

A Survey of Rock Climbers at Mount Rushmore National Memorial, South Dakota

FINAL REPORT

Submitted to

**Mount Rushmore National Memorial
and
National Park Service Midwest Region**

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Cooperative Park Studies Unit
May 1997

B&W Scans

2.14.2003

MEMORANDUM

June 20, 1997

To: Mike Pflaum and Dan Wenk, Mt. Rushmore National Memorial

From: David W. Lime
Senior Research Associate

Subject: 1996 Climbing study

Enclosed are 5 bound and 1 unbound copies of the final report from last summer's study of rock climbers in the park. 100 copies of the research summary from the study are enclosed as well. While these reports complete the formal commitments of this research, we will continue to provide information from the study and participate in discussions about the potential implications of this work. Please do not hesitate to seek our help.

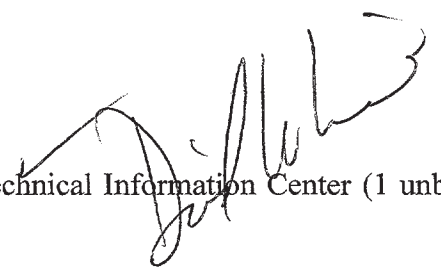
Copies of these documents also are going to the Midwest Region (1 copy) and the Technical Information Center in Denver (1 copy).

Thanks again for assisting with and supporting this research! We trust it will "help make a difference"!

Best wishes!

Enclosures

cc: Ron Hiebert, MWR (1 bound copy); Technical Information Center (1 unbound copy); Leo McAvoy.



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**Cooperative Park Studies Unit
University of Minnesota
College of Natural Resources**

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The Cooperative Park Studies Unit (CPSU) staff took the responsibility for all phases of the study except for onsite contacts of Mount Rushmore rock climbers during the study period. Staff at Mount Rushmore National Memorial provided in-kind support and consulted during all aspects of the study design and execution. Special acknowledgment goes to Chad Wexell, Tonia Warnecke, and Mary Giannusa, who, as National Park Service employees at the time of the study, interviewed more than 390 rock climbers throughout the summer of 1996. Their thoughtfulness and careful attention to inform visitors about the value of the study for future park planning and to encourage people to complete the questionnaire helped to attain the excellent return rate from respondents.

Acknowledgement also goes to Mike Pflaum, Chief Ranger, and the staff of Mount Rushmore for their thoughtful assistance in the design and conduct of this study. Finally, Clara M. Schreiber, Word Processing Supervisor in the College of Natural Resources, Department of Forest Resources, deserves special thanks for her efforts preparing this report.

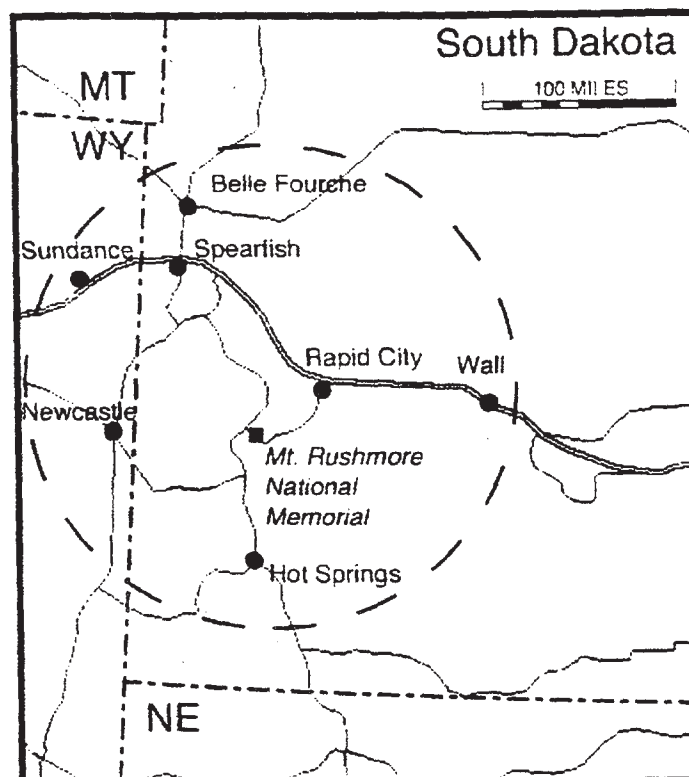
DEFINITIONS

Bouldering	The act of climbing rocks or boulders without the use of roped or protective gear.
Clean Climbing	A climbing method that uses no permanent fixed protection to ascend a route. Only removable protection such as camming devices are used, and are then removed by the last climber in the party. Clean climbing is considered minimum-impact climbing that does little or no harm to the rock (USDI 1995).
Drills	Boring tools used by climbers to pierce holes into rock for the installation of expansion bolts. <i>Power drills</i> are battery operated and can bore a hole into rock in less than a minute. <i>Hand drills</i> are manually operated and can take up to 30 minutes to place a bolt (USDI 1995). There currently is a National Park Service-wide ban on using power drills in national parks.
Expansion Bolts	2- to 4-inch long metal rods that are typically threaded on one end and machined on the other end so that the end expands with great force when the rod is either twisted or hammered into a drilled hole. Bolts are considered fixed protection (USDI 1995).
Gardening	The physical alteration of rock surface by removing loose rocks or vegetation in order to create a better hand or foot hold.
Group	Individuals traveling together.
Mailback Questionnaire	Individuals who did not fill out the questionnaire onsite were given the option to fill the questionnaire out later and return via mail using the pre-paid postage.
Management Preferences	Opinions of users regarding the appropriateness of various management practices.
Mean	A measure of the center of the data set. Popularly known as the arithmetic <i>average</i> ; the sum of the observations in the set divided by the number of observations. Means have a leveling effect. They tell nothing about variations or extreme values that may act to skew the data.

Median	The number in the data set where one-half of the numbers are at or below it and one-half above it. It is often a better statistic than the mean when the population is skewed by extreme values. Indicators of a population skewed by extreme values include a high standard deviation or a large difference between the mean and the median.
N (Number)	Number of respondents. Total N's may vary from table to table because not all visitors that responded to the questionnaire answered every question.
Number of Rock Climbing Visits	The total number of trips made by climbers to the park <i>for the purpose of rock climbing</i> . Respondents who noted that this was their first visit to the park for the purpose of rock climbing are considered <i>1st-time visitors</i> . All other respondents are considered <i>repeat visitors</i> .
Onsite Interview	Groups of visitors were contacted onsite by park staff at three primary park locations. Information about each group and its individual group members was collected during this contact. Climbers who agreed to participate in the study were given a questionnaire to fill out onsite with the option of taking it home to fill out and return via mail.
Percent	Percentage; proportion of, or ratio.
Protection	Indicates the various devices climbers place in or on the rock for safety or to descend. <i>Fixed protection</i> includes anything which is permanently placed in the rock, such as a bolt or a piton. <i>Removable protection</i> is any protection which is used for the purpose of the climb and removed after the climb is completed, such as camming devices (USDI 1995).

Residence**Local**

Respondents considered to be local are those who listed their permanent residence zip code to be within the following boundaries: south of Mount Rushmore National Memorial to Hot Springs, SD; east to Wall, SD, north to Belle Fourche, SD; and west to Newcastle/Sundance, WY.

**Nonlocal**

Includes zip codes for all other South Dakota and Wyoming cities and all other US states or foreign countries.

Respondents

Individuals (16 years or older) who completed a questionnaire.

Rock Climber

An individual who ascends a rock or rock face by means of technical ability and equipment (USDI 1995).

Rock Climbing

The act of climbing rocks and rock faces where such devices as pitons, carabiners, ropes, anchors, and other equipment are generally needed to complete the climb (USDI 1995).

Significantly Different

Subgroups of the total sample (i.e., local and nonlocal visitors) were tested for statistically significant differences using t-tests and chi-square analysis techniques. Only significant differences at the .05 level were reported.

Significance Level**Significant at the .05 Level**

Probability of a Type-I error (rejecting a null hypothesis when it's true). Throughout this report, a .05 significance level was used as criteria for testing null hypothesis that subgroup means of the total sample are equal. A .05 significance level assumes that we are correctly accepting a null hypothesis 95 percent of the time and risk rejecting it only 5 percent of the time. That is, there is a 95 percent probability that two subgroups really differ, or less than a 5 percent probability that the apparent difference is due to chance.

Specialization

First defined by Hobson Bryan (1977), recreation specialization is "a continuum of behavior from the general to the particular." More specifically, specialization is a way of measuring the level of recreation involvement and experience in terms of such factors as skill, setting preference, frequency of participation, equipment used and level of centrality to a person's lifestyle. For this study, specialization was broken down into three levels (low, medium, and high), and was determined by climbers' responses to four questions in the questionnaire: (1) number of years involved in rock climbing; (2) number of days per year spent rock climbing; (3) membership in rock climbing clubs or organizations; and (4) self-rated ability at sport climbing.

Climber responses to the four questions were standardized to a mean of zero and standard deviation of one to account for the different response measurements for each question. The standardized responses were then added together for a total specialization score and climbers were assigned to one of three levels of specialization: low (approximately 25 percent of respondents were in the low category), medium (50 percent), and high (25 percent).

Sport Climbing

A style of climbing typically involving short routes with fixed bolt protection to ascend a route. Previewing and practicing a climb is common and the emphasis is on technical difficulty rather than adventure. Sport climbs tend to involve less physical risk due to the regular spacing of bolted protection points (USDI 1995).

Technical Climb	Refers to the need for a rope and protective devices to ascend a route. "Technical" is meant to distinguish climbing in which rope and/or protective devices are needed. Technical climbs are rated for difficulty between 5.0 and 5.14 (USDI 1995).
Total Sample	Total number of respondents (total N). For this study, the total sample was 353.
Visitor	Individual rock climbers Mount Rushmore National Memorial.

BACKGROUND

This report documents the findings of a 1996 study of rock climbers at Mount Rushmore National Memorial in the Black Hills of western South Dakota. The study was conducted by the Cooperative Park Studies Unit (CPSU) at the University of Minnesota in cooperation with the National Park Service (NPS) Midwest Region and Mount Rushmore National Memorial.

The purpose of this research was to aid managers at Mount Rushmore National Memorial in systematically collecting baseline data on rock climber use and users. The number of climber use days (a climber use day is defined as any portion of a 24-hour day) has grown from approximately 350 in 1989 to more than 5,600 in 1996. Statistics concerning climbers and climbing use is generated from voluntary climber registration stations at several climbing areas. Today, this 1,238-acre park is known internationally as a world-class sport climbing area with its massive granite spires and large rock faces nestled amid tall ponderosa pines.

In 1991, the Washington, D.C. National Park Service (NPS) office directed all parks with climbing activities to develop site-specific climbing management plans. Mount Rushmore National Memorial currently is working with other agencies to develop a climbing management plan to protect its varied resources and provide quality recreation opportunities for climbers. However, data on climbers has been limited to observations by ranger staff and a voluntary climber registration system. To develop a climbing management plan which best reflects the needs and issues specific to Mount Rushmore, the Cooperative Park Studies Unit (CPSU) at the University of Minnesota was requested to aid the NPS by collecting data on background characteristics of climbers, climbers' perceptions of problems related to climbing, and climbers' preferred management actions.

Specific research questions addressed in this summary include:

1. Who are Mount Rushmore's rock climbers and how do they use the park?
2. What are rock climbers' perceptions of crowding in the climbing areas?
3. What are the most significant problems encountered by rock climbers in the park?
4. What management actions do rock climbers support and oppose?

A questionnaire was used to collect data from rock climbers in Mount Rushmore National Memorial. Groups of climbers were contacted onsite in the park in an effort to secure names and addresses of a sample of individuals (16 years of age or older). Individual climbers who agreed to participate in the study were then given a questionnaire to fill out on-site and return to the survey distributor or to fill out later and return via mail with the address preprinted and postage paid.

Thirty-seven tables contained in this report summarize the findings of the study. Preceding the tables are highlights from some of the most salient findings from the study. These selected results are organized under eight sections, as are the tables and figures. Following these highlights is a discussion of the implications of some of the findings.

The first section of tables focus on information about the onsite study sample. The next two sections focus on characteristics of the rock climbing visit and characteristics of the rock climbers. Section four focuses on visitors' perceptions of crowding. Sections five and six examine problems encountered by visitors and their opinions concerning management actions in the park. Section seven looks at the overall trip experience for visitors and section eight specifies climbers' open-ended, verbatim comments or suggestions about their visit to Mount Rushmore National Memorial.

While this report provides a valuable information base concerning visitor use at Mount Rushmore, a variety of additional analyses are possible. While we see this technical report as an initial reporting of the findings, we will seek additional analyses and reporting activities to document the findings of this research. Further analyses and information about the study are available upon request to the authors at the University of Minnesota, CPSU.

STUDY METHODS

Questionnaires were distributed from June 4 through October 12, 1996. Both weekdays and weekend days were included in the sampling plan. The goal was to interview 20 climbers on seven preselected days each month (four days in October). This was not always possible due to factors such as poor weather, availability of park ranger staff, or low climber turnout. Questionnaires were distributed throughout the day to reflect varying use patterns during daylight hours.

The distribution of the climbing questionnaire took place within the boundaries of Mount Rushmore National Memorial, in the northwest corner of the park. Three general climbing areas—Chopping Block, Middle Marker and South Seas—were selected because of their established voluntary registration stations and because they are three of the most-used climbing areas, each with route difficulty levels ranging from novice to advanced.

Field administration of the questionnaires was the responsibility of Mount Rushmore National Memorial and was conducted by park ranger staff. These individuals received training in basic survey design methods before the start of the study and were given instructions for distributing the survey (appendix A).

On the sample day at particular interview locations, park staff stopped and asked groups of climbers to participate in the study. The onsite interview process included five steps: (1) explaining the study to the group; (2) requesting their participation; (3) gathering limited information about the group using the *Onsite Interview Form* (appendix B); (4) distributing an *Individual Information Form* (appendix C) to each group member (16 years of age or older) who agreed to participate; and (5) distributing a *Questionnaire* (appendix D) to each group member who filled out an Individual Information Form to be filled out onsite or to be mailed back later.

Upon informing groups of the nature of the study, each climber (16 years of age or older) who agreed to participate was given an Individual Information form to be completed and returned to the interviewer onsite. The form asked individual climbers to record their name and mailing

address and respond to three questions about their visit and themselves. While climbers were filling out the Individual Information Form, the interviewer completed an Onsite Interview Form for each group, which documented background information about each group, such as the group size and number of climbers. This form also documented the number of people in each group that did not participate in the study either because they were not present during the group interview, refused to participate, had previously participated in the study or were less than 16 years old.

Climbers who agreed to participate in the study were encouraged to complete the questionnaire on-site. Those who chose to fill their questionnaire out later were told of the preprinted address and the prepaid postage on their questionnaire. Two follow-up mailings were sent to nonrespondents (appendix E). If questionnaires were not completed and returned via mail within two weeks, a postcard was mailed to nonrespondents reminding them that it was important they complete and return their questionnaire as soon as possible. Two weeks later, a second follow-up was sent to nonrespondents which included a letter and another questionnaire.

Names of respondents were excluded from the data set to protect their anonymity and confidentiality. The completed survey forms were commercially keypunched and the data set was uploaded to a computer for analysis. Data were analyzed using the Statistical Program for the Social Sciences (SPSS for the Macintosh). Basic descriptive statistics, frequency distributions and cross tabulations were computed for selected variables. In addition to an analysis of all respondents combined, the NPS requested comparisons of behaviors and perceptions of local visitors versus nonlocal visitors, as well as comparisons of first time visitors versus repeat visitors and experienced versus inexperienced visitors. T-tests and chi-square analysis statistical methods were used to identify differences between these subgroups of visitors for selected variables.

SELECTED RESULTS

A total of 475 individual rock climbers in 181 groups were contacted during the study period. Of those rock climbers, 391 individuals (82 percent) agreed to participate in the study by completing an Individual Information Form. The remaining 84 individuals (18 percent) did not participate. Of these individuals, 23 percent had previously participated in the study at another time, 18 percent were under the age of 16, 52 percent were missed due to being engaged in a climb or away from the climbing area at the time of the interview, and 7 percent refused to participate. Of all the individual rock climbers contacted, less than 2 percent refused to participate.

A 90 percent response rate was achieved from the 391 individuals who agreed to complete a questionnaire. A total of 295 climbers completed the survey onsite; 58 climbers mailed back the questionnaire for a total of 353 completed questionnaires used in this analysis.

