



Social Science Program

Expedited Approval for NPS-Sponsored Public Surveys

1.	Project Title: Determination of standards of visitor experience and resource condition at Kenai Fjords National Park	Submission Date	6-25-2012
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2. Abstract: A survey will be used to obtain input from park visitors to inform the development of standards of quality for visitor experiences and resource conditions in the backcountry of Kenai Fjords National Park (KEFJ). Kenai Fjords includes 400 miles of remote coastline accessible only by boat or floatplane. Suitable landing beaches and camping areas are limited by the steep fjord topography, thus concentrating visitor use in the more accessible areas. Higher use densities have been found to lead to more rapid and severe impacts to natural resources and social values. To protect visitor experiences and park resources, indicators and standards of quality need to be developed for these areas. With specific indicators identified and standards for acceptable conditions defined, staff at Kenai Fjords will be better equipped to manage recreational use and natural resources in sensitive coastal areas.

(not to exceed 150 words)

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Project Information

5. **Park(s) For Which Research is to be Conducted:** Kenai Fjords National Park

6. **Survey Dates:** 06/15/2012 to 09/15/2012

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

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

8. **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, development operations, management, education, and interpretive activities.*

Literature Review. Impacts caused by visitors in coastal areas of national parks in Alaska are an increasing challenge for management. Kenai Fjords National Park (KEFJ) includes approximately 400 miles of remote coastline that is accessible only by boat or floatplane. Preserving these resources and maintaining high quality visitor experiences are integral to the mission and purpose of KEFJ. Park managers need clearly defined management objectives to determine at what point management action must be taken to reduce impacts on resources and experiences.

KEFJ recently completed a revision of its method for assessing resource conditions at coastal backcountry campsites. The result is a protocol to guide continued monitoring and analysis of trends in campsite conditions. If these monitoring data are to be used to protect visitor experiences and park resources, indicators and standards for resource conditions and experiences must be developed. The first step in this process will be to identify indicators of visitor experiences and resource. Once indicators variables have been identified, the next step will be to formulate standards of quality, or identify the minimum acceptable condition of indicator variables. This will be accomplished by administering a survey to backcountry visitors. The visitor survey described here will be used to solicit this input. A survey of backcountry visitors to KEFJ was conducted in the summer of 2010. The only other visitor study conducted at the park was a 2001 survey of front-country visitors to the Overlook Loop Trail at Exit Glacier (Vande Kamp et al, 2005).

The results of the 2010 backcountry survey identified several indicators of quality for visitor experience and resource conditions that can be used to guide management of the coastal backcountry areas of KEFJ. The next step is to establish quantitative standards for each of the indicators to define their minimum acceptable conditions. Under this procedure—often referred to as Visitor Experience and Resource Protection (VERP)—indicators are monitored and, when standards are exceeded, management actions are taken to reduce those impacts. This approach has been applied in a number of NPS units (Manning, 2007), and the use of indicators and standards has now been adopted into the NPS general management planning process. With specific indicators identified and standards for the acceptable conditions of the indicators defined, KEFJ will be better equipped to manage recreational use and natural resources in sensitive coastal areas.

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

(a) Respondent Universe:

The respondent universe for this study will be backcountry visitors 18 years old and older to Kenai Fjords National Park from May-September 2012.

In 2009, approximately 276 groups visited Aialik Bay, the most-used area of the coastal backcountry. This estimate was based on the park's voluntary backcountry registration system (VBR) and ranger contacts with visitors on the coast. This number is It is likely that this was an underestimation of total backcountry use, as only commercial guided trips are required to file VBRs and rangers are [were] unable to contact all visitors.

(b) Sampling Plan/Procedures:

Sampling will take place for approximately 120 days throughout the summer use season, and will be stratified to include both midweek and weekend periods. We expect to contact approximately 150 groups during the sampling period. The individual with the most recent birthday in the group will be asked to complete the survey.

Due to the small backcountry visitor population, researchers will attempt to sample each group encountered in order to achieve an adequate sample size.

Backcountry visitors will be intercepted at popular landing beaches and public use cabins and asked to participate in the study by completing an on-site questionnaire. Surveys will also be administered at various visitor use locations in the town of Seward to visitors returning from a backcountry trip. Most backcountry users access the coast via water taxi. Several companies offering water taxi services are located in Seward. All of the companies dock at the Seward Small Boat Harbor, with the exception of one, which lands at a different location southwest of town. Researchers accompanying staffed backcountry patrols will only be able to access backcountry areas a limited number of times throughout the sampling period. Thus contacting visitors at docking locations in Seward will ensure that a representative and acceptable sample size will be obtained.

(c) Instrument Administration:

An on-site questionnaire will be administered to park visitors by a Utah State University graduate student and park resource intern staff. Visitors agreeing to participate in the study will be given a questionnaire and asked to complete it and return it to the survey administrator at that time. An interviewer will be present and available to answer any questions the respondents may have.

All visitors approached will be read the following script:

“Excuse me, sir/ma’am. We’re conducting a survey of backcountry users for Kenai Fjords National Park to better understand visitor use. Your participation is voluntary and all responses are anonymous. Did you visit any backcountry coastal areas during your trip?”

