



Social Science Program  
National Park Service  
U.S. Department of the Interior

Visitor Services Project



# **Devils Postpile National Monument Visitor Study**

**Summer 2006**



Park Studies Unit  
Visitor Services Project  
Report 176



**Social Science Program  
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Report 176**

February 2007

Marc F. Manni  
Bret H. Meldrum  
Brenda K. Lackey  
Steven J. Hollenhorst

Marc Manni is a National Park Service VSP Research Analyst, Bret Meldrum is a National Park Service VSP Research Assistant, and Dr. Steven Hollenhorst is the Director of the Park Studies Unit, Department of Conservation Social Sciences, University of Idaho. Dr. Brenda Lackey, Assistant Professor at the University of Wisconsin at Stevens Point, oversaw the survey fieldwork. We thank David Vollmer for his technical assistance, Kathleen Gray, and staff of Devils Postpile National Monument. This study was partially funded by the Recreation Fee Program.

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**Visitor Services Project**  
**Devils Postpile National Monument**  
**Report Summary**

- This report describes the results of a visitor study at Devils Postpile National Monument (NM) during July 19-25, 2006. A total of 376 questionnaires were distributed to visitor groups. Of those, 276 questionnaires were returned, resulting in a 73.4% response rate.
- This report profiles a systematic random sample of Devils Postpile NM visitors. Most results are presented in graphs and frequency tables. Summaries of visitor comments are included in the report and complete comments are included in the Visitor Comments Appendix.
- Thirty-three percent of visitor groups were in groups of five or more, 32% were in groups of three or four, and 32% were groups of two. Sixty-five percent of visitor groups were family groups. Fifty percent of visitors were ages 36-65 years and 25% were ages 15 years or younger. Nine percent of respondents were of Hispanic/Latino ethnicity. Ninety-three percent of respondents were White and 5% were Asian.
- United States visitors were from California (85%), Nevada (3%), Arizona (2%), Ohio (2%), and 20 other states and Washington, D.C. International visitors, comprising 6% of the total visitation, were from Germany (14%), Netherlands (13%), France (11%), and 13 other countries.
- Fifty-five percent of visitors had not visited the monument prior to 2002. Seventy-two percent of visitors visited the monument for the first time in 2002 and after.
- Prior to this visit, visitor groups most often obtained information about Devils Postpile NM through previous visits (54%), friends/relatives/word of mouth (47%), and travel guides/tour books/publications (40%). Six percent of visitor groups did not obtain any information about the park before their visit. Most groups (83%) received the information they needed about the park.
- For 48% of visitor groups, their reason for traveling to the Devils Postpile NM area (within 75 miles of the monument) was to visit other local attractions, while 29% came to visit Devils Postpile NM. Other most common places visited within a two-hour drive of the monument were Mammoth Lakes Basin (49%), Mammoth Lakes Visitor Welcome Center (46%), and Mono Lake and Mono Basin (44%).
- Of the visitor groups that spent less than 24 hours at the monument, 35% of visitor groups spent five or more hours, 33% spent three or four hours, and 31% spent up to two hours. Of the visitor groups that spent 24 hours or more at the monument, 38% of visitor groups spent four or more days, 35% spent two or three days, and 27% spent one day.
- The most common sites visited in the monument included the bottom of Devils Postpile (83%) and Rainbow Falls (76%). The most common activities in the monument included general sightseeing (92%) and hiking (82%), while the most common activities in the Reds Meadow Valley area included general sightseeing (80%) and hiking (64%).
- Regarding use, importance, and quality of visitor services and facilities, it is important to note the number of visitor groups that responded to each question. The most used services/facilities by visitor groups included the restrooms (85%), shuttle bus (79%), and trails (78%). The services/facilities that received the highest combined proportions of “extremely important” and “very important” ratings included trails (97%, N=202), restrooms (91%, N=214), and shuttle bus (90%, N=201). The services/facilities that received the highest combined proportions of “very good” and “good” quality ratings included assistance from ranger station staff (94%, N=90), trails (92%, N=196), and assistance from Mammoth Lakes Welcome Center staff (90%, N=49).
- Most visitor groups (94%) rated the overall quality of facilities, services, and recreational opportunities at Devils Postpile NM as “very good” or “good.” Less than 2% of visitor groups rated the overall quality as “very poor” or “poor.”