The sample of respondents appears to be representative of park rock climbers. Because information about rock climbers was collected onsite, comparisons of study respondents (N=353) and nonrespondents (N=38) to the questionnaire were possible. The comparisons below suggest only minor differences were found between the two groups, with the exception of the total number of trips climbers made to Mount Rushmore for the purpose of rock climbing. On average, nonrespondents made twice as many climbing trips to the park.

Comparisons of respondents to the questionnaires with nonrespondents.

Characteristic	Respondents		Nonrespondents	
	N	Percent	N	Percent
Residence				
Rapid City	78	23.1	11	29.7
Western South Dakota	47	13.9	7	18.9
Greater South Dakota	4	1.2	2	5.4
Other U.S. and International	208	61.8	17	45.9
Gender				
Female	97	27.7	10	26.3
Male	253	72.3	28	73.7
	Respondents		Nonrespondents	
	N	Mean	N	Mean
Total number of rock climbers in group	351	3.2	38	3.1
Total number of trips made to Mount Rushmore for the purpose of rock climbing	337	20.7 Median = 3.0	37	47.7 Median = 8.0

The Onsite Study Sample

- The number of rock climber groups and individuals interviewed were distributed among three interview locations, with 61 percent of climbers interviewed at South Seas, 20 percent at Middle Marker and 19 percent at Chopping Block.
- More than half the study sample (58 percent) were interviewed on weekends or holidays, compared to 42 percent of rock climbers interviewed on weekdays. June and July were the heaviest months for interviewing, with 68 percent of the respondents contacted during those months. The remaining 32 percent were contacted during August through October.
- Most of rock climbers were in groups of two (52 percent). The average and median size of *rock climbers* per group was between two to three people. The total number of *people* per group was slightly higher, indicating that nonclimbers also use the climbing area. Nonclimbers were not included in this study.

Characteristics of the Rock Climbing Visit

- The average length of rock climbers' trips to Mount Rushmore was two to three days. Statistically significant differences were noted between local and nonlocal visitors. As expected, the majority of local visitors (88 percent) visited the park for one day only, whereas nonlocals averaged three days of climbing in the park.

- Just more than 79 percent of climbers indicated that they signed in at one of the three voluntary registration stations before climbing in the park, while 18 percent said they did not register. Less than three percent indicated they did not know whether they or their group registered. No statistically significant differences were noted following analysis of local versus nonlocal visitors.
- More than half the respondents (57 percent) reported that Mount Rushmore was their primary climbing destination. Statistically significant differences were noted following comparisons of local versus nonlocal visitors. Most local visitors (73 percent) reported that Mount Rushmore was their primary destination, compared to less than half (48 percent) of nonlocal visitors.
- The majority of respondents (69 percent) noted climbing with friends, while another 27 percent reported climbing with their family or with a combination of family and friends. Only two percent of respondents indicated climbing with an organization, club, or commercial guide.
- Most nonlocals (72 percent) indicated they were camping while on this trip to Mount Rushmore, with nearly a third (28 percent) reporting they were staying at the climbers' bivouac at Breezy Point.
- The most frequently listed area in the park climbed by respondents was South Seas (78 percent), followed by Chopping Block (53 percent), and Middle Marker (41 percent).
- Other than rock climbing and observing climbers, the most frequently reported activities in the park included wildlife observation (35 percent of respondents reported participating in this activity), photography (34 percent), sightseeing (30 percent), and going to the Visitor Center at the Memorial (20 percent). Statistically significant differences were noted following analysis of locals versus nonlocals and first time versus repeat visitors. Specifically, nonlocals and first time visitors were more likely to participate in the following activities: photography, sightseeing, going to the Visitor Center at the Memorial, visiting the gift shop/restaurant at the Memorial, and attending NPS programs at the Memorial. Statistically significant differences were also noted among differing levels of specialization (see Characteristics of Rock Climbers). More highly specialized climbers were more likely to participate in technical climbing (100 percent), as compared to 83 percent of climbers who ranked low in specialization. Further, a higher number of climbers who ranked *low* in specialization (50 percent) responded that they were *observing* climbers than highly specialized climbers (32 percent).

Characteristics of Rock Climbers

- Rock climbers interviewed in the Park reported residence throughout a number of states and international countries. Visitors who were from Rapid City comprised 23 percent of the study, while visitors from the local Black Hills region around Mount Rushmore (including Sundance and Newcastle, WY) consisted of 13 percent of the study (*thus, 36 percent of the sample, as defined in this report, are local area visitors*). More than 14 percent of

respondents were from Minnesota and more than 7 percent were from Wyoming. Almost four percent were from outside the United States.

- Overall, the experience and involvement levels of climbers at Mount Rushmore differed significantly, ranging from little experience and involvement (or low specialization) to a great deal of experience and involvement (or highly specialized). To compare climber responses by overall experience level, climbers were placed into one of three specialization categories—low, medium, or high—as determined by climbers' responses to: (1) the number of years involved in rock climbing; (2) the number of days per year spent rock climbing; (3) membership in rock climbing clubs or organizations; and (4) self-rated ability at sport climbing.

Climbers in the **low specialization** category (25 percent of respondents fell in this category) spend an average of 18 days per year climbing and have been involved in climbing for an average of two years. Their average age is 28 and they are more predominately female. Only three percent belong to rock climbing clubs or organizations. When asked to self-rate their ability at various climbing activities, they rate themselves as novices or have no experience.

Climbers in the **medium specialization** category (50 percent) spend an average of 56 days per year climbing and have been involved in climbing for an average of four years. Their average age is 29 and they are an even mixture of male and female. Nineteen percent are members of climbing clubs or organizations. They self-rate their ability at various climbing activities primarily in the novice to intermediate range.

Climbers in the **high specialization** category (25 percent) spend an average of 108 days per year climbing and have been involved in climbing for an average of 12 years. Their average age is 34 and they are predominately male. Fifty-two percent belong to a climbing club or organization. They self-rate their ability at various climbing activities primarily as intermediate or advanced.

- The average number of trips visitors made to the park for rock climbing was 21 trips; the median number of trips was three. Thirty-four percent of respondents indicated this was their first trip to Mount Rushmore for rock climbing. Please note that this figure is not representative of climbing use patterns at Mount Rushmore. Because visitors were only asked to participate in the study once, therefore the actual proportion of first time climbers to repeat visitors may actually be higher. Statistically significant differences were noted following analysis of local versus nonlocal climbers. Local climbers made an average of 47 trips to the park (median = 15), while nonlocals made an average of seven trips (median = 2).
- The majority of climbers who participated in the study have also climbed in the Needles area of the South Dakota Black Hills (78 percent) and at Devils Tower National Monument, WY (52 percent).
- Overall, respondents had an average of 5-6 years climbing experience (median = 3) and an average of 58 days per year spent climbing. Statistically significant differences were noted

following analysis of local versus nonlocal visitors. Nonlocal visitors had an average of more than six years climbing experience versus a local average of less than five years.

- Respondents were asked to self-rate their ability using a scale from 1 = No Experience to 5 = Expert on four types of climbing: bouldering, sport climbing, traditional climbing and placing bolts in the establishment of new routes. Sport climbing received the highest reported average at 3.1, followed by bouldering (2.9), traditional climbing (2.7), and placing bolts in the establishment of new routes (1.5). No statistically significant differences were noted following analysis of local versus nonlocal visitors.
- Climbing activities most frequently participated in by respondents are (1) climbs where fixed anchors are necessary to descend; (2) face/sport climbing that requires fixed protection; and (3) top roping with fixed anchors. The activities least frequently participated in are (1) free climbing with no protection; and (2) top roping without fixed anchors. Statistically significant differences were noted between local and nonlocal climbers. Nonlocal climbers reported more frequent participation in clean climbing using only removable protection and top roping without fixed anchors than local climbers.
- Twenty-one percent of respondents reported being a member of a rock climbing club or organization. Of those who indicated membership in a club or organization, 30 percent reported membership in the Black Hills Climbers' Coalition and 25 percent reported membership in the Access Fund.
- Seventy-two percent of respondents were male; 28 percent were female.
- The average age of respondents was 29 years. Median age was 26 years.
- Rock climbers visiting the park are well educated. Nearly 85 percent reported having completed at least some college, business or trade school. More than 47 percent of respondents have graduated with an undergraduate or advanced degree.

Visitor Perceptions of Crowding

- Overall, respondents did not find the areas where they were climbing to be crowded. On a scale from 1 = Not at all crowded to 9 = Extremely crowded, the average and median rating was two. Statistically significant differences were noted following analysis of climbers who were interviewed on a weekday versus those interviewed on a weekend or holiday. Visitors who were interviewed on a weekend or holiday reported more crowded conditions (mean = 2.7) than weekday visitors (mean = 1.9). No statistically significant differences were noted following analysis of local versus nonlocal and 1st time versus repeat visitors.
- Respondents predicted that the number of climbers at Mount Rushmore will increase over the next ten years. On a scale from 1 = Greatly Decrease to 5 = Greatly Increase, climbers reported an average score of four. No statistically significant differences were noted following analysis of local versus nonlocal visitors or by climbers' level of specialization.

- Climbers reported overwhelmingly (79 percent) that they would still choose to climb in the park if climbing use increased. Only three percent reported that they would not choose to climb in the park if climbing use increased. No statistically significant differences were noted following analysis of local versus nonlocal visitors, first time versus repeat visitors or by climbers' level of specialization.

Problems Encountered by Climbers

- Respondents reported experiencing few problems during their visit to Mount Rushmore. When asked to evaluate 18 potential problems (using a scale from 1 = not a problem to 4 = serious problem), the average scores for each of the potential problems were 2.6 or less, with the vast majority being 2.0 or less. The three most significant problems noted by respondents were: (1) Impacts of aircraft flying over climbing areas (mean = 2.6, median = 3.0); (2) Lack of convenient rest room facilities near climbing areas (mean = 2.4, median = 2.0); and (3) Lack of overnight camping facilities for climbers near the park (mean = 2.0, median = 2.0). Fifty-two percent of respondents reported that the impacts from aircraft were a moderate or serious problem, 46 percent reported that the lack of restroom facilities was a moderate or serious problem, and 32 percent reported that the lack of camping facilities was a serious or moderate problem. Statistically significant differences were noted following analysis of local versus nonlocal visitors and first time versus repeat visitors. Specifically, local climbers and repeat visitors found the lack of convenient parking and unskilled, unprepared rock climbers to be a more serious problem than did nonlocals and first time climbers.
- Statistically significant differences were also noted between levels of specialization. Specifically, highly specialized climbers found the following potential problems to be more serious: Impacts of aircraft flying over the climbing areas; Inconsistency of interagency management approaches; Unskilled, unprepared rock climbers; The presence of human waste near climbing areas; Too much regulation of rock climbers; and, Too many rules and regulations pertaining to rock climbers.

Climbers' Opinions about Management

- Respondents were asked their opinions about several potential management actions related to improving the park experience. Responses to potential management actions varied greatly, with respondents *in support* of about half the actions and *opposed* to about half the actions. The *most strongly supported* management actions included the provision of toilets near the climbing area (supported or strongly supported by 70 percent of respondents), providing more information on climbing routes (71 percent), providing more information on minimum-impact climbing techniques (73 percent), and providing more information on climbing safety issues (70 percent). The *least supported* management actions included eliminating the replacement of bolts (opposed or strongly opposed by 86 percent of respondents), reducing the number of existing bolted routes and allowing no new drilling or bolting (81 percent), eliminating the placement of bolts while allowing replacement of unsafe bolts by permit only (72 percent), and limiting the number of people climbing at any one time in each climbing area (76 percent). More similarities than differences were noted following analysis of local versus nonlocal

visitors and first time versus repeat visitors. However, local climbers were more opposed to regulations such as limiting the number of commercial groups, limiting the number of climbers per group, or closing routes or areas near cultural, historical or sensitive wildlife sites or due to serious trail impact. Management actions that showed statistically significant differences between first time visitors and repeat visitors showed that first time visitors were generally more supportive of the proposed management actions than were repeat visitors.

- Many statistically significant differences of management preferences were noted following an analysis of climbers' level of specialization. In general, highly specialized climbers were less in favor of the proposed management actions than less specialized climbers. Specifically, highly specialized climbers were less in favor of having increased NPS involvement with the climbing community by providing more information on routes, minimum-impact techniques, climbing safety or ethics. Further, they were less in favor of management actions that would restrict their climbing activity, such as requiring a permit to place bolts, requiring mandatory registration, and limiting the number of people climbing at any one time in a climbing area. Highly specialized climbers were more in favor of allowing unregulated bolting.

Climbers' Overall Impression of Their Trip

- Overall, respondents were satisfied with their climbing trip to Mount Rushmore. On a scale of 1 = Worst Ever to 9 = Best Ever, 70 percent rated their experience a seven or higher. No statistically significant differences were noted following analysis of local versus nonlocal visitors, first time versus repeat visitors and climbers' levels of specialization.

Open-ended Comments

- Forty-one percent of the respondents to the questionnaire offered additional open-ended comments about their rock climbing trip or suggestions about managing Mount Rushmore National Memorial. While this is anecdotal information, it gives managers additional insight into a variety of topics of interest to rock climbers.

DISCUSSION

Results of this study permit NPS planners and managers, as well as the climbing public and others, to understand better the use patterns, background characteristics, and viewpoints of Mount Rushmore National Memorial rock climbers. Without information on visitor use patterns, user characteristics and preferences, impacts which are influenced by visitor use will be based largely on intuition or "best guess."

It should be understood clearly that this study did not address visitor use measurement and estimates of visitor numbers in the climbing areas. Rather, the study sought to identify use patterns (e.g., areas of the park people climbed), visitor characteristics, perceived problems, and preferred management actions. As such, the study should be viewed as one form of public involvement to aid the NPS in developing Mount Rushmore National Memorial's first comprehensive rock climbing management plan.

The findings of this study present strong evidence that current Mount Rushmore rock climbers are satisfied with their climbing experience. Overall, respondents highly rated their experience at Mount Rushmore. Further, they noted that issues such as crowding, maintenance of climbing areas, and current regulations were not problems influencing their experiences. Information from the study does suggest, however, that actions can be taken by park managers at Mount Rushmore, and in cooperation with area land management agencies (e.g., U.S. Forest Service and Custer State Park), to enhance aspects related to the quality of the visitor experience for climbers further.

Rock climbing visitors reported experiencing few problems during their visit to Mount Rushmore, the most significant concerning (1) the impacts of aircraft over flights, (2) the lack of convenient restrooms, and (3) the lack of overnight camping facilities close to the park. The issue of aircraft over flights is due primarily to local commercial services offering aerial helicopter tours of the park. A majority of respondents (53 percent) reported that the impact of aircraft over the climbing areas was a moderate to serious problem. Both quality of the visitor experience and the safety of rock climbers should be of concern to managers, with many climbers indicating that the sudden, loud sounds not only took away from the enjoyment of their experience, but also posed potential danger for people who were engaged in a climb.

While climbers reported the lack of convenient restrooms as the second most significant problem encountered during their visit to the park, nearly 86 percent responded that the presence of human waste near the climbing areas was "not a problem" or only a "slight problem." As such, it does not appear that the lack of convenient restroom facilities is so much a *problem*, but rather a climber *preference*. And while the issue of human waste in the climbing areas is not currently considered a significant problem, there is the potential for significant growth of rock climbing at Mount Rushmore. Therefore, the issues of human waste near the climbing areas and the potential need for convenient restrooms should continue to be monitored.

The third most significant problem reported by rock climbers is the lack of overnight camping facilities for climbers near the park. Because a number of overnight camping facilities currently exist in the area around Mount Rushmore, ranging from the primitive climbers' bivouac at Breezy Point (on adjacent Forest Service land) to developed campgrounds, the issue may not be so much the lack of available facilities but the lack of awareness that such facilities exist. As such, providing additional information to climbers on the availability of camping facilities may be a more beneficial step to take until it can be determined whether there is an actual need for additional camping facilities.

The most strongly supported management options included the provision of educational information on climbing routes, minimum-impact climbing techniques, safety issues, and climbing ethics. In general, 1st time and nonlocal visitors were more supportive of the 31 proposed management options than repeat and local area visitors. This is true perhaps because nonlocals and new climbers to the area are not as directly or personally influenced by the potential management actions. Highly specialized climbers and local climbers were, in general, less supportive of the 31 proposed management actions. Specifically, local climbers were opposed to management actions that imposed limits, such as limiting the number of commercial groups and

closing climbing areas due to environmental impacts or near cultural, historical or sensitive wildlife, and limiting group size.

