is January 2, 2008, if approved by then. Assuming that approval is granted, the on-site data collection will be completed by March 31, 2008. Data analysis and preparation of the draft report will continue until June 30, 2008. Following feedback on the draft from the sponsoring agencies, the final report will be submitted by July 31, 2008.

The time schedule for the larger project, including the survey component covered here, is summarized below.

Task	2008		
	Win (Jan- Mar)	Spr (Apr- May)	Sum (Jun- July)
1. Qualitative Interviews & On-site Surveys	X		
2. Interview Transcription	X		
3. Interview & Survey Analysis	X	X	X
6. Final Report			X

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

We are not seeking such approval.

18. Explain each exception to the certification statement identified in Item 19, "Certification for Paperwork Reduction Act Submissions," of OMB Form 83-I.

There are no exceptions to the certification statement.

References

White, P. J., Davis, T., & Borkowski, J. (2005). *Wildlife responses to motorized winter recreation in Yellowstone*. Gardiner, MT: National Park Service, Yellowstone National Park. <http://www.nps.gov/yell/parkmgmt/winterusetechnicaldocuments.htm>

White, P. J., Davis, T., Borkowski, J., Garrott, R. A., Reinhart, D. P., & McClure, D. C. (2006). *Behavioral responses of wildlife to snowmobiles and coaches in Yellowstone*. Gardner, MT: Yellowstone National Park. <http://www.nps.gov/yell/parkmgmt/winterusetechnicaldocuments.htm>

Flyvbjerg, B. (2001). *Making Social Science Matter: Why Social Inquiry Fails and How it Can Succeed Again*. Cambridge, UK: Cambridge University Press.

Rosenbloom, D. H. (1997). *Public Administration and Law*. New York: M. Dekker.

Hummel, R. P. (1991). Stories managers tell: Why they are as valid as science. *Public Administration Review*, 51(1), 31-41.