→ If **YES** – then ask, “has any member of your group participated in this survey before?”

If **“YES”** (already asked to participate) then, *“Thank you for participating in this study but you have already provided us with the information we need. Have a great day.”*

If **“NO”** (has not been previously asked to participate) then, *“Thank you for participating in our survey today. Would you be willing to answer some important questions regarding your visit here? This should only take about 10 minutes.” “Who in your group (at least 18 years old) has the next birthday?”*

→ If **NO**– (soft refusal) - ask them if they would be willing to answer the non-response bias questions (listed below) and then thank them for their time.

1. How did you access the coast?
2. How crowded did you feel on this visit?
3. How many times have visited Kenai Fjords National Park before this trip?

Record responses in spaces provided on the tracking sheet

→ If **NO**– (hard refusal) - end the contact and thank them for their time.

During the survey administration the respondents will be asked to rate a series of photographs to indicate their acceptable level of crowding based on the number of people shown in the photographs (see photo posters). The survey administrator will show the respondents a series of photographs. The photographs will be shown to the respondent one at a time. The order that photos will be presented to different respondents will alternate between incrementally increasing and decreasing the number of people. A total of nineteen photographs (one set of 10 and one set of 9) will be used for the crowding questions.

(d) Expected Response Rate/Confidence Levels:

In total, we expect to contact 150 backcountry groups. We anticipate that 75% (n=112) of the individuals contacted will complete the surveys.

A survey of backcountry visitors in 2010 yielded thirteen completed questionnaires. This small sample was the result of a truncated sampling period (July 15 – Aug 15) and difficulties experienced in contacting visitors. In 2001, an on-site survey at the Overlook Loop Trail at Exit Glacier achieved a response rate of 77.2%. Survey findings are estimated to be accurate within +/- 7% using the 95% confidence level.

Number of Initial on-site Contacts	Expected Response Rate	Expected Number of Responses	Margin of Error +/- %
150	75%	112	7%

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

Non-response bias will be examined by comparing selected characteristics of the sample population with characteristics observed and recorded in every group contacted (e.g., group size, gender and group type). Additionally, all visitors approached will be asked to answer three key questions from the survey:

1. *How did you access the coast?*
2. *How crowded did you feel on this visit?*
3. *How many times have visited Kenai Fjords National Park before this trip?*

These results and observational data will be recorded and compared to results from respondents completing and returning the questionnaire to see if non-response bias is present. The results of the check for non-response bias will be reported and implications for data interpretation will be discussed in any reports prepared for the NPS managers.

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

The survey instrument has been reviewed by park staff to ensure that it addresses issues of interest and relevance to the management of the park. The methods employed in the survey instrument have been used in a number of NPS units and have proven effective in formulating standards of quality for selected indicator variables.

The survey instrument was pretested with a small group of respondents to assess question clarity, reliability, and amount of time needed to complete the questionnaire.

10 **Burden Estimates:** With an anticipated response rate of 75%, we plan to approach 150 individuals. We expect that the initial contact time will be at least three minutes per person (150 x 3 minutes = 8 hours). We will ask all visitors contacted to answer 3 questions that will be used for the non-response check. We expect that 38 (25%) people will refuse to participate in the survey for those individuals we will record their reason for refusal and ask them to answer 3 questions that will be used for the non-response check.

For those who agree to participate (112) that it will take an additional 10 minutes to complete the survey (112 response x 15 minutes = 28 hours). The burden for this collection is estimated to be 36 hours.

Total Number of Initial Contacts	150	Estimated Time (mins.) to Complete Initial Contact	3	Estimated Burden Hours	8
Expected number of responses	112	Time to complete and return surveys	15	Estimated Burden Hours	28
Total Burden Hours					36

11. **Reporting Plan:** A final report of survey results will be prepared and provided to the park by December 31, 2012. The key estimates will be descriptive in nature, primarily measures of central tendency (mean and median), dispersion (standard deviation), and frequency distributions.

Responses to open-ended questions will be coded to identify key themes related to the backcountry visitor experience. Means for responses to closed-ended questions will be computed to identify resource conditions or elements of the visitor experience that may require management attention. Responses to questions regarding the acceptability of various conditions will be aggregated and graphed to create social norm curves for each indicator variable. The minimum acceptable condition of each indicator will be computed via linear interpolation. Statistical tests of significance (ANOVA, chi-square) will be used when appropriate to identify differences in responses between groups of visitors (e.g. commercial day trippers, independent paddlers, overnight visitors, etc.). All statistical tests will be completed using the SPSS (SPSS Inc., IBM, Chicago) statistical software package.

One electronic version (in PDF file format) and 2 hard copies of the final report will be provided to the NPS Social Science Division at the following address: National Park Service, 1849 C St., NW (2300) Washington, DC 20240, for inclusion in the Social Science Studies Collection.

REFERENCES CITED

Manning, R.E. (2007). *Parks and Carrying Capacity: Commons Without Tragedy*. Island Press: Washington, D.C.

Vande Kamp, M., D. Johnson, and R. Manning. 2005. Managing Exit Glacier's Popularity: Social Science Looks at Visitor Experience. *Alaska Park Science* 3(2): 28-33.