Concerning the issue of bolting, results from this study show that the most *highly supported* management actions include allowing administratively approved use of power drills for maintenance of existing climbing routes and for the development of new climbing routes. There was not a significant difference between locals and nonlocals or between climbers with differing experience levels on these two actions. The most *strongly opposed* bolting options include eliminating the replacement of bolts, reducing the number of existing routes and allowing no new drilling or bolting, and eliminating the placement of bolts, while allowing replacement of unsafe bolts by permit only. In general, climbers appear to be concerned about the safety and maintenance of bolted routes, and they seem to be willing to work with land managers to maintain safe routes by using permits or administrative approval. However, the more experienced climbers are less supportive of such management actions, perhaps because they are the people who are placing the bolts and are therefore most likely to be affected by the regulations.

While many Mount Rushmore climbers are from the Black Hills region, 63 percent of climbers interviewed were from outside the area. Further, there are a large number of climbers who are new to the sport or new to climbing in the park. As such, a significant portion of the climbing visitors may not be aware of local climbing ethics, availability of nearby camping facilities, locations of climbing routes, or environmental concerns specific to the Black Hills. Therefore, educational tools such as brochures, guidebooks and posted information may be beneficial toward informing climbers not familiar with the area on climbing routes, camping facilities, minimum-impact climbing techniques, safety issues, climbing regulations, methods of trash and human waste disposal, and local climbing ethics. Such educational methods are currently being used by other NPS units, including Devils Tower National Monument, Joshua Tree National Monument, and Rocky Mountain National Park.

Many options are available for distributing information to reach a wide range of rock climbing visitors. With 80 percent of respondents reporting they registered at one of the voluntary registration stations and with South Seas, Chopping Block, and Middle Marker being the most-used climbing areas, the three established kiosks appear to be ideal for posting information and maps. Further, because a significant number of 1st time and nonlocal climbers visit the Memorial visitor center, gift shop/restaurant, and the NPS visitor programs, these facilities also may be suitable places to provide information on climbing to reach better visitors who are unfamiliar with rock climbing opportunities in the area.

A mandatory climber registration or permit system is an alternative method to help ensure that all climbers receive appropriate information on minimum-impact climbing techniques, locations of climbing routes, safety issues, climbing regulations, and climbing ethics. This also would provide more accurate data on visitor use. Devils Tower National Monument and Acadia National Park require either advanced registration or permits to climb within these parks. Many NPS units use mandatory registration or permit systems as a means to educate user groups (e.g., backcountry hikers and river rafters). Although 80 percent of the respondents in this study indicated they registered at one of the voluntary registration kiosks, monitoring should be done to see if actual

compliance is that high. The local, more highly specialized climbers probably will be the most resistant to a mandatory registration or permit alternative.

Another option might be an annual permit which climbers would obtain to climb within the park. Because a number of rock climbing visitors at Mount Rushmore are relatively inexperienced or are climbing in the area for the first time, a permit system would provide a means for the NPS to educate these climbers on issues such as safety, climbing ethics, park rules, climbing routes, and availability of facilities such as campgrounds and restrooms. Once a permit has been obtained for the year, climbers could be asked to register at one of the voluntary registration areas each time they climb in the park during that year. In addition to measuring the number of climbers, the voluntary registration system also could be used to monitor the number of groups using specific climbing routes by asking for the names of *routes* climbed. Devils Tower currently requests climbers to specify the routes climbed and uses this information to monitor climbing use and identify the most-used routes.

Other means of disseminating information include working with local climbing clubs or organizations such as the Black Hills Climbers' Coalition or the Access Fund, local news media, and local businesses, as well as area land management agencies such as the U.S. Forest Service and Custer State Park. Climbing clubs/organizations and outfitters are excellent resources for communicating information and may offer assistance in producing educational or informational materials. Plus, because a significant portion of Mount Rushmore climbers also have climbed at the Needles area, Devils Tower National Monument and many other areas in the Black Hills, cooperative communication efforts (such as all-inclusive guide books or brochures) among regional managing agencies seems to be worth investigating.

Land managers can benefit greatly from research and current management strategies pertaining to rock climbing at other NPS units. For example, a study conducted at Joshua Tree National Monument in California (Wallace et al. 1995) shows that rock climbers have varying preferences for the type of experience they are seeking. Those who preferred climbing in remote wilderness areas viewed such things as signs, toilets, roads, human impacts, and bolts as negative to their overall experience, whereas those who preferred frontcountry climbing favored bolted routes, trails, toilets, and easy access to climbing areas. One of the primary issues for land managers, then, is determining what *type of experience* the visitor is seeking. While Joshua Tree's diverse landscape, made up of a combination of both wilderness and nonwilderness, makes it possible for land managers to manage for a range of visitor opportunities, managing for such diverse rock climber opportunities at Mount Rushmore is not nearly as feasible due to the small amount of land within the park. However, within the Black Hills region, a variety of climbing opportunities exist and can be managed to accommodate a range of climbing preferences, from sport climbing using bolted routes to traditional climbing using removable protection. Further cooperative efforts among land managing agencies would be beneficial to provide climbers in the Black Hills with a range of opportunities and setting preferences, from developed climbing areas with nearby parking, trail markers and toilets to undeveloped areas with little sign of human impact.

Overall, managers at Mount Rushmore should be pleased to know that rock climbing visitors to the park appear to be very satisfied with their climbing experience. Further, climbers expressed

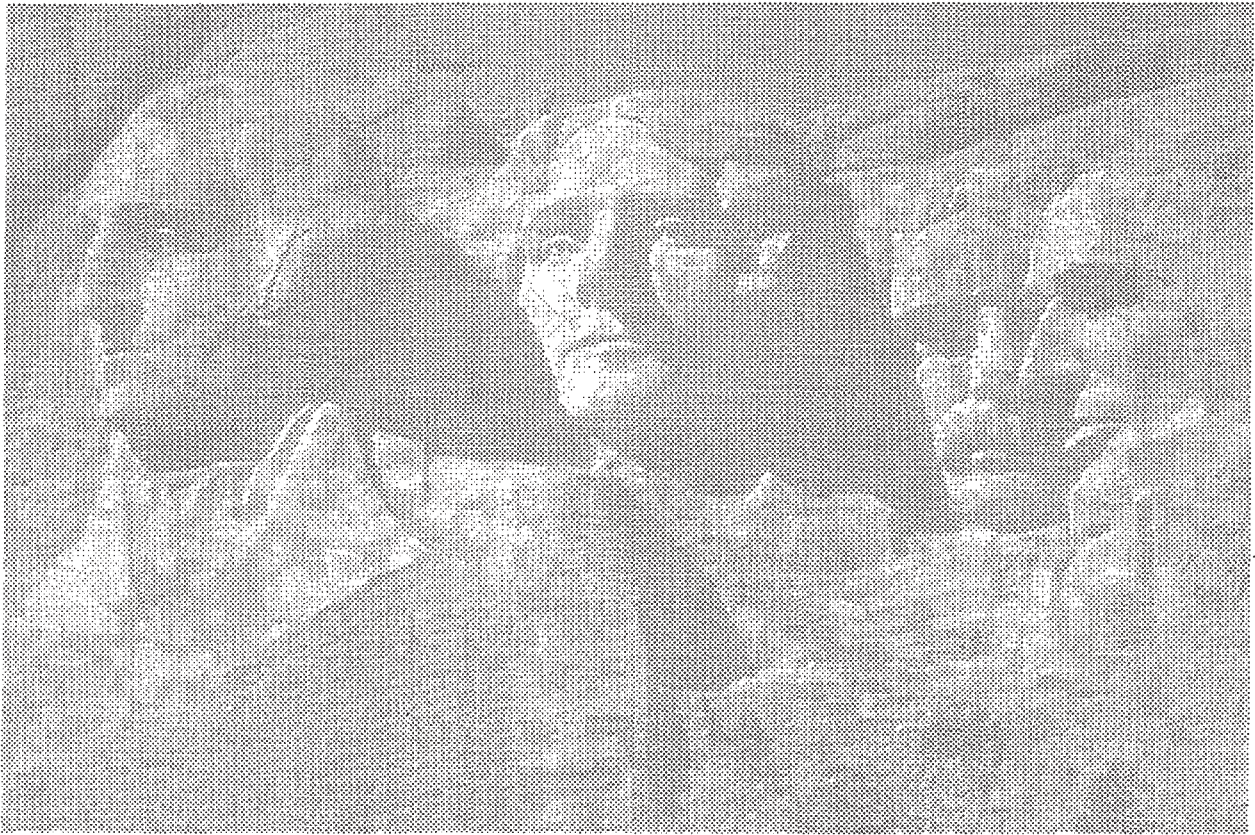
widespread support for participation in this research. Few people chose not to participate in the study, and the overall response rate exceeded 90 percent. Judging from the high response rate and the comments offered by many respondents in the open comments section at the end of the questionnaire, most Mount Rushmore rock climbers appreciated being asked their opinions and viewed the study as a valuable means to participate in the agency's public involvement process.

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TABLES OF STUDY RESULTS



A. The Onsite Study Sample

- Table A1. Number of individual rock climbers and groups sampled onsite in the park by date, day of week, and interview location.
- Table A2. Climbing area where rock climbers were interviewed by *local* versus *nonlocal* visitors.
- Table A3. Day of week rock climbers were interviewed by *local* versus *nonlocal* visitors.
- Table A4. Number of individual rock climbers who completed an Individual Information Form in the park on weekdays and weekends/holidays by interview location.
- Table A5. Month in which rock climbers were interviewed by *local* and *nonlocal* visitors.
- Table A6. Number of study participants that returned their completed questionnaire onsite, mailed back the completed questionnaire or did not return their questionnaire by *local* and *nonlocal* visitor.
- Table A7. Total number of *rock climbers* per group interviewed onsite in the park.
- Table A8. Total number of *people* per group interviewed onsite in the park, *including both climbers and nonclimbers*.

Table A1. Number of individual rock climbers and groups sampled onsite in the park by date, day of week and interview location.

Date	Day of week	Interview location	Number of climbers interviewed*	Number of groups interviewed
6/4/96	Tuesday	South Seas	8	5
		Chopping Block	2	1
6/5/96	Wednesday	Middle Marker	3	1
		South Seas	5	3
		Chopping Block	3	2
6/9/96	Sunday	Middle Marker	6	1
		South Seas	14	5
6/15/96	Saturday	South Seas	9	3
		Middle Marker	3	1
6/16/96	Sunday	Chopping Block	1	1
		South Seas	1	1
6/18/96	Tuesday	South Seas	3	2
6/19/96	Wednesday	South Seas	2	1
		Chopping Block	1	1
6/24/96	Monday	South Seas	5	2
		Chopping Block	1	1
6/25/96	Tuesday	South Seas	5	2
		Chopping Block	4	1
6/29/96	Sunday	South Seas	14	6
		Middle Marker	10	4
7/3/96	Wednesday	South Seas	4	2
		Middle Marker	2	1
7/4/96	Thursday	South Seas	10	2
		Chopping Block	7	2
7/5/96	Friday	Middle Marker	8	3
		South Seas	8	4
7/7/96	Sunday	South Seas	12	5
		Chopping Block	2	1
7/8/96	Monday	South Seas	7	2
		Chopping Block	2	1
		Middle Marker	2	1
7/14/96	Sunday	South Seas	13	4
		Chopping Block	1	1
7/15/96	Monday	South Seas	9	5
		Chopping Block	2	1
7/18/96	Thursday	South Seas	6	2
		Middle Marker	4	2
7/19/96	Friday	Middle Marker	4	1
		South Seas	5	3
		Chopping Block	4	3
7/22/96	Monday	South Seas	7	3
		Chopping Block	3	1
7/24/96	Wednesday	Middle Marker	2	1
		South Seas	5	1

Date	Day of week	Interview location	Number of climbers interviewed*	Number of groups interviewed
7/25/96	Thursday	South Seas	2	2
7/26/96	Friday	South Seas	4	2
7/27/96	Saturday	Middle Marker	6	4
		South Seas	10	5
		Chopping Block	11	4
7/30/96	Tuesday	South Seas	2	1
8/2/96	Friday	South Seas	5	2
		Chopping Block	2	1
8/4/96	Sunday	South Seas	5	4
8/13/96	Tuesday	South Seas	7	3
		Chopping Block	2	1
8/16/96	Friday	Chopping Block	3	1
		South Seas	1	1
		Middle Marker	6	2
8/17/96	Saturday	Middle Marker	7	2
		South Seas	14	8
		Chopping Block	4	2
8/18/96	Sunday	South Seas	9	3
		Middle Marker	3	1
8/30/96	Friday	not listed	6	3
8/31/96	Saturday	South Seas	2	1
		Chopping Block	3	2
9/1/96	Sunday	Middle Marker	2	1
		South Seas	8	7
		Chopping Block	2	1
9/2/96	Monday	Middle Marker	2	1
		South Seas	2	1
9/7/96	Saturday	Chopping Block	7	3
		South Seas	6	2
9/8/96	Sunday	Middle Marker	1	1
		South Seas	1	1
		Chopping Block	1	1
9/14/96	Saturday	South Seas	4	2
		Chopping Block	3	2
		Middle Marker	2	1
9/28/96	Saturday	South Seas	1	1
		Chopping Block	2	1
10/5/96	Saturday	Middle Marker	1	1
10/12/96	Saturday	South Seas	2	1
		Middle Marker	2	2
		Totals	391	181

Source: Onsite Information Form.

* Number of individual rock climbers who agreed to participate in the study by completing an Individual Information Form.

Table A2. Climbing area where rock climbers were interviewed by *local* versus *nonlocal* visitors.

Climbing Area	Total Sample		Local versus nonlocal visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
South Seas	234	60.9	102	69.4	132	55.7
Middle Marker	76	19.8	21	14.3	55	23.2
Chopping Block	74	19.3	24	16.3	50	21.1
Totals	384	100.0	147	100.0	237	100.0

Source: Onsite Group Interview Form

Table A3. Day of week rock climbers were interviewed by *local* versus *nonlocal* visitors.

Day of Week	Total Sample		Local versus Nonlocal Visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
Monday	38	9.7	15	10.1	23	9.5
Tuesday	31	7.9	21	14.1	10	4.1
Wednesday	27	6.9	7	4.7	20	8.3
Thursday	12	3.1	4	2.7	8	3.3
Friday	56	14.3	16	10.7	40	16.5
Saturday	124	31.7	42	28.2	82	33.9
Sunday	82	21.0	31	20.8	51	21.1
Holiday*	21	5.4	13	8.7	8	3.3
Totals	391	100.0	149	100.0	242	100.0

Source: Onsite Group Interview Form

* Holidays during the study period: Independence Day and Labor Day.

Table A4. Number of individual rock climbers who completed an Individual Information Form in the park on weekdays and weekends/holidays by interview location.

Interview Location	Weekdays		Weekends and Holidays	
	N	Percent	N	Percent
South Seas	97	61.8	137	60.4
Middle Marker	31	19.7	45	19.8
Chopping Block	29	18.5	45	19.8
Totals	157	100.0	227	100.0

Source: Onsite Group Interview Form

Table A5. Month in which rock climbers were interviewed by *local* and *nonlocal* visitors.

Month	Total Sample		Local versus Nonlocal Visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
June	100	25.6	55	36.9	45	18.6
July	165	42.2	52	34.9	113	46.7
August	77	19.7	26	17.4	51	21.1
September	44	11.3	15	10.1	29	12.0
October	5	1.3	1	0.7	4	1.7
Totals	391	100.0	149	100.0	242	100.1

Source: Onsite Group Interview Form

Table A6. Number of study participants that returned their completed questionnaire onsite, mailed back the completed questionnaire or did not return their questionnaire by *local* and *nonlocal* visitor.

Questionnaire status*	Total Sample		Local versus nonlocal visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
Completed and Returned Onsite	295	75.4	104	73.8	191	76.4
Mailed Back	58	14.8	23	16.3	35	14.0
Not Returned	38	9.7	14	9.9	24	9.6
Totals	391	99.9	141	100.0	250	100.0

Source: Onsite Interview Form and Completed Questionnaires

* Following completion of an Individual Information Form onsite in the park, study participants were given a more indepth questionnaire which could be completed and returned onsite at the park or be returned by mail at some other time.

Table A7. Total number of *rock climbers* per group interviewed onsite in the park.

Number of Rock Climbers per Group	Number of Groups	Percent
1	17	9.4
2	93	51.5
3	35	19.3
4	21	11.6
5	8	4.4
6	3	1.7
7	2	1.1
11	1	0.6
13	1	0.6
Totals	181 groups	100.0

Source: Onsite Group Interview Form

Mean = 2.7

Median = 2.0

Table A8. Total number of *people* per group interviewed onsite in the park, including both climbers and nonclimbers.