For more information about the Visitor Services Project, please contact the Park Studies Unit at the University of Idaho at (208) 885-7863 or the following website <http://www.psu.uidaho.edu>

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## INTRODUCTION

This report describes the results of a visitor study at Devils Postpile NM during July 19-25, 2006 by the National Park Service (NPS) Visitor Services Project (VSP), a part of the Park Studies Unit (PSU) at the University of Idaho.

### **Organization of the report**

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The report is organized into three sections.

**Section 1: Methods.** This section discusses the procedures, limitations, and special conditions that may affect the results of the study.

**Section 2: Results.** This section provides summary information for each question in the questionnaire and includes a summary of visitor comments. The presentation of the results of this study does not follow the same order of questions in the questionnaire.

#### **Section 3: Appendices**

Appendix 1: The *Questionnaire* contains a copy of the original questionnaire distributed to groups.

Appendix 2: *Additional Analysis* contains a list of options for cross-references and cross comparisons.

These comparisons can be analyzed within park or between parks. Results of additional analyses are not included in this report as they may only be requested after the results of this study have been published.

Appendix 3: *Decision rules for checking non-response bias*

Appendix 4: *Visitor Services Project Publications* contains a complete list of publications by the PSU.

Copies of these reports can be obtained by visiting the website:

<http://www.psu.uidaho.edu/vsp/reports.htm> or contacting the PSU office at (208) 885-7863.

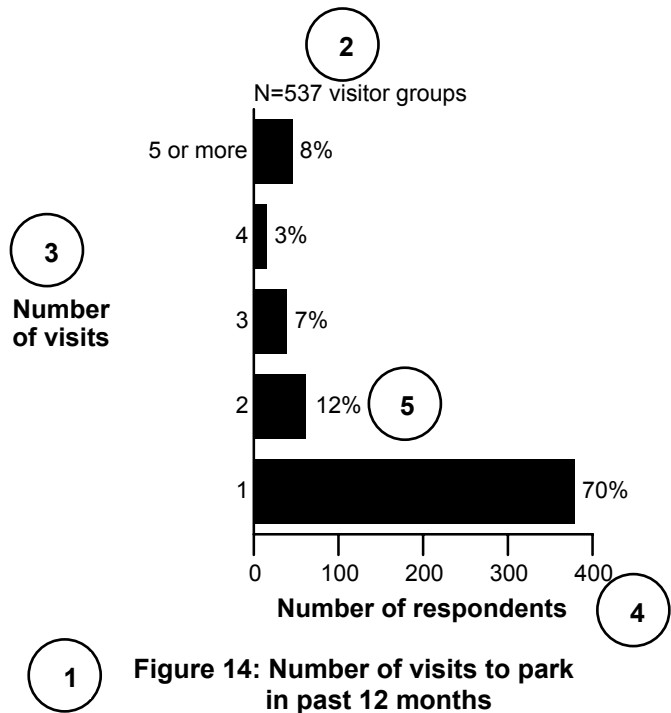
Visitor Comments Appendix: A separate appendix contains visitor responses to open-ended questions. It is bound separately from this report due to its size.

**Presentation of the results**

Results are represented in the form of graphs (see example below), scatter plots, pie charts, tables, or text.

**SAMPLE ONLY**

- 1: The figure title describes the graph's information.
- 2: Listed above the graph, the "N" shows the number of individuals or visitor groups responding to the question. If "N" is less than 30, "**CAUTION!**" is shown on the graph to indicate the results may be unreliable.
- \* appears when total percentages do not equal 100 due to rounding.
- \*\* appears when total percentages do not equal 100 because visitors could select more than one answer choice.
- 3: Vertical information describes the response categories.
- 4: Horizontal information shows the number or proportions of responses in each category.
- 5: In most graphs, percentages provide additional information.



## METHODS

### Survey Design

#### Sample size and sampling plan

All VSP questionnaires follow design principles outlined in Don A. Dillman's book *Mail and Internet Surveys: The Tailored Design Method* (2000). Based on this methodology, the sample size was calculated based on park visitation statistics of previous years.

Brief interviews were conducted with visitor groups, and 376 questionnaires were distributed to a systematic random sample of visitor groups that arrived at Devils Postpile NM during the period from July 19-25, 2006. Table 1 shows the numbers of questionnaires distributed at two different sites within the park. These sampling locations were selected based on park visitation statistics and advice from park staff.