Number of People per Group	Number of Groups	Percent
1	13	7.2
2	93	51.4
3	32	17.7
4	25	13.8
5	9	5.0
6	3	1.7
7	3	1.7
8	1	0.6
11	1	0.6
15	1	0.6
Totals	181 groups	100.0

Source: Onsite Group Interview Form

Mean = 2.8

Median = 2.0

B. Characteristics of the Rock Climbing Visit

- Table B1. Response to: "How many *days* do you plan to climb *in* Mount Rushmore National memorial on *this trip*?" by *local* and *nonlocal* visitors.
- Table B2. Response to: "Did you or your group register at one of the voluntary registration stations?" by selected visitor characteristics.
- Table B3. Response to: "Which of the following best describes *this* trip to Mount Rushmore National Memorial?" by *local* and *nonlocal* visitors.
- Table B4. Response to: "During this trip, what type of group are you cimbing with?" by *local* and *nonlocal* visitors.
- Table B5. Response to: "During *this climbing trip* to Mount Rushmore, where are you staying?" by *local* and *nonlocal* visitors.
- Table B6. Response to: "During this trip, what areas in Mount Rushmore have you climbed (or do you plan on climbing)?" by *local* and *nonlocal* visitors.
- Table B7. Response to: "During this trip, what activities did you (or do you plan to) participate in while at Mount Rushmore?" by selected visitor characteristics.

Table B1. Response to: "How many *days* do you plan to climb *in* Mount Rushmore National Memorial on *this trip*?" by *local* and *nonlocal* visitors.

Number of days	Total sample		Local versus nonlocal visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
1	164	49.2	100	87.7	64	29.2
2	65	19.5	5	4.4	60	27.4
3	32	9.6	2	1.8	30	13.7
4	32	9.6	2	1.8	30	13.7
5	18	5.4	3	2.6	15	6.8
6 - 10	16	4.8	2	1.8	14	7.2
11 and above	6	1.8	0	0	6	2.9
Totals	333	100.0	114	100.0	219	100.0
	Mean = 2.5		Mean = 1.4		Mean = 3.1	
	Median = 2.0		Median = 1.0		Mean = 2.0	

Source: Questionnaire, question 1.

Note: Cells with shading denote significant differences at the 0.05 level ($p \leq 0.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p \leq 0.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table B2. Response to: "Did you or your group register at one of the three voluntary registration stations?" by selected visitor characteristics.

Response Category	Total Sample		Local versus nonlocal visitors				1st time versus repeat visitors			
			Local		Nonlocal		1st Time		Repeat	
	N	%	N	%	N	%	N	%	N	%
Yes	276	79.1	97	76.4	179	80.6	92	80.0	184	78.6
No	63	18.1	26	20.5	37	16.7	18	15.7	45	19.2
I Don't Know	10	2.9	4	3.1	6	2.7	5	4.3	5	2.1
Totals	349	100.0	127	100.0	222	100.0	115	100.0	234	100.0

Source: Questionnaire, question 2.

Table B3. Response to: "Which of the following best describes *this* trip to Mount Rushmore National Memorial?" by *local* and *nonlocal* visitors.

Type of trip	Total Sample		Local versus nonlocal visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
Primary destination	199	57.2	93	73.2	106	48.0
One stop-over from a longer climbing trip	73	21.0	2	1.6	71	32.1
One stop-over from a longer general trip	36	10.3	2	1.6	34	15.4
Other*	40	11.5	30	23.6	10	4.5
Totals	348	100.0	127	100.0	221	100.0

Source: Questionnaire, question 3.

* Of those who reported "Other," 28 noted they were local residents.

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table B4. Response to: "During this trip, what type of group are you climbing with?" by *local* and *nonlocal* visitors.

Type of Group	Total Sample		Local versus nonlocal visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
Alone	7	2.0	2	1.6	5	2.3
Friends	240	69.4	96	75.6	146	66.1
Family	50	14.5	10	7.9	40	18.1
Family and friends	42	12.1	17	13.4	25	11.3
Organization or club	6	1.7	2	1.6	4	1.8
Commercial guide	1	0.3	0	0	1	0.5
Totals	346	100.0	127	100.1	221	100.1

Source: Questionnaire, question 7.

Table B5. Response to: "During *this climbing trip* to Mount Rushmore, where are you staying?" by *local* and *nonlocal* visitors.

Accommodations	Total Sample			Local versus Nonlocal Visitors			
				Local		Nonlocal	
	N*	%**	%***	N*	%***	N*	%***
My Permanent Residence in Local Area	108	29.4	30.6	99	78.0	9	4.0
Campground in Local Area	80	21.8	22.7	4	3.1	76	33.6
Climbers' Bivouac	70	19.1	19.8	7	5.5	63	27.9
Permanent Residence of Family/Friends	35	9.5	9.9	9	7.1	26	11.5
Rental Unit	26	7.1	7.4	0	0	26	11.5
Seasonal Residence in Local Area	16	4.4	4.5	8	6.3	8	3.5
Seasonal Residence of Family/Friends	5	1.4	1.4	1	0.8	4	1.8
Other****	27	7.4	7.6	3	2.4	24	10.6
Totals	367	100.0	—	131	—	236	—

Source: Questionnaire, question 5.

* Total number of *responses* (Total sample N=367; Local N=131; Nonlocal N=236). Respondents could give more than one response.

** Percentage based on total number of *responses* (N=367).

*** Percentage based on total number of *respondents* (Total sample N=353; Local N= 127; Nonlocal N=226).

**** Other places listed include National Forest land (N=18), Devils Tower National Monument (N=2), Wind Cave National Park (N=1), Bear Butte State Park (N=1), Sylvan Lake (N=1), Scout Camp (N=1) and Other (N=3).

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table B6. Response to: "During this trip, what areas in Mount Rushmore have you climbed (or do you plan on climbing)?" by *local* and *nonlocal* visitors.

Climbing areas	Total sample			Local versus nonlocal visitors			
				Local		Nonlocal	
	N*	%**	%***	N	%***	N	%***
South Seas	274	34.4	77.6	107	84.3	167	73.9
Chopping Block	188	23.6	53.2	63	49.6	125	55.3
Middle Marker	143	18.0	40.5	49	38.6	94	41.6
Monster	124	15.6	35.1	43	33.9	81	35.8
Emancipation Rockphormation	54	6.8	15.3	24	18.9	30	13.3
Other	13	1.6	3.7	6	4.7	7	3.1
Totals	796	100.0	—	292	—	504	—

Source: Questionnaire, question 11.

* Total number of *responses* (Total sample N=796; Local N=292; Nonlocal=504). Respondents could give more than one repsonse.

** Percentage based on total number of *responses* (N=797).

*** Percentage based on total number of *respondents* (Total sample N=353; Local N= 127; Nonlocal N=226).

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table B7. Response to: "During this trip, what activities did you (or do you plan to) participate in while at Mount Rushmore?" by selected visitor characteristics.

Activities	Total sample			Local versus nonlocal visitors				1st time versus repeat visitors				Level of specialization					
				Local		Nonlocal		1st Trip		Repeat		Low		Medium		High	
	N*	%**	%***	N*	%***	N*	%***	N*	%***	N*	%***	N*	%***	N*	%***	N*	%***
Technical Climbing	322	28.7	91.2	116	91.3	206	91.2	102	88.7	220	92.4	65	83.3	148	95.0	79	100.0
Boulder Scrambling	148	13.2	41.9	58	45.7	90	39.8	49	42.6	99	41.6	35	44.9	65	41.7	34	43.0
Observing Climbers	132	11.8	37.4	42	33.1	90	39.8	54	47.0	78	32.8	39	50.0	55	35.3	25	31.7
Wildlife Observation	122	10.9	34.6	38	29.9	84	37.2	50	43.5	72	30.3	24	30.8	63	40.4	25	31.7
Photography	119	10.6	33.7	26	20.5	93	41.2	55	47.8	64	26.9	28	35.9	59	37.8	26	32.9
Sightseeing	105	9.3	29.7	18	14.2	87	38.5	52	45.2	53	22.3	26	33.3	47	30.1	21	26.6
Going to Visitor Center at the Memorial	72	6.4	20.4	6	4.7	66	29.2	43	37.4	29	12.2	19	24.4	29	18.6	18	22.8
Visiting Giftshop/Restaurant at the Memorial	58	5.2	16.4	5	3.9	53	23.5	32	27.8	26	10.9	16	20.5	24	15.4	12	15.2
Attending NPS Visitor Programs at the Memorial	29	2.6	8.2	3	2.4	26	11.5	18	15.7	11	4.6	8	10.3	12	7.8	7	8.9
Other	16	1.5	4.5	5	3.9	11	4.9	4	3.5	12	5.0	2	2.6	7	4.5	7	8.9

Source: Questionnaire, question 10.

* Total number of *reponses*. Respondents could give more than one response.

** Percentage based on total number of *responses* (N=1123).

*** Percentage based on total number of *respondents* (Total Sample N=353; Local N=127; Nonlocal N=226; 1st Time N=115; Repeat N=238).

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

C. Characteristics of Rock Climbers

- Table C1. Permanent residence of respondents by state.
- Table C2. Residence of respondents from South Dakota.
- Table C3. Permanent residence of respondents categorized as local or nonlocal.
- Table C4. Response to: "Approximately how many trips *total* have you made to Mount Rushmore for the purpose of rock climbing?" by selected visitor characteristics.
- Table C5. Response to: "In addition to Mount Rushmore, what areas *in the Black Hills* have you visited *for rock climbing purposes*?"
- Table C6. Response to: "How many years have you been involved in rock climbing?" by *local* and *nonlocal* visitors.
- Table C7. Response to: "About how many *days per year* do you spend rock climbing?" by *local* and *nonlocal* visitors.
- Table C8. Response to: "How would you rate your ability for the following climbing activities?" by *local* and *nonlocal* visitors.
- Table C9. Response to: "How frequently do you participate in the following types of climbing activities?" by *local* and *nonlocal* visitors.
- Table C10. Response to: "Do you belong to any rock climbing organization or clubs?" by *local* and *nonlocal* visitors.
- Table C11. Breakdown of rock climbing organizations or clubs.
- Table C12. Gender of respondents.
- Table C13. Age of respondents.

Table C1. Permanent residence of respondents by state.

State of Residence	N	Percent
South Dakota*	129	38.3
Minnesota	48	14.2
Wyoming	24	7.1
Colorado	16	4.7
Wisconsin	15	4.5
North Dakota	10	3.0
California	9	2.7
Montana	8	2.4
New York	8	2.4
Illinois	7	2.1
Iowa	7	2.1
Utah	7	2.1
Nebraska	5	1.5
Washington, D.C.	5	1.5
Missouri	4	1.2
Arizona	3	.9
North Carolina	3	.9
Connecticut	2	.6
Idaho	2	.6
Indiana	2	.6
Massachusetts	2	.6
Florida	1	.3
Georgia	1	.3
Michigan	1	.3
New Hampshire	1	.3
Pennsylvania	1	.3
Tennessee	1	.3
Texas	1	.3
Vermont	1	.3
West Virginia	1	.3
Outside of the United States	12	3.6
Totals	337	100.0

Source: Questionnaire, question 24.

Table C2. Residence of respondents from South Dakota.

Location	N	Percent
Rapid City*	78	60.5
Western South Dakota**	47	36.4
Other	4	3.1
Totals	129	100.0

Source: Questionnaire, question 24.

* Includes zipcodes 57701 through 57709.

** Includes zipcodes 57700 through 57799, excluding the above listed Rapid City zipcodes.

Table C3. Permanent residence of respondents categorized as local or nonlocal.

Permanent Residence	N	Percent
Local*	127	36.0
Nonlocal**	226	64.0
Totals	353	100.0

Source: Questionnaire, question 24.

* Local respondents are those who live within the following area surrounding Mount Rushmore: south to Hot Springs/Edgemont, South Dakota, east to Wall/Interior, South Dakota, north to Belle Fourche, South Dakota or west to Newcastle/Sundance, Wyoming.

** Includes respondents from all other locations.

Table C4. Response to: "Approximately how many trips *total* have you made to Mount Rushmore for the purpose of rock climbing?" by selected visitor characteristics.

Number of trips	Total sample		Local versus nonlocal visitors				Level of specialization					
			Local		Nonlocal		Low		Medium		High	
	N	%	N	%	N	%	N	%	N	%	N	%
1	115	34.1	11	9.3	104	47.5	38	49.4	40	26.3	21	28.4
2	40	11.9	5	4.2	35	16.0	8	10.4	17	11.2	8	10.8
3 - 5	49	14.5	21	17.8	28	12.8	18	23.4	23	15.1	5	6.8
6 - 10	36	10.7	16	13.6	20	9.1	5	6.5	23	15.1	7	9.5
11 - 20	33	9.8	14	11.9	19	8.7	4	5.2	17	11.2	8	10.8
21 - 50	39	11.6	28	23.7	11	5.0	4	5.2	23	15.1	11	14.9
51 and above	25	7.4	23	19.5	2	0.9	0	0	9	5.9	14	18.9
Totals	337	100.0	118	100.0	219	100.0	77	100.0	152	100.0	74	100.0
	Mean = 20.7		Mean = 46.8		Mean = 6.6		Mean = 4.4		Mean = 18.1		Mean = 47.4	
	Median = 3.0		Median = 15.0		Median = 2.0		Median = 2.0		Median = 5.0		Median = 9.0	

Source: Questionnaire, question 4.

Note: Cells with shading denote significant differences at the 0.05 level ($p \leq 0.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p \leq 0.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table C5. Response to: "In addition to Mount Rushmore, what areas in the Black Hills have you visited for rock climbing purposes?"

Black Hills Climbing Areas	N	Percent ¹	Percent ²
The Needles	275	48.2	77.9
Devils Tower	184	32.3	52.1
Other*	111	19.5	31.4
Totals	570	100.0	—

Source: Questionnaire, question 9.

Percent¹ = Percentage based on total number of responses (N=570). Respondents could give more than one response.

Percent² = Percentage based on total number of respondents (N=353).

* Other locations include Falling Rock (N=43), Spearfish Canyon (N=24), Sylvan Lake (N=19), Raspberry Rocks (N=14), Iron Mountain (N=5), Veedavoo (N=2), Fremont (N=1), Boulder Hill (N=1), Banaff (N=1), and National Forest Land (N=1).

Table C6. Response to: "How many years have you been involved in rock climbing?" by local and nonlocal visitors.

Years	Total Sample		Local versus Nonlocal Visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
1	71	21.1	32	25.8	39	18.4
2	49	14.6	20	16.1	29	13.7
3	53	15.8	23	18.5	30	14.2
4	36	10.7	14	11.3	22	10.4
5 - 9	62	18.5	21	16.9	41	19.3
10 - 14	33	9.8	4	3.2	29	13.7
15 - 19	11	3.3	3	2.4	8	3.8
20 and above	21	6.3	7	5.6	14	6.6
Totals	336	100.0	124	100.0	212	100.0
	Mean = 5.6		Mean = 4.7		Mean = 6.1	
	Median = 3.0		Median = 3.0		Median = 4.0	

Source: Questionnaire, question 8.

Note: Cells with shading denote significant differences at the 0.05 level ($p \leq 0.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p \leq 0.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table C7. Response to: "About how many *days per year* do you spend rock climbing?" by *local* and *nonlocal* visitors.

Days per Year	Total Sample		Local versus nonlocal visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
1 - 9	40	12.2	13	11.4	27	12.6
10 - 19	32	9.8	10	8.8	22	10.3
20 - 39	83	25.3	32	28.1	51	23.8
40 - 59	62	18.9	19	16.7	43	20.1
60 - 79	30	9.1	10	8.8	20	9.3
80 - 99	11	3.4	4	3.5	7	3.3
100 - 199	53	16.2	19	16.7	34	15.9
200 and above	17	5.2	7	6.1	10	4.7
Totals	328	100.0	114	100.0	214	100.0
Mean = 57.7			Mean = 61.5		Mean = 55.7	
Median = 40.0			Median = 40.0		Median = 40.0	

Source: Questionnaire, question 13.

Table C8. Response to: "How would you rate your ability for the following climbing activities?" by *local* and *nonlocal* visitors.

Activity*	Total Sample								Local versus Nonlocal Visitors			
	N	Med.	Mean	Percent by Response Category**					Local		Nonlocal	
				1	2	3	4	5	N	Mean	N	Mean
Sport Climbing (bolted routes)	344	3.0	3.1	2.6	20.9	42.7	28.8	4.9	124	3.2	222	3.1
Bouldering	342	3.0	2.9	3.2	27.8	44.4	20.2	4.4	124	3.0	220	2.9
Traditional Climbing (using removable protection)	342	3.0	2.7	15.5	27.2	33.3	19.0	5.0	123	2.5	221	2.8
Placing bolts in the establishment of new routes	340	1.0	1.5	74.1	10.3	8.2	2.9	4.4	122	1.6	220	1.5

Source: Questionnaire, question 18.

* Ranked in order of total sample mean scores.

** Responses based on a scale from 1 (No Experience) to 5 (Expert).

Table C9. Response to: "How frequently do you participate in the following types of climbing activities?" by *local* and *nonlocal* visitors.

Activity*	Total sample								Local versus nonlocal visitors			
	N	Med.	Mean	Percent by response category**					Local		Nonlocal	
				1	2	3	4	5	N	Mean	N	Mean
Climbs where fixed anchors are necessary in order to descend	339	4.0	3.7	5.3	7.1	20.6	50.4	16.5	124	3.8	217	3.6
Face/sport climbing that requires fixed protection	336	4.0	3.6	6.0	9.8	22.6	45.8	15.8	122	3.7	216	3.5
Top roping with fixed anchors	340	4.0	3.5	3.8	11.2	26.2	46.8	12.1	125	3.5	217	3.5
Clean climbing using only removable protection	332	4.0	3.2	12.7	14.2	22.6	38.3	12.3	121	2.9	213	3.4
Lead climbing where some fixed protection is necessary	335	4.0	3.2	16.4	10.1	22.1	43.0	8.4	121	3.1	216	3.2
Bouldering	337	3.0	3.1	3.9	21.4	39.2	30.9	4.7	122	3.2	217	3.1
Top roping without fixed anchors	333	3.0	2.6	19.2	26.7	28.8	21.3	3.9	119	2.2	216	2.9
Free climbing with no protection	333	1.0	1.7	55.3	28.2	12.0	3.3	1.2	122	1.7	213	1.6

Source: Questionnaire, question 17.

* Rank ordered by total sample *mean* scores.

** Responses based on a scale from 1 (Never) to 5 (Always).

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups.

Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table C10. Response to: "Do you belong to any rock climbing organizations or clubs?" by *local* and *nonlocal* visitors.

Response	Total Sample		Local versus Nonlocal Visitors			
			Local		Nonlocal	
	N	%	N	%	N	%
Yes	73	21.0	24	18.9	49	22.2
No	275	79.0	103	81.1	172	77.8
Totals	348	100.0	127	100.0	221	100.0

Source: Questionnaire, question 12.

Table C11. Breakdown of rock climbing organizations or clubs.

Clubs or Organizations	N	Percent ¹	Percent ²
Black Hills Climbers' Coalition	22	30.1	6.2
Access Fund	18	24.7	5.1
Northeast Wyoming Climbers' Coalition	4	5.5	0.1
Local Climbing Gym*	29	39.7	8.2
Local Club/Organization*	5	6.8	0.1
Other**	10	13.7	2.9

Source: Questionnaire, question 12.

Percent¹ = Percentage based on number of people who responded that they belong to a club or organization (N=73).

Respondents could give more than one response.

Percent² = Percentage based on total number of questionnaire *respondents* (N=353).

* Local refers to the local area in which the respondent resides. Because only a limited number of respondents listed each of these local clubs, organizations or gyms, the responses were clustered together.

** Other clubs listed include the American Alpine Club, American Mountain Guides Association, Appalachian Mountain Club, Friends of Devils Tower, Sierra Club and the Boy Scouts.

Table C12. Gender of respondents

Gender	N	Percent
Female	97	27.7
Male	253	72.3
Totals	350	100.0

Source: Questionnaire, question 21.

Table C13. Age of respondents*

Years	N	Percent
16 - 20	61	17.6
21 - 25	102	29.4
26 - 30	52	15.0
31 - 35	47	13.5
36 - 40	35	10.1
41 - 45	24	6.9
46 - 50	12	3.5
51 - 55	8	2.3
55 and above	6	1.7
Totals	347	100.0

Source: Questionnaire, question 22.

* Individuals 16 years of age or older were included in the study sample.

Mean = 29.2 years

Median = 26.0 years

Table C14. Response to: "What is the highest level of education you have completed?"

Highest education level completed	N	%
8th grade or less	0	0
Some high school	22	6.3
High school graduate or GED	31	8.9
Some college, business or trade school	131	37.6
College graduate	96	27.6
Some graduate school	21	6.0
Masters, doctoral or professional degree	47	13.6
Totals	348	100.0

Source: Questionnaire, question 23.

D. Visitors' Perceptions of Crowding

Table D1. Response to: "How crowded did you feel in the area where you were climbing at Mount Rushmore *today*?" by selected visitor characteristics.

Table D2. Response to: "Over the next ten years, do you think the number of climbers at Mount Rushmore will decrease, stay the same or increase?" by selected visitor characteristics.

Table D3. Response to: "If climbing use increased at Mount Rushmore, would you still choose to climb here?" by selected visitor characteristics.

Table D1. Response to: "How crowded did you feel in the area where you were climbing at Mount Rushmore *today*?" by selected visitor characteristics.

Total sample												Local versus nonlocal visitors				1st time versus repeat visitors				Weekday versus weekend/holiday visitors**			
N	Med.	Mean	Percent by response category*									Local		Nonlocal		1st visit		Repeat visit		Weekday		Weekend/holiday	
			1	2	3	4	5	6	7	8	9	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
342	2.0	2.4	40.1	25.4	15.5	7.0	3.8	6.4	1.2	0.6	0	123	2.1	219	2.5	112	2.3	230	2.4	150	1.9	192	2.7

Source: Questionnaire, question number 14.

* 1 = Not at all crowded, 9 = Extremely crowded.

** This table reflects only the *day* in which respondents were *interviewed*. Respondents may have been climbing in the park for more than one day during their climbing trip to Mount Rushmore.

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for a response. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table D2. Response to: "Over the next ten years, do you think the number of climbers at Mount Rushmore will decrease, stay the same or increase?" by selected visitor characteristics.

Total sample								Local versus nonlocal visitors				Level of specialization					
N	Med.	Mean	Percent by Response Category*					Local		Nonlocal		Low		Medium		High	
			1	2	3	4	5	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
338	4.0	3.9	0.3	0.9	17.9	69.5	11.4	124	3.9	217	3.9	77	3.9	153	3.9	77	3.8

Source: Questionnaire, question 15.

* 1 = Greatly Decrease, 2 = Decrease, 3 = Stay the Same, 4 = Increase, 5 = Greatly Increase.

Table D3. Response to: "If climbing use increased at Mount Rushmore, would you still choose to climb here?" by selected visitor characteristics.

Response	Total Sample		Local versus nonlocal visitors				1st time versus repeat visitors				Level of specialization*					
			Local		Nonlocal		1st time		Repeat		Low		Medium		High	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	272	79.1	99	79.2	173	79.0	77	67.5	195	84.8	54	69.2	124	81.6	70	88.6
No	10	2.9	3	2.4	7	3.2	4	3.5	6	2.6	2	2.6	6	3.9	1	1.3
I Don't Know	62	18.0	23	18.4	39	17.8	33	28.9	29	12.6	22	28.2	22	14.5	8	10.1
Totals	344	100.0	125	100.0	219	100.0	114	99.9	230	100.0	78	100.0	152	100.0	79	100.0

Source: Questionnaire, question 16.

E. Problems Encountered by Visitors

Table E1. Response to: "Information about problems you may have experienced while rock climbing in Mount Rushmore National Memorial on this trip would be helpful to park managers. During *this trip* to Mount Rushmore, to what extent did you find each of the following issues to be a problem?" by selected visitor characteristics.

Table E2. Response to: "Information about problems you may have experienced while rock climbing in Mount Rushmore National Memorial on this trip would be helpful to park managers. During *this trip* to Mount Rushmore, to what extent did you find each of the following issues to be a problem?" by climbers' level of specialization.

Table E1. Response to: "Information about problems you may have experienced while rock climbing in Mount Rushmore National Memorial on this trip would be helpful to park managers. During *this trip* to Mount Rushmore, to what extent did you find each of the following issues to be a problem?" by selected visitor characteristics.

Potential problem*	Total sample								Local versus nonlocal visitors				1st time versus repeat visitors			
	N	Med.	Mean	Percent by response category**					Local		Nonlocal		1st visit		Repeat visit	
				1	2	3	4	5	N	Mean	N	Mean	N	Mean	N	Mean
Impacts of aircraft flying over climbing areas	346	3.0	2.6	26.0	15.9	21.4	31.5	5.2	117	2.6	211	2.6	107	2.6	221	2.6
Lack of convenient rest room facilities near climbing areas	347	2.0	2.4	26.8	23.9	30.3	15.3	3.7	121	2.3	213	2.4	105	2.3	229	2.4
Lack of overnight camping facilities for climbers near the park	346	2.0	2.0	46.5	16.5	19.1	13.0	4.9	119	2.1	210	1.9	103	1.7	226	2.1
Too few marked trails to climbing areas	344	1.0	1.8	54.9	19.5	15.7	7.8	2.0	121	1.7	216	1.8	109	1.9	228	1.7
Lack of convenient parking near climbing areas	347	1.0	1.7	53.9	26.5	13.0	5.5	1.2	123	1.9	220	1.6	111	1.5	232	1.8
Inadequate information such as maps and brochures about climbing opportunities	347	1.0	1.7	60.2	16.1	13.5	8.1	2.0	121	1.5	219	1.8	110	1.9	230	1.6
Litter in the climbing areas	346	1.0	1.5	60.4	29.8	5.8	1.4	2.6	121	1.5	216	1.5	107	1.3	230	1.5
Inconsistency of interagency management approaches (NPS, USFS, SDSP)	340	1.0	1.5	50.9	13.2	7.1	2.9	25.9	100	1.5	152	1.5	72	1.3	180	1.6
Unskilled, unprepared rock climbers	347	1.0	1.5	55.0	24.2	6.3	1.7	12.7	115	1.6	188	1.4	94	1.2	209	1.6
The presence of human waste near climbing areas	347	1.0	1.4	68.6	17.3	7.8	3.2	3.2	121	1.5	215	1.4	108	1.3	228	1.5
Too much regulation of rock climbers	344	1.0	1.4	65.7	15.4	8.1	1.5	9.3	116	1.5	196	1.3	97	1.3	215	1.5
Too many rules and regulations pertaining to rock climbers	345	1.0	1.4	70.4	13.4	6.4	2.6	6.7	118	1.4	204	1.3	100	1.2	222	1.4
Too many climbers in park	347	1.0	1.4	72.0	17.6	7.8	0.6	2.0	123	1.4	217	1.3	108	1.3	232	1.4
Not being able to climb in closed areas (such as the security perimeter)	343	1.0	1.3	74.1	9.0	4.4	4.4	8.2	116	1.5	199	1.3	103	1.2	212	1.4
Poorly maintained trails to climbing areas	346	1.0	1.3	77.7	13.6	5.8	0.9	2.0	124	1.3	215	1.3	104	1.3	235	1.3
Not enough regulation of climbers	342	1.0	1.1	80.4	6.7	2.3	0.3	10.2	117	1.2	190	1.1	94	1.1	213	1.1
People climbing in the security perimeter around Mt Rushmore that's closed to climbing	345	1.0	1.1	75.1	6.7	0.6	0.6	17.1	111	1.1	175	1.1	88	1.1	198	1.1
Too few rules and regulations pertaining to rock climbers	346	1.0	1.1	84.4	7.5	1.4	0.0	6.6	118	1.1	205	1.1	103	1.1	220	1.1

Source: Questionnaire, question 19.

* Responses based on a scale from 1 = not a problem to 4 = serious problem; 5 = don't know.

** Rank ordered by total sample *mean* scores; mean scores were calculated using scale of 1 = not a problem to 4 = serious problem; 5 (don't know) was excluded from calculating the mean.

Note: Cells with shading denote significant differences at the 0.05 level ($p \leq 0.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p \leq 0.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table E2. Response to: "Information about problems you may have experienced while rock climbing in Mount Rushmore National Memorial on this trip would be helpful to park managers. During *this trip* to Mount Rushmore, to what extent did you find each of the following issues to be a problem?" by climbers' level of specialization.

Potential problem*	Level of specialization					
	Low		Medium		High	
	N	Mean	N	Mean	N	Mean
Impacts of aircraft flying over climbing areas	73	2.2	149	2.6	76	3.0
Lack of convenient rest room facilities near climbing areas	74	2.3	151	2.3	77	2.5
Lack of overnight camping facilities for climbers near the park	72	1.9	150	2.0	76	2.2
Too few marked trails to climbing areas	73	1.8	151	1.9	79	1.5
Lack of convenient parking near climbing areas	76	1.6	154	1.7	79	1.7
Inadequate information such as maps and brochures about climbing opportunities	77	1.7	154	1.8	79	1.5
Litter in the climbing areas	75	1.4	152	1.5	78	1.4
Inconsistency of interagency management approaches (NPS, USFS, SDSP)	51	1.2	116	1.5	62	1.7
Unskilled, unprepared rock climbers	65	1.2	136	1.5	71	1.7
The presence of human waste near climbing areas	76	1.2	149	1.5	78	1.7
Too much regulation of rock climbers	69	1.3	138	1.3	75	1.6
Too many rules and regulations pertaining to rock climbers	68	1.3	144	1.3	77	1.6
Too many climbers in park	75	1.2	153	1.4	78	1.2
Not being able to climb in closed areas (such as the security perimeter)	70	1.1	136	1.3	78	1.3
Poorly maintained trails to climbing areas	74	1.2	154	1.3	78	1.2
Not enough regulation of climbers	68	1.1	137	1.1	72	1.1
People climbing in the security perimeter around Mt Rushmore that's closed to climbing	59	1.1	129	1.1	70	1.1
Too few rules and regulations pertaining to rock climbers	70	1.1	144	1.1	77	1.1

Source: Questionnaire, question 19.

* Rank ordered by total sample mean scores; mean scores were calculated using scale of 1 = not a problem to 4 = serious problem; 5 (don't know) was excluded from calculating the mean. Note: Cells with shading denote significant differences at the 0.05 level ($p \leq 0.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p \leq 0.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

F. Climbers' Opinions About Management

Table F1. Response to: "During this trip, given the conditions at Mount Rushmore National Memorial, how would you feel about each of the following climbing management actions?" by selected visitor characteristics.

Table F2. Response to: "During this trip, given the conditions at Mount Rushmore National Memorial, how would you feel about each of the following climbing management actions?" by climbers *level of specialization*.

Table F1. Response to: "During this trip, given the conditions at Mount Rushmore National Memorial, how would you feel about each of the following climbing management actions?" by selected visitor characteristics.