**Table 1: Questionnaire distribution locations**

N=number of questionnaires distributed

| Sampling site          | N   | Percent |
|------------------------|-----|---------|
| Ranger Station         | 276 | 73      |
| Rainbow Falls Bus Stop | 100 | 27      |
| Total                  | 376 | 100     |

#### Questionnaire design

The Devils Postpile NM questionnaire was developed at a workshop held with park staff to design and prioritize the questions. Some of the questions were comparable with VSP studies conducted at other parks while others were customized for Devils Postpile NM. Many questions asked visitors to choose answers from a list of responses, often with an open-ended option, while others were completely open-ended.

No pilot study was conducted to test the Devils Postpile NM questionnaire. However, all questions followed OMB guidelines and/or were used in previous surveys. Thus, the clarity and consistency of the survey instrument have been tested and supported.

#### Survey procedure

Visitor groups were greeted, briefly introduced to the purpose of the study, and asked to participate. If visitors agreed, they were asked which member (at least 16 years of age) had the next birthday. The individual with the next birthday was selected to complete the questionnaire for the group. An interview, lasting approximately two minutes, was conducted with that person to determine group size, group type, and the age of the member completing the questionnaire. These individuals were asked for their names, addresses, and telephone numbers in order to mail them a reminder/thank you postcard and follow-ups. Visitor groups were



given a questionnaire, asked to complete it after their visit, and then return it by mail. The questionnaires were pre-addressed and affixed with a U.S. first class postage stamp.

Two weeks following the survey, a reminder/thank you postcard was mailed to all participants. Replacement questionnaires were mailed to participants who had not returned their questionnaires four weeks after the survey. Seven weeks after the survey, a second round of replacement questionnaires was mailed to visitors who had not returned their questionnaires.

### **Data Analysis**

Returned questionnaires were coded and the information was entered into a computer using custom and standard statistical software applications—Statistical Package for the Social Sciences (SPSS), and a custom designed FileMaker Pro application. Descriptive statistics and cross-tabulations were calculated for the coded data and responses to open-ended questions were categorized and summarized.

### **Limitations**

Like all surveys, this study has limitations that should be considered when interpreting the results.

1. This was a self-administered survey. Respondents completed the questionnaire after the visit, which may have resulted in poor recall. Thus, it is not possible to know whether visitor responses reflected actual behavior.
2. The data reflect visitor use patterns to the selected sites during the study period of July 19-25, 2006. The results present a 'snapshot-in-time' and do not necessarily apply to visitors during other times of the year.
3. Caution is advised when interpreting any data with a sample size of less than 30, as the results may be unreliable. Whenever the sample size is less than 30, the word "CAUTION!" is included in the graph, figure, table, or text.
4. Occasionally, there may be inconsistencies in the results. Inconsistencies arise from missing data or incorrect answers (due to misunderstood directions, carelessness, or poor recall of information). Therefore, refer to both the percentage and N (number of individuals or visitor groups) when interpreting the results.

### **Special Conditions**

There was a threat of thunderstorms during the survey period, which was unusual for this time of summer. The weather ranged from partly cloudy and warm to sunny and hot, with rain on two days.

### Checking Non-response Bias

At Devils Postpile NM, 399 visitor groups were contacted and 376 of these groups (93.7%) accepted the questionnaire. Questionnaires were completed and returned by 276 visitor groups, resulting in a 73.4% response rate for this study. The three variables used to check non-response bias were group type, age of the group member who actually completed the questionnaire and group size.

Table 2 shows insignificant differences between group types. There are significant differences between respondent and non-respondent ages and insignificant differences between respondent and non-respondent group sizes (see Table 3). See Appendix 3 for more details of the non-response bias checking procedure.

**Table 2: Comparison of respondents and non-respondents**

| Group type         | Group type        |                            |                              |
|--------------------|-------------------|----------------------------|------------------------------|
|                    | Total distributed | Respondents (actual value) | Respondents (Expected value) |
| Alone              | 7                 | 6                          | 5                            |
| Family             | 255               | 178                        | 187                          |
| Friends            | 51                | 34                         | 37                           |
| Family and friends | 55                | 50                         | 40                           |
| Other              | 7                 | 7                          | 5                            |
| <b>Total</b>       | <b>375</b>        | <b>275</b>                 |                              |

Chi-square = 3.29      df = 4      p-value = 0.42

**Table 3: Comparison of respondents and non-respondents  
Age and Group size**

| Variable   | Respondent |         | Non-respondent |         | p-value (t-test) |
|------------|------------|---------|----------------|---------|------------------|
|            | N          | Average | N              | Average |                  |
| Age        | 268        | 47      | 100            | 43      | 0.019            |
| Group size | 273        | 4.5     | 100            | 4.5     | 0.826            |

Two out of three tests show insignificant differences between respondents and non-respondents. In addition, a five-year difference in average age in most mail surveys is an expected trend (see Appendix 3). Therefore, the response bias is judged to be insignificant. The data is a good representation of a larger Devils Postpile National Monument visitor population.