Management Action*	Total sample								Local versus nonlocal visitors				1st time versus repeat visitors			
	N	Med	Mean	Percent by response category**					Local		Nonlocal		1st Visit		Repeat visit	
				1	2	3	4	5	N	Mean	N	Mean	N	Mean	N	Mean
Provide toilets near climbing areas	344	4.0	3.9	7.3	5.5	17.2	32.6	37.5	125	3.7	219	4.0	108	3.9	236	3.9
Provide more information on climbing routes	343	4.0	3.9	2.0	6.7	20.7	44.6	25.9	125	3.8	218	3.9	108	4.1	235	3.8
Provide more information regarding minimum-impact climbing techniques	341	4.0	3.9	1.5	4.1	21.1	53.4	19.9	123	3.9	218	3.8	107	3.9	234	3.8
Provide more information on climbing safety issues	344	4.0	3.8	1.7	5.2	23.0	49.7	20.3	125	3.9	219	3.8	109	3.8	235	3.8
Provide more parking for climbers near the climbing areas	345	4.0	3.7	3.5	7.2	25.8	46.4	17.1	125	3.7	220	3.7	109	3.6	236	3.7
Provide more information regarding climbing ethics	342	4.0	3.7	2.6	7.6	24.6	52.6	12.6	124	3.6	218	3.7	108	3.7	234	3.6
Allow administratively approved use of power drills for maintenance of existing climbing routes	341	4.0	3.7	7.9	5.6	22.9	40.5	23.2	122	3.6	219	3.7	108	3.7	233	3.6
Limit the number of commercial groups	343	4.0	3.4	8.5	11.1	28.0	32.9	19.5	124	3.2	219	3.6	109	3.6	234	3.4
Require permits for commercial groups	344	4.0	3.4	11.3	11.3	23.5	34.6	19.2	124	3.2	220	3.5	109	3.5	235	3.4
Develop a cooperative climbing management plan between the NPS, USFS and SDSP	341	3.0	3.4	5.0	10.0	37.5	36.4	11.1	125	3.3	216	3.4	109	3.4	232	3.4
Allow administratively approved use of power drills for development of new climbing routes	337	4.0	3.4	10.7	10.7	24.9	36.5	17.2	122	3.2	215	3.5	106	3.5	231	3.4
Require a permit to place bolts	343	3.0	3.2	10.5	21.9	19.5	37.9	10.2	124	3.1	219	3.2	108	3.3	235	3.1
Require climbers to transport out their human body waste	343	3.0	3.1	9.3	21.6	29.7	25.1	14.3	124	3.3	219	3.1	109	2.9	234	3.2
Be more aggressive enforcing climbing violations in the security perimeter around the Memorial that is closed to rock climbing	343	3.0	3.1	7.6	13.1	51.3	19.5	8.5	125	3.0	218	3.1	109	3.2	234	3.1
Temporarily close areas to climbing where serious trail impact or loss of vegetation occurs	342	3.0	3.1	7.6	21.3	33.0	33.0	5.0	124	2.9	218	3.2	108	3.3	234	3.0
Allow a regulated number of new bolted routes to be established	342	3.0	3.0	17.0	18.1	20.5	34.5	9.9	124	2.9	218	3.1	107	3.2	235	2.9
Require the use of camouflaged bolts and webbing	344	3.0	2.9	10.2	27.0	28.8	27.0	7.0	124	2.8	220	3.0	109	3.0	235	2.9

Table F1. (continued)

Management action*	Total sample								Local versus nonlocal visitors				1st time versus repeat visitors			
	N	Med	Mean	Percent by response category**					N	Mean	N	Mean	N	Mean	N	Mean
				1	2	3	4	5								
Provide more park rangers to educate and assist climbers at climbing areas	341	3.0	2.8	10.3	22.6	47.5	15.8	3.8	124	2.7	217	2.9	109	3.0	232	2.7
Close climbing routes near cultural, historical or sensitive wildlife sites	343	3.0	2.8	14.6	26.2	28.9	25.9	4.4	124	2.6	219	2.9	109	3.0	234	2.7
Require mandatory registration for all groups climbing in park	343	3.0	2.7	16.9	24.5	32.1	21.0	5.5	124	2.7	219	2.8	109	2.8	234	2.7
Be more aggressive enforcing rules prohibiting pets in the climbing areas	344	3.0	2.7	17.7	27.6	32.0	14.5	8.1	124	2.6	220	2.8	109	2.7	235	2.7
Provide more park rangers to enforce park rules and regulations	343	3.0	2.6	15.2	27.7	42.9	12.8	1.5	125	2.4	218	2.7	108	2.7	235	2.5
Require the use of camouflaged chalk	343	2.0	2.5	19.2	34.7	28.6	14.3	3.2	124	2.3	219	2.6	108	2.7	235	2.4
Be more aggressive enforcing climbing rules and regulations	343	2.0	2.5	18.1	29.7	39.7	11.4	1.2	124	2.4	219	2.5	110	2.6	233	2.4
Require the removal of all slings	342	2.0	2.4	20.5	38.3	24.9	13.7	2.6	124	2.4	218	2.4	108	2.6	234	2.3
Allow unregulated bolting	344	2.0	2.3	27.0	33.4	24.4	8.7	6.4	125	2.3	219	2.4	109	2.2	235	2.4
Limit the number of climbers per group	342	2.0	2.0	36.3	37.4	17.5	6.7	2.0	124	1.8	218	2.1	107	2.3	235	1.9
Limit the number of people climbing at any one time in each climbing area	344	2.0	2.0	34.6	41.0	18.3	4.1	2.0	124	1.8	220	2.1	109	2.3	235	1.9
Eliminate the placement of bolts, while allowing replacement of unsafe bolts by permit only	341	2.0	2.0	43.1	29.0	17.6	7.6	2.6	124	2.0	217	2.0	107	2.2	234	1.9
Reduce the number of existing bolted routes and allow no new drilling or bolting	341	1.0	1.8	50.4	30.2	14.4	3.2	1.8	122	1.7	219	1.8	108	2.0	233	1.6
Eliminate the replacement of bolts	343	1.0	1.6	61.2	25.1	11.1	1.7	0.9	125	1.5	218	1.6	108	1.8	235	1.5

Source: Questionnaire, question 20.

* Rank ordered by total sample mean scores.

** Responses based on a scale from 1 = strongly oppose to 5 = strongly support.

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

Table F2. Response to: "During this trip, given the conditions at Mount Rushmore National Memorial, how would you feel about each of the following climbing management actions?" by climbers' level of specialization.

Management action*	Level of Specialization					
	Low		Medium		High	
	N	Mean	N	Mean	N	Mean
Provide toilets near climbing areas	77	3.9	154	3.9	77	4.1
Provide more information on climbing routes	77	4.2	154	4.0	77	3.3
Provide more information regarding minimum-impact climbing techniques	76	3.9	154	4.0	76	3.7
Provide more information on climbing safety issues	77	3.9	155	4.0	76	3.5
Provide more parking near the climbing areas	77	3.6	155	3.8	77	3.5
Provide more information regarding climbing ethics	76	3.8	154	3.8	77	3.4
Allow administratively approved use of power drills for maintenance of existing climbing routes	75	3.7	154	3.7	76	3.7
Limit the number of commercial groups	77	3.4	154	3.7	76	3.5
Require permits for commercial groups	77	3.3	154	3.4	77	3.5
Develop a cooperative climbing management plan between the NPS, USFS and SDSP	75	3.3	155	3.5	76	3.2
Allow administratively approved use of power drills for development of new climbing routes	74	3.5	151	3.4	76	3.3
Require a permit to place bolts	75	3.4	154	3.3	78	2.6
Require climbers to transport out their human body waste	76	3.0	154	3.3	77	3.1
Be more aggressive enforcing climbing violations in the security perimeter around the Memorial that is closed to rock climbing	76	3.3	155	3.1	77	2.9
Temporarily close areas to climbing where serious trail impact or loss of vegetation occurs	73	3.2	155	3.0	78	2.9
Allow a regulated number of new bolted routes to be established	76	3.4	155	3.2	75	2.4
Require the use of camouflaged bolts and webbing	75	2.8	155	2.9	78	3.3
Provide more park rangers to educate and assist climbers at climbing areas	76	3.0	153	2.9	77	2.5
Close climbing routes near cultural, historical or sensitive wildlife sites	77	2.9	154	2.8	76	2.6
Require mandatory registration for all groups climbing in park	77	3.0	153	2.8	77	2.4
Be more aggressive enforcing rules prohibiting pets in the climbing areas	77	2.7	154	2.6	77	2.7
Provide more park rangers to enforce park rules and regulations	76	2.8	154	2.7	77	2.2
Require the use of camouflaged chalk	75	2.7	155	2.5	77	2.2
Be more aggressive enforcing climbing rules and regulations	77	2.8	153	2.6	78	2.1
Require the removal of all slings	74	2.6	154	2.4	78	2.1
Allow unregulated bolting	76	2.2	155	2.2	78	2.7
Limit the number of climbers per group	76	2.2	154	2.0	77	1.9
Limit the number of people climbing at any one time in each climbing area	77	2.2	155	2.0	76	1.7
Eliminate the placement of bolts, while allowing replacement of unsafe bolts by permit only	74	2.4	154	1.9	77	1.5
Reduce the number of existing bolted routes and allow no new drilling or bolting	74	2.1	154	1.7	77	1.3
Eliminate the replacement of bolts	76	1.8	154	1.5	77	1.3

Source: Questionnaire, question 20.

* Responses based on a scale from 1 = strongly oppose to 5 = strongly support. Rank ordered by total sample mean scores.

Note: Cells with shading denote significant differences at the 0.05 level ($p^2.05$) between subgroups (i.e. local versus nonlocal) for an activity. Cells with shading and bolded numbers denote significant differences at the 0.005 level ($p^2.005$) between subgroups. Caution should be taken when interpreting these findings. While the differences were statistically significant, most of the differences are small and should not be considered particularly important for management implications.

G. Climbers' Overall Impression of Their Trip

Table G1. Response to: "On a scale from 1 to 9, 1 being 'worst ever' and 9 being 'best ever,' how would you rate your overall climbing experience during *this trip* to Mount Rushmore?" by selected visitor characteristics.

Table G1. Response to: "On a scale from 1 to 9, 1 being 'worst ever' and 9 being 'best ever,' how would you rate your overall climbing experience during *this trip* to Mount Rushmore?" by selected visitor characteristics.

Overall Rating	Total sample		Local versus nonlocal visitors				1st time versus repeat visitors				Level of specialization					
			Local		Nonlocal		1st time		Repeat		Low		Medium		High	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	0.3	1	0.8	0	0	0	0	1	0.4	1	1.3	0	0	0	0
3	3	0.9	2	1.6	1	0.5	1	0.9	2	0.9	2	2.7	1	0.6	0	0
4	5	1.4	2	1.6	3	1.4	3	2.7	2	0.9	1	1.3	1	0.6	1	1.3
5	35	10.1	13	10.2	22	10.1	12	10.8	23	9.8	6	8.0	17	11.0	6	7.7
6	59	17.1	25	19.7	34	15.6	16	14.4	43	18.4	12	16.0	37	24.0	8	10.3
7	135	39.1	49	38.6	86	39.4	40	36.0	95	40.6	28	37.3	56	36.4	39	50.0
8	80	23.2	27	21.3	53	24.3	28	25.2	52	22.2	19	25.3	28	18.2	22	28.2
9	27	7.8	8	6.3	19	8.7	11	9.9	16	6.8	6	8.0	14	9.1	2	2.6
Totals	345	100.0	127	100.0	218	100.0	111	100.0	234	100.0	75	100.0	154	100.0	78	100.0
	Mean = 6.9		Mean = 6.8		Mean = 7.0		Mean = 7.0		Mean = 6.9		Mean = 6.9		Mean = 6.9		Mean = 7.0	

Source: Questionnaire, question 25.

H. Open-ended Comments of Climbers

Table H1. Respondents were asked to write any additional comments about their rock climbing visit to Mount Rushmore National Memorial or suggestions about managing the park in a space provided at the end of the questionnaire.

Table H1. Respondents were asked to write any additional comments about their rock climbing visit to Mount Rushmore National Memorial or suggestions about managing the park in a space provided at the end of the questionnaire. The following table shows the number of respondents who offered written comments or suggestions.

Total Number of Questionnaires Returned	Questionnaires with Written Comments or Suggestions	
	N	Percent
353	145	41.1

Source: Questionnaire, question 26.

Appendix F contains all of the written comments and suggestions (typed verbatim) received from returned questionnaires.

APPENDIXES



Appendix A

Instructions for Interviewing Groups of Rock Climbers Mount Rushmore National Memorial Rock Climber Study

Procedures for Rock Climbing Study

Groups of rock climbers will be contacted by NPS interviewers at three predetermined locations within the park. The interview process includes the following steps:

1. Designation of days and interview locations

For each study day, a site has been designated (Chopping Block, Middle Marker, or South Seas). The actual location within each climbing area is up to the interviewer. The goal is to get 20 responses per day from people of varying experience levels, so try to shift climbing areas and the difficulty levels of climbing routes over the course of the summer.

2. Explaining the study and requesting participation

Use the attached script when approaching climbers. This is a general script and does not need to be read word for word. The key things which need to be communicated when approaching a group are:

- (1) This is a cooperative study between the University of Minnesota and the National Park Service to learn more about rock climbing use in Mount Rushmore;
- (2) Participation is voluntary and responses will remain strictly confidential;
- (3) All climbers in the group are asked to fill out the short individual information form regardless of whether they choose to fill out the questionnaire;
- (4) Filling out the questionnaire will take approximately 15 minutes.
- (5) Participants must be 16 years of age or older.

3. Gathering limited background information about each group

NPS interviewers will be supplied with copies of an *Onsite Interview Form*. This form is used to record limited background information about each group of rock climbers contacted.

The **interviewer(s)** will fill out this form—not the visitors.

For each group, note the following information:

Date and interviewer(s): Record the date and name of interviewers at the beginning of each Onsite Interview Form used.

Group number: Record the identification number of the group being interviewed.

This number will start at 1 and will consecutively increase over the course of the study.

Location: Chopping Block, Middle Marker or South Seas

Time: Time of day when you approached group

Group size: Keep track of both the *total number of people* in the group and the *total number of climbers* in the group.

Questionnaire ID number: Keep track of the total number of people in the group that agreed to complete a survey, and document their corresponding questionnaire number from the front of the surveys on the Onsite Interview Form.

Nonparticipants: Keep track of the total number of *climbers* in the group who do not fill out the questionnaire, noting whether the person had already filled out the questionnaire, the person was under the age of 16, the person refused to participate or the person was missing from the group at the time of the study.

4. Individual Information Forms:

Each individual group member (16 years of age or older) will be distributed an Individual Information Form to be completed onsite and returned to the interviewer(s). First, this form asks the individual to record their name and mailing address. This information will only be used for mailing reminder notifications to those who do not return a completed questionnaire and to notify interested respondents of updates on Mount Rushmore's Climbing Management Plan (names and addresses will be destroyed at the end of the study). Next, the form asks potential respondents to complete three additional questions about themselves' these questions are self-explanatory and should take no more than one minute to complete.

Each Individual Information Form should have the respondents GROUP NUMBER and the corresponding number from the questionnaire recorded.

5. Distributing the Questionnaire:

Study participants should be encouraged to complete the questionnaire onsite, but should also be made aware that they have the option to fill it out at a later time and mail it back (note that the address is preprinted and postage is prepaid). The questionnaire number should correspond with the number of the Individual Information Form. Respondents should not put their name directly on the survey. The survey remains confidential and should be treated as such by interviewers.

Appendix B

Script for Visitor Contacts: Rock Climbers within Mount Rushmore National Memorial June - October, 1996

Hello. My name is (_____). I am involved in a cooperative study by the National Park Service and the University of Minnesota to learn more about rock climbing use in Mount Rushmore National Memorial. Your participation in this study is strictly voluntary.

Have you (or your party) already been contacted for this study? (*If yes, thank them for helping and contact another group*).

I would appreciate it if I could get some information about you and the group you are climbing with. It will only take about five minutes.

Next, I would appreciate it if each individual in your group (16 years of age or older) would complete a more in-depth questionnaire (*show to those present*). It will take about 15 minutes to complete. The survey is designed to find out about climbers feel about their visit to Mount Rushmore National Memorial and to identify management preferences.

When you have completed the survey, please return it to me (*either wait for individuals to complete surveys or set a time to return and pick up surveys*). If it is not possible for you to complete the questionnaire at this climbing location today, please take it with you, complete it and drop it in the mail. The return postage has been paid.

THANK YOU FOR YOUR HELP!

Appendix C

Individual Information Form

Mount Rushmore National Memorial 1996 Rock Climber Survey

Group #: _____

Survey #: _____

Name: _____

Address (of location you will be in 3 weeks):

Street _____

City _____

5-digit zip code or home country _____

What is the 5-digit zip code or the name of the country of your *permanent* address (if different from the one listed above)?

Zip code or home country _____

What is your gender? ☐ Female ☐ Male

Including yourself, how many climbers are in your group? Number of climbers _____

Approximately how many trips *total* have you made to Mount Rushmore for the purpose of rock climbing?

Number of separate trips _____

Would you like to have your name added to the National Park Service mailing list to be informed about the Mount Rushmore National Memorial Climbing Management Plan?

☐ Yes ☐ No

OMB number 1024-0190, expires 05/24/99

Appendix D
Questionnaire

Dear Mount Rushmore Climber,

Thank you for agreeing to share your opinions about Mount Rushmore National Memorial. This is your opportunity to help direct the future management of Mount Rushmore and help influence recreation policy in the National Park Service.

You are one of a small number of climbers being asked to give their opinions about rock climbing in the Memorial. Your responses are critical to the success of this project. Completing the questionnaire should only take about 15 minutes. Your answers will remain strictly confidential.



**Mount Rushmore National Memorial
1996 Rock Climber Survey**

Survey #: _____

This study is being conducted as a joint effort between the University of Minnesota and the National Park Service. When you have completed the question booklet, please return it to the survey collector or seal it and drop it in any U.S. mailbox. If you have any questions, please feel free to contact Dr. David W. Lime, Senior Research Associate, University of Minnesota, Cooperative Park Studies Unit, 115 Green Hall, St. Paul, MN 55108; (612) 624-2250.

Sincerely,

Mike Pflaum
Acting Superintendent
Mount Rushmore National Memorial

FOLD HERE

After you have completed the questionnaire, seal it closed using this peel-off tab and return it to the survey collector or drop in any U.S. mailbox. Postage is pre-paid.

NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 16972 MINNEAPOLIS, MN

POSTAGE WILL BE PAID BY ADDRESSEE

MOUNT RUSHMORE CLIMBING STUDY
Cooperative Park Studies Unit
University of Minnesota
115 Green Hall
1530 North Cleveland Avenue
St. Paul, MN 55108-9936

COVER
WITH
SEAL



1. How many *days* do you plan to climb in Mount Rushmore National Memorial on *this trip*?

Number of separate days _____

2. Did you or your group register at one of the three voluntary registration stations? (Check only one)

☐ Yes ☐ No ☐ I Don't Know

3. Which of the following best describes *this trip* to Mount Rushmore National Memorial? (Check only one)

☐ Primary destination
☐ One stop-over from a longer climbing trip
☐ One stop-over from a longer general trip
☐ Other (please specify): _____

4. Approximately how many trips *total* have you made to Mount Rushmore for the purpose of rock climbing?

Number of separate trips _____

5. During *this climbing trip* to Mount Rushmore National Memorial, where are you staying? (Check *all* that apply)

☐ Climbers' bivouac at Breezy Point
☐ My permanent residence in local area
☐ My seasonal residence in local area
☐ Campground in local area
☐ Permanent residence of family/friends
☐ Seasonal residence of family/friends
☐ Rental unit - motel, hotel, cabin, cottage, resort in local area
☐ Other (please specify) _____

6. Including yourself, how many climbers are in your group? Number of climbers _____

7. During this trip, what type of group are you climbing with? -(Check only one)

☐ Alone ☐ Family ☐ Organization or club
☐ Friends ☐ Family and friends ☐ Commercial guide

8. How many years have you been involved in rock climbing? Number of years _____

9. In addition to Mount Rushmore, what areas in the Black Hills have you visited for rock climbing purposes?
(Check *all* that apply)

☐ The Needles
☐ Devil's Tower
☐ Other (please specify): _____

10. During this trip, what activities did you (or do you plan to) participate in at Mount Rushmore National Memorial?
(Check *all* that apply)

☐ Technical climbing (with specialized gear)
☐ Boulder scrambling (without specialized gear)
☐ Observing climbers
☐ Sightseeing at the Memorial
☐ Photography
☐ Visiting restaurant/gift shop at the Memorial
☐ Wildlife observation
☐ Going to visitor center at the Memorial
☐ Attending National Park Service Visitor Programs at the Memorial
☐ Other (please specify): _____

11. During this trip, what areas in Mount Rushmore National Memorial have you climbed (or do you plan on climbing)? (Check *all* that apply)

☐ Chopping Block
☐ South Seas
☐ Monster
☐ Middle Marker
☐ Emancipation Rockphormation
☐ Other(s) (please specify): _____

12. Do you belong to any rock climbing organizations or clubs? (Check *only one*)

☐ Yes -- please specify all organization(s)/club(s): _____
☐ No

13. About how many *days per year* do you spend rock climbing?

Number of separate days _____

14. How crowded did you feel in the area where you were climbing at Mount Rushmore today?
(Circle *one* number that shows how crowded you felt in the area where you were climbing *today*)

1	2	3	4	5	6	7	8	9
Not at all		Slightly			Moderately			Extremely

15. Over the next ten years, do you think the number of climbers at Mount Rushmore will decrease, stay the same or increase? (Circle *one* number that represents your prediction of the climbing trend)

1	2	3	4	5
Greatly Decrease	Decrease	Stay the Same	Increase	Greatly Increase

16. If climbing use increased at Mount Rushmore National Memorial, would you still choose to climb here? (Check only one)

☐ Yes ☐ No ☐ I Don't Know

17. How frequently do you participate in the following types of climbing activities? (Circle *one* number for each type of climbing activity)

Activity	Never	Seldom	Sometimes	Frequently	Always
Bouldering	1	2	3	4	5
Free climbing with no protection	1	2	3	4	5
Clean climbing using only removable protection	1	2	3	4	5
Top roping WITHOUT fixed anchors	1	2	3	4	5
Top roping WITH fixed anchors	1	2	3	4	5
Lead climbing where some protection is necessary	1	2	3	4	5
Climbs where fixed anchors are necessary in order to descend	1	2	3	4	5
Face/sport climbing that requires fixed protection	1	2	3	4	5

18. How would you rate your ability for the following climbing activities? (Circle *one* number for each activity)

Activity	No Experience	Novice	Intermediate	Advanced	Expert
Bouldering	1	2	3	4	5
Sport climbing (bolted routes)	1	2	3	4	5
Traditional climbing (using removable protection)	1	2	3	4	5
Placing bolts in the establishment of new routes	1	2	3	4	5

19. Information about problems you may have experienced while rock climbing in Mount Rushmore National Memorial on this trip would be helpful to park managers. During *this trip* to Mount Rushmore, to what extent did you find each of the following issues to be a problem? (Circle *one* number that best describes how serious you found each issue to be)

Potential Problems	Not a Problem	Slight Problem	Moderate Problem	Serious Problem	Don't Know
Inadequate information such as maps and brochures about climbing opportunities at Mount Rushmore	1	2	3	4	5
Too few marked trails to climbing areas	1	2	3	4	5
Poorly maintained trails to climbing areas	1	2	3	4	5
Too many climbers in Mount Rushmore	1	2	3	4	5
Lack of convenient parking near the climbing areas	1	2	3	4	5
The presence of human waste near the climbing areas	1	2	3	4	5
Lack of convenient rest room facilities near the climbing areas	1	2	3	4	5
People climbing in the security perimeter around the Memorial that is closed to climbing	1	2	3	4	5
Not being able to climb in closed areas (such as the security perimeter around the Memorial)	1	2	3	4	5
Litter in the climbing areas	1	2	3	4	5
Too few rules and regulations pertaining to rock climbers in Mount Rushmore	1	2	3	4	5
Too many rules and regulations pertaining to rock climbers in Mount Rushmore	1	2	3	4	5
Unskilled, unprepared rock climbers in Mount Rushmore	1	2	3	4	5
Too much regulation of rock climbers in Mount Rushmore	1	2	3	4	5
Not enough regulation of rock climbers in Mount Rushmore	1	2	3	4	5
Lack of overnight camping facilities for climbers in the general vicinity of Mount Rushmore	1	2	3	4	5
Inconsistency of interagency management approaches (Mount Rushmore National Memorial, Black Hills National Forest and Custer State Park)	1	2	3	4	5
Impacts of aircraft flying over climbing areas	1	2	3	4	5

20. During this trip, given the conditions at Mount Rushmore National Memorial, how would you feel about each of the following climbing management actions? (Circle one number that shows how much you support or oppose each action)

Management Action	Strongly Oppose	Oppose	Neither Support nor Oppose	Support	Strongly Support
Be more aggressive enforcing climbing rules and regulations in Mount Rushmore	1	2	3	4	5
Provide more information regarding climbing ethics	1	2	3	4	5
Provide more information regarding minimum-impact climbing techniques	1	2	3	4	5
Provide more information on climbing routes	1	2	3	4	5
Provide more information on climbing safety issues	1	2	3	4	5
Provide more parking for climbers near the climbing areas	1	2	3	4	5
Require climbers to transport out their human body waste	1	2	3	4	5
Provide toilets near the climbing areas	1	2	3	4	5
Provide more park rangers to educate and assist climbers at climbing areas	1	2	3	4	5
Be more aggressive enforcing climbing violations in the security perimeter around the Memorial that is closed to rock climbing	1	2	3	4	5
Be more aggressive enforcing rules prohibiting pets in the climbing areas	1	2	3	4	5
Develop a cooperative climbing plan between the National Park Service (Mount Rushmore National Memorial), the U.S. Forest Service (Black Hills National Forest) and South Dakota State Park System (Custer State Park)	1	2	3	4	5
Close climbing routes near cultural, historical or sensitive wildlife sites	1	2	3	4	5
Limit the number of climbers per group	1	2	3	4	5
Limit the number of people climbing at any one time in each climbing area	1	2	3	4	5
Require mandatory registration for all groups climbing in Mount Rushmore	1	2	3	4	5
Require permits for commercial groups	1	2	3	4	5
Limit the number of commercial groups	1	2	3	4	5

Management Action (con't.)	Strongly Oppose	Oppose	Neither Support nor Oppose	Support	Strongly Support
Require the use of camouflaged bolts and webbing	1	2	3	4	5
Require the use of camouflaged chalk	1	2	3	4	5
Require the removal of all slings	1	2	3	4	5
Require a permit to place bolts	1	2	3	4	5
Reduce the number of existing bolted routes and allow no new drilling or bolting	1	2	3	4	5
Eliminate the replacement of bolts	1	2	3	4	5
Eliminate the placement of new bolts, while allowing replacement of unsafe bolts by permit only	1	2	3	4	5
Allow a regulated number of new bolted routes to be established	1	2	3	4	5
Allow administratively approved use of power drills for maintenance of existing climbing routes	1	2	3	4	5
Allow administratively approved use of power drills for development of new climbing routes	1	2	3	4	5
Allow unregulated bolting	1	2	3	4	5
Temporarily close areas to climbing use5 where serious trail impact or loss of vegetation occurs	1	2	3	4	5
Provide more park rangers to enforce park rules and regulations	1	2	3	4	5

21. What is your gender? ☐ Female ☐ Male

22. What is your age? Years _____

23. What is the highest level of education you have completed? (Check one)

- | | |
|---|---|
| <input type="checkbox"/> 8th grade or less | <input type="checkbox"/> College graduate |
| <input type="checkbox"/> Some high school | <input type="checkbox"/> Some graduate school |
| <input type="checkbox"/> High school graduate or GED | <input type="checkbox"/> Masters, doctoral or professional degree |
| <input type="checkbox"/> Some college, business or trade school | |

24. What is the 5-digit zip code of your *permanent* residence? (If you are from outside of the United States, please give the name of the country you are from)

Zip code or home country: _____

25. On a scale from 1 to 9, how would you rate your overall climbing experience during *this trip* to Mount Rushmore? (Circle *one* number that best describes your rating)

1	2	3	4	5	6	7	8	9
Worst ever								Best ever

26. Any other comments about your visit to Mount Rushmore National Memorial or suggestions about managing the park are welcomed. Please use the space below to write your comments.

THANK YOU FOR YOUR HELP!

Please fold this questionnaire so the address shows on the outside, seal it and return it to the person distributing the survey or drop it in any U.S. mailbox.

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. When analysis of the questionnaire is completed, all name and address files will be destroyed. Thus, the permanent data will be anonymous. Please do not put your name or that of any member of your group on the questionnaire. Data collected through visitor surveys may be disclosed to the Department of Justice when relevant to litigation, or to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting as violation of law. Public reporting burden for this form is estimated to average 20 minutes per response. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, National Park Service, P.O. Box 37127, Washington, D.C. 20014-7127; and to the Office of Management and Budget, Paperwork Reduction Project 1024-0141, Washington, D.C. 20503.

Appendix E

Follow-Up Mailings Sent to Nonrespondents

Dear Mount Rushmore Climber:

Last week we contacted you while you were climbing at Mount Rushmore National Memorial. At that time, you agreed to complete a questionnaire regarding your climbing experience and management preferences at Mount Rushmore.

As of today, we have not yet received your completed questionnaire. If you have mailed it to us, thank you! If not, please take a few minutes to help contribute toward the future management of Mount Rushmore National Memorial.

If you have any questions or need another copy of the survey, feel free to contact Dr. David W. Lime, Research Associate, University of Minnesota, 115 Green Hall, 1530 North Cleveland Avenue, St. Paul, MN 55108.

Thank you!

Mike Pflaum
Acting Superintendent
Mount Rushmore National Memorial

date, 1996

Dear Mount Rushmore Climber:

Four weeks ago, we contacted you while you were climbing at Mount Rushmore National Memorial. At that time, you agreed to complete a questionnaire regarding your climbing experience and management preferences at Mount Rushmore.

As of today, we have not yet received your completed questionnaire. If you have mailed it to us, thank you! In the event you have misplaced the questionnaire, we have included another copy. Please take a few minutes to help contribute toward the future management of Mount Rushmore National Memorial by completing the questionnaire. The return postage has been pre-paid.

If you have any questions, please feel free to contact Dr. David Lime, Research Associate, at the following address:

University of Minnesota
115 Green Hall
1530 North Cleveland Avenue
St. Paul, MN 55108

Thank you!

Mike Pflaum
Acting Superintendent
Mount Rushmore National Memorial

Appendix F
Open-Ended Comments

Comments to Question #26 in Questionnaire: "Any other comments about your rock climbing trip or suggestions about managing Mount Rushmore National Memorial are welcome. Please use the following space to write your comments."

This is such a great area, please continue to allow climbing to grow in B. Hills!!

Naturally, where "ethics" are an issue, you are going to get some real opinionated jerks. If the land belongs to the park service or the Nat'l Forest, or whomever, obviously they need to be involved, however climbers (more than just one person rep who supposedly represents everyone—obviously that can never happen!) also need to be involved because if someone doesn't climb, yet is high up on some council, they have no idea what the sport is about or what issues need to be addressed. I think the ethics of the area are blown way out of proportion and a lot of people need to really chill out.

I feel that trash, and camping are two issues that need to be looked at.

Need to leave park as natural as possible, no more asphalt and marble buildings.

The trash is a big problem. Definitely need more info about the age and safety of bolted routes.

You are very lucky to have such a beautiful place.

Climbing in Rushmore is wonderful, the regulations are needed but on a limited scale. Closure is bad, public meetings bring in uneducated people. Climbers are willing to listen and compromise but not be caged.

Keep free parking/camping but install restroom facilities.

The only problem I found was the lack of a decent guide. Something with drawings & topos.

Watch out for mountain states legal fund (Devils Tower CMP— "voluntary" June closure).

Great place, the helicopters are very annoying, otherwise it's a nice clean place. Toilets might be nice (& more parking).

Need trash cans, porta-potties.

It's a neat place to climb, too far away.

My main concern is the human waste issue. I know people go in the woods & the more people that visit the more waste is in the woods. If there were some outhouses/public toilets the impact on the woods & the wildlife would be greatly reduced.

This is an enjoyable part of the country to visit and climb. I feel the safety of the climber is priority. Good anchors, bolts, etc. I also believe we as climbers can do things like camouflaged webbing and chalk to have less impact. I also know that as I sit here there are a lot of visitors stopped to see & watch the climbers. I feel strongly about limiting the number of climbers in this area in my past trips I've had no problems with over populated climbing areas.

Enjoy climbing in Rushmore, I would hope that the sport can remain a positive activity in the area, and the general climbing community continues to encourage ethical land use and climbing practices.

Really love coming here. Haven't run into any problems. I hope that climbing doesn't become over regulated but some safety is necessary.

I don't like the idea of over regulating the area or putting into the area & environment any more human comfort facilities (portatoilets, parking lots). People who are here to climb don't need that.

Better guide books, more up to date route info.

More detailed maps. "Rock climbing guide" written by XXXX is somewhat confusing--with description of where climbs are. People drive too fast. Week pass to climb (cheap--a few \$). This money should go to trail maintenance. Dogs should be allowed--under supervision of owner, leash. Breezy Point is a wonderful, beautiful spot if should stay primitive & and FREE.

Involvement of climbers during the creation of a workable plan.

People drive too fast through area. Pets should be allowed on leashes. I would pay a small fee to use climbing area, proceeds to benefit area. Breezy Point is perfect.

The helicopters deter from the experience of the outdoors at Rushmore.

Great climbing area! Great management!

There are a lot of new climbers that are not skilled enough for most climbs in the park and forget the basic safety rules of climbers.

It's a beautiful area and I don't believe the climbers interfere with the tourists. We would not be in SD if not for the climbing. Thanks.

This is great rocks for climbing. I'm for power bolting because bolts placed with a power drill are generally stronger and safer.

I feel as though climbers are usually well educated about what they are doing and don't start leading/bolting etc. until they are ready. I think climbers generally are very good for supporting conservation and ecology and rules/regulations tend to make people less respectful. I also think Breezy Point should have a dumpster & running water w/ still no feed. I think animals aren't usually too much of a problem. I'm proud to be associated w/ climbers as I think they are good for the land and treat it better than the general public.

I think that some management is necessary but this is not Eldorado Canyon and we shouldn't have a committee to regulate bolting. I think most climbers are very sensitive to impact damage we cause, but there is also a lot of ignorance about etiquette and info. should be available to new and old climbers. Restrooms & camping would benefit all! Keep up the good work!

Keep big brother in Washington!

Overall the Mt. Rushmore climbing area is very well maintained and managed. The lack of maps and decent guide books makes area finding somewhat tricky. Since this has been designated as a sport route area, bolting and new routes should be unregulated. It would help to post strongly worded ethics or suggestions on the proper ways to bolt route, put in fixed anchors or rappel slings.

Contact Eldorado State Park in Colorado and the Action Committee for Eldorado for information on setting up a climbing use management group for your area. They have done an incredible job of managing and maintaining the climbing resources in Eldorado Canyon. Thanks for having a great climbing area.

I just wish that we didn't need any regulations and that the climbers would respect the area enough that we wouldn't need rangers to enforce any thing.