## RESULTS

### Demographics

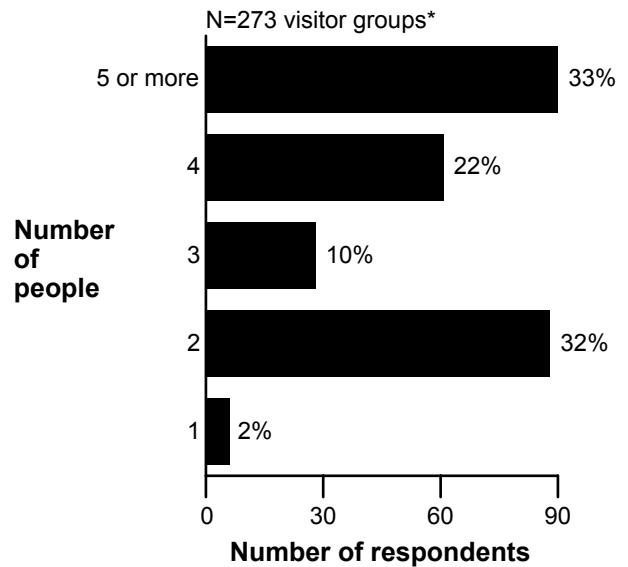
#### Visitor group size

**Question 16**

For this visit to Devils Postpile National Monument, how many people were in your personal group, including yourself?

**Results**

- 33% of visitors were in groups of five or more (see Figure 1).
- 32% were in groups of two.
- 22% were in groups of four.



**Figure 1: Visitor group size**

#### Visitor group type

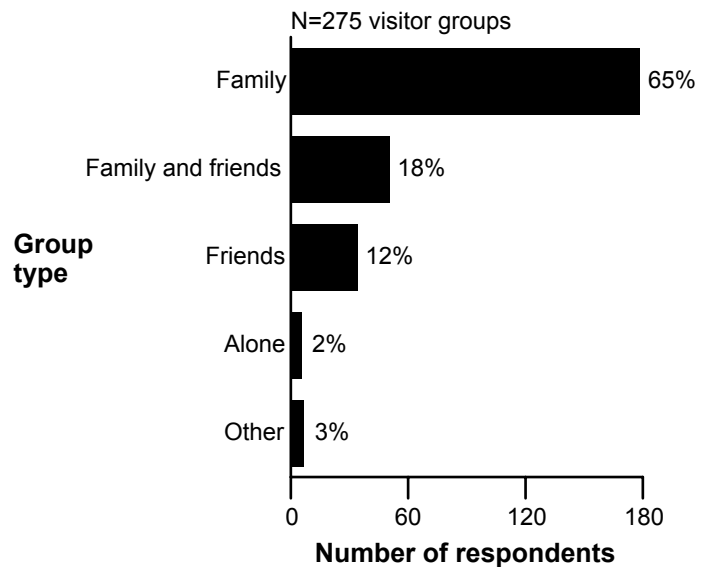
**Question 15**

On this visit, what kind of personal group (not guided tour/educational/organized group) were you with?

**Results**

- 65% of visitor groups were made up of family members (see Figure 2).
- 18% were with family and friends.
- 12% were with friends.
- “Other” groups (3%) included:

Business associates  
Significant other



**Figure 2: Visitor group type**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

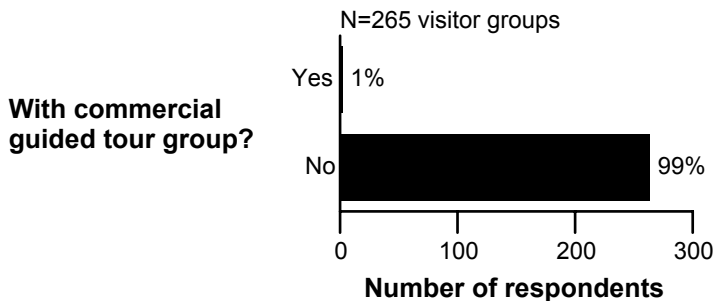
### Visitors with organized groups

**Question 14a**

On this visit, were you and your personal group with a commercial guided tour group?

**Results**

- 1% of visitor groups were traveling with a guided tour group (see Figure 3).



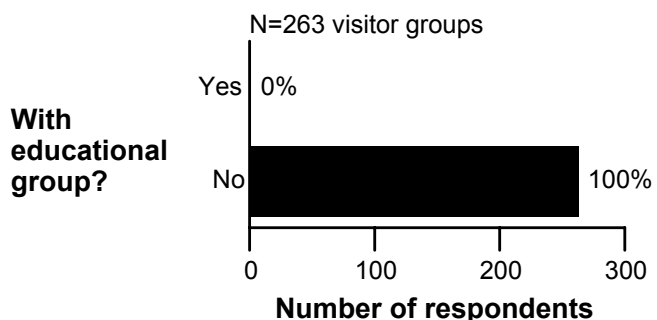
**Figure 3: Visitors traveling with a commercial guided tour group**

**Question 14b**

On this visit, were you and your personal group with an educational group (school, etc.)?

**Results**

- No visitor groups were traveling with an educational group (see Figure 4).



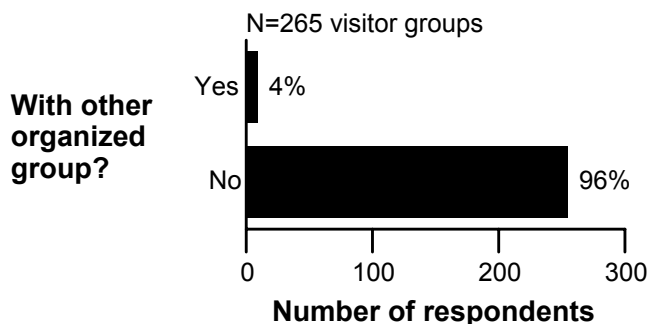
**Figure 4: Visitors traveling with an educational group (school, etc.)**

**Question 14c**

On this visit, were you and your personal group with an other organized group (church, business, etc.)?

**Results**

- 4% of visitor groups were traveling with an other organized group (see Figure 5).



**Figure 5: Visitors traveling with an other organized group (church, business, etc.)**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

### United States visitors by state of residence

Question 17b

What is your state of residence?

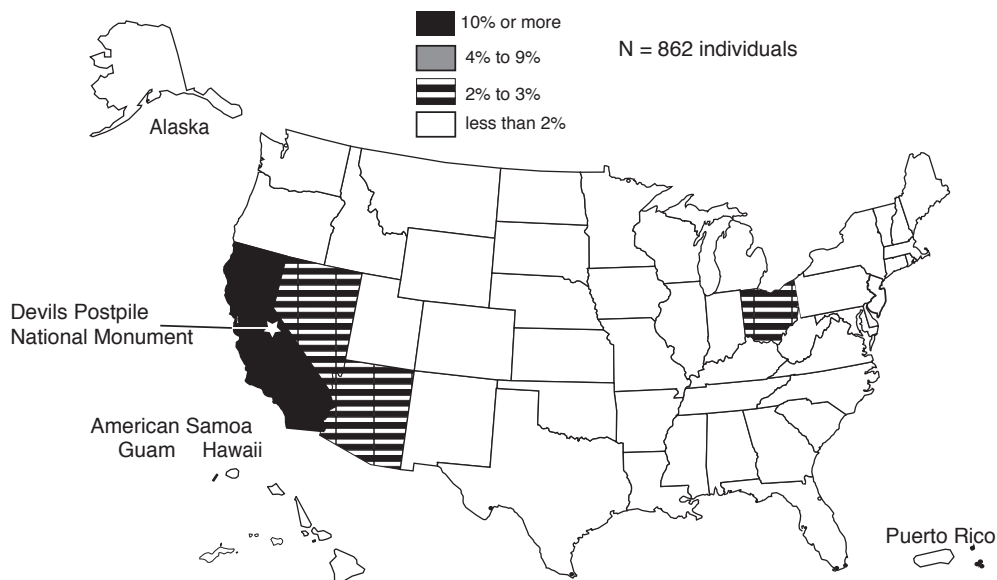
**Table 4: United States visitors by state of residence\***

Note: Response was limited to seven members from each visitor group.