I basically pleased with the status quo.

Get rid of the helicopters.

Eliminate or increase height requirements of the helicopters

Regulate air traffic out and as far away as possible from all climbing areas. Thank you.

The less direct involvement of management in climbing the better, for all concerned.

Oppose closing of Breezy Point to make Day Area.

Please do not "regulate" to much!

Very enjoyable climbing area!

I think that climbing should be offered to those who want to use the park's with it being regulated to keep out the trash and to keep it safe for all if it isn't regulated the day will come when we won't be able to climb at all.

You need more warm water in shower's at park camping ground's.

I think the park service needs to be consistent with its regulations. To eliminate power drills in an area where helicopters fly overhead on a regular basis is an absolute, 100%, extreme form of hypocrisy. If motors disrupt other park users enjoyment of the park then what about the helicopters? If the situation remains the same then just admit that the faces on them rocks are also the faces on the dollar bill and quit being hypocritical.

Over the years, I've been impressed with the Park Service's open-minded attitude towards rock climbing at Mt. Rushmore. They do not examine climbing with a magnifying glass (as is done in some other parks). Maybe the giant circus below the Faces helps to put things in perspective. I oppose the interagency planning effort because it is yet another waste of money on planning that will produce minimal benefits if any. Each agency has a different mandate anyway. Get the bureaucrats out of the office and onto the ground where they can do some real work!

In my opinion, climbers are respectful of the areas they climb. I've never experienced any problems with litter or waste but it wouldn't hurt to try to educate climbers on proper litter and waste management. Climbers will pack out litter but not waste so education may be the key here. The last thing I would want to see is the over involvement of park officials (be it policing, rules, regulations, toilets, paved or marked paths to climbs, etc.) Part of the enjoyment of climbing is searching for the routes, being out alone in the wilderness away from tourists--just you against the rock. Its fun to find the routes, not to be shown how to get to them. Unless you're near a trailhead, climbers rarely see tourists. I feel the areas where tourists frequent are more damaging to trails, flora and fauna than climbers impact. Just 50 yards from trailheads, I've found that the tourists disappear and the trails are in my opinion, in better shape. So, in general any impact to the trails, rocks, etc. made by climbers is only

seen by climbers. The climber/tourist shared areas could use some management to prevent erosion though. Mount Rushmore is an awesome and lasting memorial to four great presidents, enjoyed by many. It's also an awesome and lasting destruction of natural rock. (Regulated) bolting of new routes slightly defaces rock, but leaves behind a "monument" for all to enjoy.

Allowing some bolting increases the number of routes, thus spreading the climbers over a greater space and decreasing the impact on each route and area. Replacement bolting must be allowed or bolts will eventually fail!

The experience was wonderful. I am concerned about trail erosion and maintenance of existing bolts or anchors. Establishment of new routes on a permit basis seems reasonable. The most important issues are the preservation of the natural heritage, wildlife habitat, and the Native American heritage of the Rushmore area.

The park ranger that handed out this questionnaire was a seriously cute babe. There ought to be a law

Low flying helicopters are a menace to park ambiance.

Good experience, people, place.

Get rid of the helicopters.

Wow what a great place.

There were a few people climbing during our trip here, however, as climbing impact effects the environment (or is projected to), restrictions should be placed to help preserve the area, while allowing climbers to also enjoy the area. Hopefully, this survey will help determine those needs.

Keep up the good work. Get more summit registers on top of climbs. Thank you.

Rushmore seems to be a very climber friendly park and doesn't discriminate in land usage.

The overhead noise from the helicopters detracts from the entire tourist or vacation experience in the Black Hills. I would never consider inviting a close family member to simply vacation here because of the obnoxious quality from these helicopters. Toilets would be greatly appreciated.

Climbing in Mt. Rushmore National Memorial is one of the best places I have ever enjoyed. This park truly touches my hart and you can count on me coming back year after year.

Remove government. park boundary sign at bottom of climbing site. If someone falls it will go through them.

I have yet to find trash in the climbing area--least a cigarette. butt. Climbers keep their area clean! Place trash cans at registers.

Place trash at climbing registers.

I think the climbing is fine but you need to get rid of the helicopter and not be so strict about Rushmore.

Please make the helicopters stop Please!!!!

We come out here for the bolts. We enjoy the chance to climb hard face climbs on lead.

As a hydrologist, I see erosion as a problem; but one that can be controlled with better trail maintenance. Please minimize impacts of pet, litter, and human waste. Main aesthetics of the area when planning restrooms, trails, parking, and camping facilities. Be discreet, hide them well!

I think it is a great place to experience & climb.

Survey is too long.

The guide book suck! Need sketches. Better photo. Show where protection isn't. Needles is really bad. Had a great time!

A better system for identifying the area & climbing routes would be very helpful for 1st timers.

Take a picture from above to allow climbers to recognize the rocks. Explain precisely what anchors are on top and what gear is needed. Great fun. Thanks.

Just use common sense when enforcing rules. Climbing is a fun sport--lets help ourselves and the environment around us. Let all try to be happy with the experience around us. Thanks.

More toilet facilities, especially at the Breezy Point camping area and any future camping areas. More camping areas near Mt. Rushmore.

It was a wonderful experience because of the lack of interference and/or over-bearing regulatory presence. The campsite at Breezy Pt. was clean, quiet and not crowded. It was nice to see the ranger patrol every once in a while. Everyone we met obeyed all posted rules and the unposted ethics of minimum impact camping /climbing.

I would like to see more facilities for climbers, like toilets at the parking areas and more camping (unless it is legal to camp at the Breezy Point Bivouac) as well as more information about climbing areas and trails to them. The area's popularity is undoubtedly going to grow and such support facilities or info will help climbers to not break rules and have less of an impact on the area. At present, there seems to be very few problems and I think the management style is working overall.

Things are OK--no more regulation.

Stop trying to manage peoples lives--if the area becomes too crowded or is adversely impacted, climbers will go elsewhere.

I want to continue using the park with min. influence of too many regulations. However education of the ethics needs to be communicated to all. Keep the land beautiful while all can enjoy for many different activities.

I've just came back from traveling 6 months in South America (with some climbing) and I've traveled to many other parts of the world; and after seeing many beautiful places, the Needles & Rushmore are still one of my favorite. I fear regulation & gov't intervention will spoil this area. Climbing in this area has been going on for over 50 years and is for the most part "self-governing" and I believe it could remain this way by the ethics & values of climbers alone.

Better weather reports.

Allow power drilling for better safety on routes, do not follow rules set by others think and discuss with local climbers and know all the ideas and areas of concern before regulating and be open minded.

Mt Rushmore remains one of my favorite destination climbing areas, mainly because it is uncrowded. Overly managed & developed areas tend to draw more climbers and have increased impact. Hopefully Mt Rushmore will be able to strike a balance that will serve the needs of climbers and management agencies.

Parking off of the highway is desperately needed, as is bathrooms and garbage cans to human waste and litter.

Continue to allow pets—enforce voice control of and leash laws & removal of waste from trails—so that a few don't ruin it for the rest of us. Provide portapotty &/or education of waste disposal (although few will follow).

We need parking. We need toilets. We need a primitive campground, i.e., no motor homes running their generators & TV's. Thank you.

I am interested in even-handed management in all public parks and areas in the U.S.—that is, climbers should not be assumed to have a greater impact than tourists, sight-seers, and gift-shop visitors. In my experience climbers are on the whole quiet, clean, and respectful of their surroundings. I came to this sport relatively late in life and I have been generally impressed with my fellow climbers around the country. N.B.: Helicopters are most definitely not compatible with "the wilderness experience." In fact commercial activity of all kinds is incompatible with outdoor parks and preserves. I am much more interested in restricting corporate, concession, and commercial activity in parks. Let's get real, for once.

Toilets would be good. Parking would be good. Camping would be good—primitive camping, perhaps a short walk in, no need for water.

I believe a continuation of the laissez-faire attitude is most beneficial. Rushmore has a reputation as one of the less restricted climbing areas in the Black Hills, and I believe the goodwill between mgmt. and climbers is a result. I really enjoy the freedom to choose a route using any of the ethics from the surrounding areas.

We love climbing at Rushmore & other places...Rushmore is a fabulous place & a great climbing resource. In general, I think there is a good relationship w/climbers & the N.P.S. ... climbers do & will respect good, sensible management but not blanket closures. I think they, in general, will pick up their own & others trash, follow signed trails, & stay away from wildlife etc. I just finished my M.S. doing a survey of peoples' attitudes on Natural Resource. management. Would love to talk to you &/or see a copy of your results.

Picture guidebooks & camping would be nice.

Its working, don't try to fix it if it works.

In my experience in the outdoors, I have never seen a group of outdoor users who are better at self-regulation than climbers. Climbers highly value their freedom to climb on public lands and parks. They also realize their position is tenuous. As a result climbers go through great lengths to manage themselves and through peer-pressure, the other climbers they meet. I fear that increased government regulation of climbing would destroy this ethic of self-management. Today, climber self-management works. Please don't mess it up.

Love this place!

Don't come up with lots of regulations unless there are serious problems to be addressed.

People I've met don't mind dogs around if then are leashed or otherwise controlled & their waste is buried saying "No Dogs" is troublesome for non-locals...we would not have been able to enjoy this very beautiful rock. Good luck & thanks for your efforts.

Would like toilets established at Breezy Point. Would like toilets established at climbing areas. Climbers able to replace old or worn bolts for safety reasons--after all you upgrade roads don't you! Pets (as long as they are cleaned up after) are less of a mess than people! Had a great time!!

While not a problem today--aircraft is a problem.

Get rid of the helicopters--I imagine it is very distracting for wildlife. Put in porta potties. Do not disallow pets.

Haven't been here long enough yet--the area is beautiful. Camping facilities are good and people are very friendly & helpful.

I don't think the park service should be involved in regulating safety as this opens up a can of worms. Should be the climbers responsibility. Limiting power drills for new routes will cause people to be more thoughtful when putting up new routes. An outhouse in the area would be very helpful.

I approve of the setup as it stands now. (No power drills; permitting groups, etc.). There are a bad lack of bathroom facilities. 1 outhouse along the dirt road would eliminate lots of problems.

I believe regulating climbing is important, also I feel bolting should be allowed. Also low impact climbing is necessary to maintain this area.

Sometimes the helicopters can be a serious problem because clear communications is interrupted by noise. Climbers need to communicate. Maybe there could be voluntary cooperation, between climbers and helicopters. Only fly certain days; only climb certain days.

I am not aware of any major problems. I would strongly support a program to allow power drilling to replace existing bolts, & somewhat regulated power drilling for new routes. I (& my family) enjoy wilderness outings several times per year--I don't think bolted routes interfere with the wilderness experience most people expect. Thanks.

Most of the locals were extremely friendly and informative, sharing their knowledge of the most fun climbs in the area. I also noticed that there were a lot of out-of-staters using the area I think due to the areas general "destination" qualities. I feel that most climbers "pack out" and do all that is necessary not to impact the area more. Porta potties are one way to insure not to many people use "the woods" for that purpose.

The many times I have climbed in the Mt. Rushmore Area, the Sylvan Lake area, Cathedral Spires, Ten Pins, and Needle's Eye area, have always been superbly enjoyable. I have never encountered a "too busy" climbing scene or had to wait forever to get on a popular climb. With the exception of a few sparsely bolted routes, I find the Black Hills climbing to be world class and look forward to many more years of enjoyment here.

We enjoyed climbing here--nice to have the variety of climbs to choose from.

I have not climbed enough to be able to give valuable information.

I think there isn't a problem with any people climbing a Mount Rushmore area, but some of the routes aren't bolted safely and fun there ran out with quarter inch button lead with homemade hangers. Those bolts are silly. There is a lot of rock in the southern hills plenty to develop to the increase of people.

Park service should leave climbers alone and stop trying to regulate everything. Climbers have enough common sense that they don't need rules created by someone that doesn't understand, nor care about our lifestyle.

Detail the many climbing rocks and trails! Provide safety information about climbing at trail heads and registrations. Dispel the myths that climbing is bad, that bolts are bad, and show non-climbers that climbing is safe and beautiful to watch.

Great place to climb!

I think it is important to have consistent wise mgt. that meets both climbers & environmental needs--new nails should be allowed & I feel it is especially important that climbers are allowed to maintain existing routes (replacing bolts w/ power drills) to assure safety! Thanks for the chance to comments. We all need to work together to create a fair mgmt. plan.

I believe an open dialogue between climbers and the park is essential. Climbers must be responsible in their use of the resource and of their own safety. I think the bolting is a very tiny fraction of the environmental impact, that is created by the Park Service facilities. So I think we can work out any problems through discussion.

Beautiful place. Hate to see it environmentally impacted--trails, garbage, human waste.

If you maintain the area & support the climbers, regulation can be kept to a minimum.

Decent, maintained trails will greatly decrease negative environmental impact. Similarly, outhouses or porta-potties in convenient locations will minimize the impact of human waste.

This is my 1st trip to this area. I didn't plan to climb here but the opportunity arose, I met some people that were climbing. I am very unfamiliar with the area. Was not apprised of any regulations of the area. I was not aware of any center where there were trail & climbing guides. This would be helpful for some one passing through without any previous knowledge of the area. It didn't seem overly crowded when we climbed. I don't think it needs to be advertised to the general public that these climbing areas exist. I think bolts on climbs are o.k., but placing new bolts whether to replace old or make new climbs should be regulated.

I am disturbed to hear of plans to convert the breezy point area to a day use/R.V. facility without any replacement area for climbers or others who wish to avoid that type of camping situation.

Keep out power drills. This will limit bolting. Allow hand drills and bolting of routes in style of local climbers. Get rid of that damn helicopter. This would enhance the experience. Don't over-regulate. It is not needed. Definitely do not further 'bureaucratize' the sport.

This is a beautiful part of the country to climb in.

Pit toilets!

Because so many climbers are inexperienced & uneducated, it would be quite unsafe to NOT replace bolts (some have been there 10-20 years) AND--because of the ethic embraced by many climbers of putting in a route from the ground up, drive pins may have been used or other forms of less than "bomb-proof" protection.

Helicopters are an extreme problem at times, because they fly far too close to many of the formations throughout the Black Hills. This problem could be eliminated if air traffic was required to stay 1000 to 2000 feet above the ground.

Rushmore is a good area to climb because it has not become so commercialized yet. Climbers seem to be respectful of the environment & other climbers so far. If this changes I can see how some regulations need to be enforced.

Better guide book. Toilets.

I believe more developed trail markers could decrease overall impacts in and around the crags. Otherwise I had a great experience.

Perhaps a better map detailing the location of climbs and some pictures of the routes. We had great difficulties finding our way in the Monster/Market area.

We just flashed in did a half dozen routes. Therefore, our experience is narrow. We did enjoy the area, the rangers were pleasant, and the guide book was terrible. We feel the responsible climbers (the majority) are low impact and nature caring people. Although, there are a number of butt heads and new climbers that give us a bad name. From what I've seen the people most against climbing don't understand what were doing. They also blame climbers for horse, bike & teenage parties that are destroying a lot.

I strongly support the legalization of power drills for the replacement of old protection. Rock climbing should not be dangerous, just fun.

Climbing at Rushmore is great. The rangers have been supportive, though more rangers with climbing experience would be nice. No complaints with regulations now. I hate the helicopters!!

More new routes.

Mark w/signs the rocks & routes. Bathrooms. Don't sell the book "Needles" the maps stunk.

It was great that the Park Information sold climbing guide books to the Mt. Rushmore area. After purchasing one of the guides we found it to be inaccurate in actually finding the climbing routes. Not being from this area--we had a hard time finding the correct parking areas & trails. Why not mark "South Seas," "Monster" etc. as well as, the rocks themselves!!

helicopters are a big annoyance. There's nothing like enjoying the natural beauty of the hills and then have some screaming death trap fly over you!

Please don't charge people to climb the rocks were here before we were so don't try to own them.

Just climb!!!

Check the climbing guidebooks!

Check the guidebooks!

We need better maps & route descriptions.

It's very encouraging to see that you care enough about climbers' opinions to do this survey. Thank you.

I feel that the climbing area around Mt. Rushmore is a great place to climb. Every climber I have met (quite a few) has a great respect for the area. I feel that if good quality bolts are placed then the need for replacement bolts would decrease. I strongly feel that the local climbers should have a say in whatever management plan that the Forest Service introduces for the Rushmore area. We by far use the area more than any other group!

I feel that new routes should be placed, but without power.

Helicopter over flights reduce outdoor experience for all users, and create potential safety hazards for climbers. Security perimeter should be limited to the face and flanks of Mt. Rushmore only. Signage for climber access at parking areas would be helpful. Registration should remain voluntary.