Results

- U.S. visitors comprised 94% of total visitation to the monument.
- 85% of visitors came from California (see Table 4 and Map 1).
- 3% came from Nevada.
- 2% came from Arizona.
- 2% came from Ohio.
- Smaller proportions came from 20 other states and Washington, D.C.
- On average, U.S. visitors live 366 miles from the monument.

| State                                | Number of visitors | Percent of U.S. visitors N=862 individuals | Percent of total visitors N=918 individuals |
|--------------------------------------|--------------------|--|---|
| California                           | 730                | 85   | 80  |
| Nevada                               | 24                 | 3  | 3   |
| Arizona                              | 14                 | 2  | 2   |
| Ohio                                 | 13                 | 2  | 1   |
| Florida                              | 12                 | 1  | 1   |
| Colorado                             | 6                  | 1  | 1   |
| Massachusetts                        | 6                  | 1  | 1   |
| Michigan                             | 6                  | 1  | 1   |
| Kansas                               | 5                  | 1  | 1   |
| Oregon                               | 5                  | 1  | 1   |
| Pennsylvania                         | 5                  | 1  | 1   |
| Texas                                | 5                  | 1  | 1   |
| Wisconsin                            | 5                  | 1  | 1   |
| Washington                           | 4                  | 1  | <1  |
| 10 other states and Washington, D.C. | 22                 | 3  | 2   |



**Map 1: Proportions of United States visitors by state of residence**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**International visitors by country of residence**

Question 17b

What is your country of residence?

**Table 5: International visitors by country of residence \***

Note: Response was limited to seven members from each visitor group.

| Results  | Country        | Number of visitors | Percent of international visitors N=56 individuals | Percent of total visitors N=918 individuals |
|--|----------------|--------------------|--|---|
| <ul style="list-style-type: none"> <li>International visitors comprised 6% of total visitation to the monument.</li> <li>14% of visitors came from Germany (see Table 5).</li> <li>13% came from the Netherlands.</li> <li>11% came from France.</li> <li>Smaller proportions came from 13 other countries.</li> </ul> | Germany        | 8                  | 14   | 1   |
|  | Netherlands    | 7                  | 13   | 1   |
|  | France         | 6                  | 11   | 1   |
|  | United Kingdom | 5                  | 9  | 1   |
|  | Denmark        | 4                  | 7  | <1  |
|  | Spain          | 4                  | 7  | <1  |
|  | Czech Republic | 4                  | 7  | <1  |
|  | Costa Rica     | 3                  | 5  | <1  |
|  | Austria        | 2                  | 4  | <1  |
|  | Chile          | 2                  | 4  | <1  |
|  | England        | 2                  | 4  | <1  |
|  | Hungary        | 2                  | 4  | <1  |
|  | Mexico         | 2                  | 4  | <1  |
|  | Singapore      | 2                  | 4  | <1  |
|  | Switzerland    | 2                  | 4  | <1  |
| Canada   | 1              | 2                  | <1   |   |

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Number of visits to the monument before 2002**

Question 17c

How many times have you visited the monument before 2002?

Note: Response was limited to seven members from each visitor group.

Results

- 55% of visitors had not visited the monument before 2002 (see Figure 6).
- 28% visited one or two times.
- 17% visited 3 or more times.

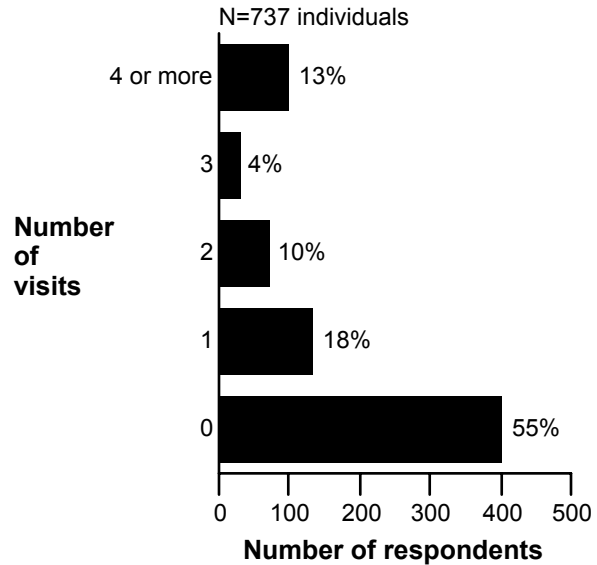


Figure 6: Number of visits to monument before 2002

**Number of visits to the monument in 2002 and after**

Question 17d

How many times have you visited the monument in 2002 and after (including this visit)?

Note: Response was limited to seven members from each visitor group.

Results

- 72% of visitors visited the monument for the first time in 2002 and after (see Figure 7).
- 22% visited two or three times.
- 6% visited four or more times.

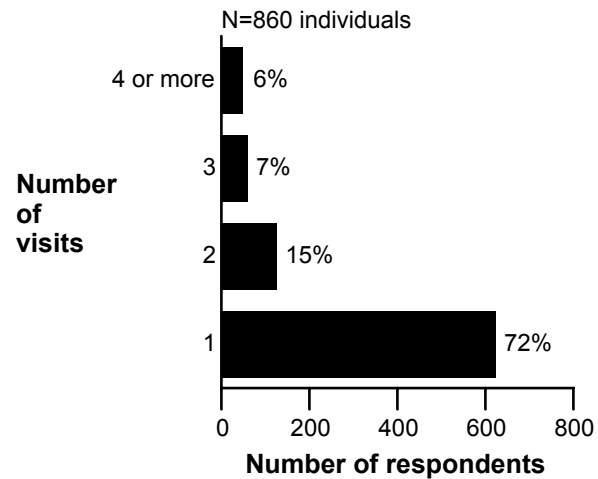


Figure 7: Number of visits to monument in 2002 and after

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

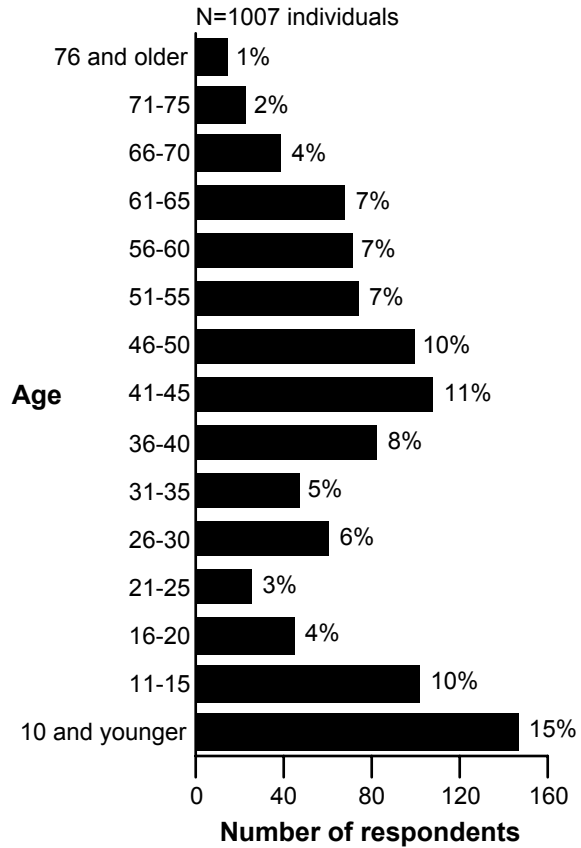
**Visitor age**

**Question 17a**

For you and your personal group (up to seven members), what is your current age?

**Results**

- Visitor ages ranged from 1 to 88 years old.
- 50% of visitors were in the 36-65 years age group (see Figure 8).
- 25% were 15 years or younger.
- 7% were 66 years or older.



**Figure 8: Visitor age**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer



### Respondent ethnicity

Question 19a  
For you only, are you Hispanic or Latino?

Results

- 9% of respondents were Hispanic or Latino (see Figure 9).

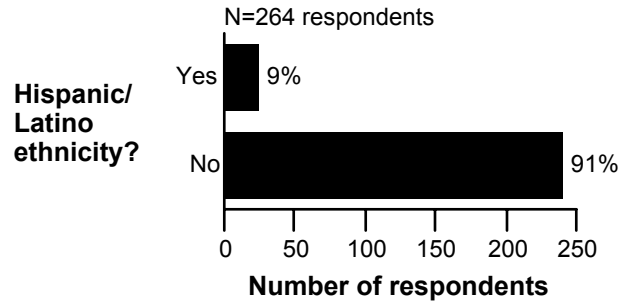


Figure 9: Respondent ethnicity

### Respondent race

Question 19b  
For you only, which of these categories best indicates your race?

Results

- 93% of respondents were White (see Figure 10).

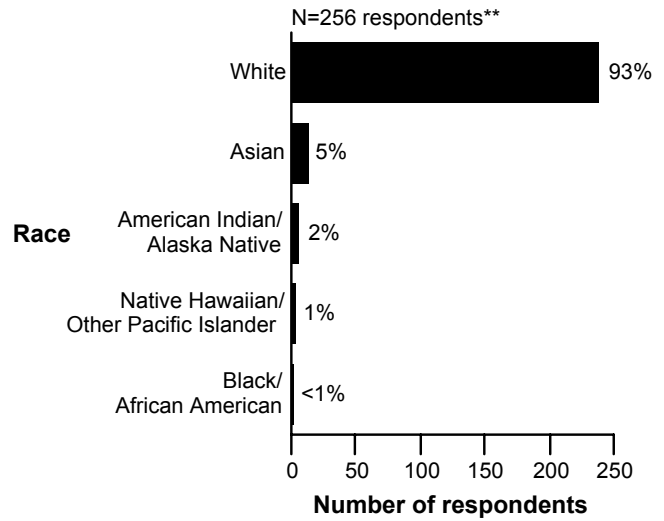


Figure 10: Respondent race

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

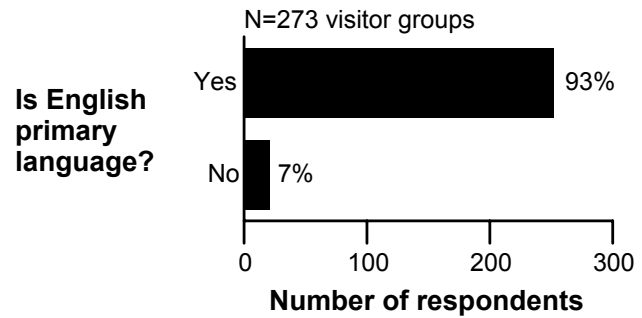
**Preferred language for speaking and reading**

Question 18a

Is English the primary language you and your personal group prefer to speak and read?

Results

- 93% of visitor groups used English as their primary language for speaking and reading (see Figure 11).



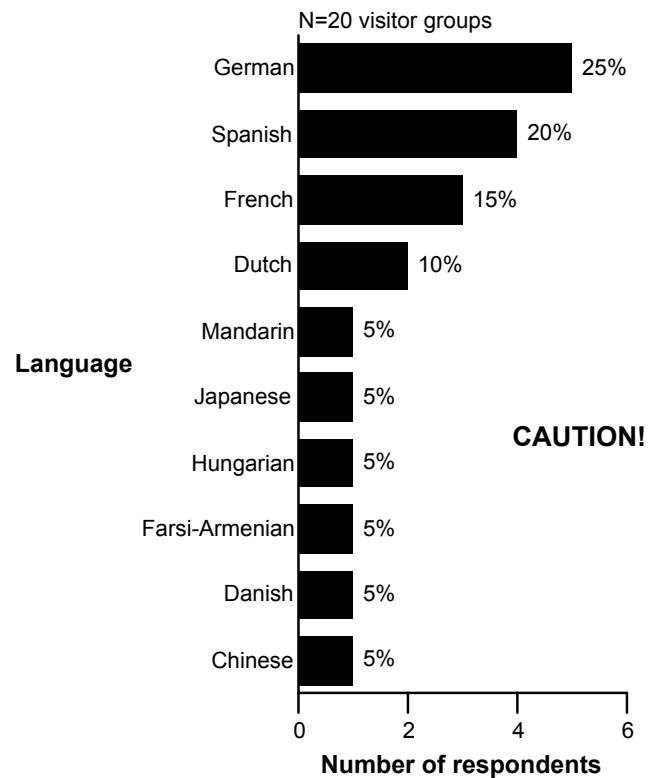
**Figure 11: English as primary language for speaking and reading**

Question 18b

If NO, what one language do you and your group prefer to speak and read?

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data (see Figure 12).



**Figure 12: Preferred language to speak and read**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Services to be provided in languages other than English**

Question 18c

What services in the monument would you like to have provided in languages other than English?

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data.
- Monument services visitor groups (N=9) would like to have provided in languages other than English included:

Emergency procedures  
 Explanation of geological formation of Devils Postpile  
 Monument maps  
 Monument brochure

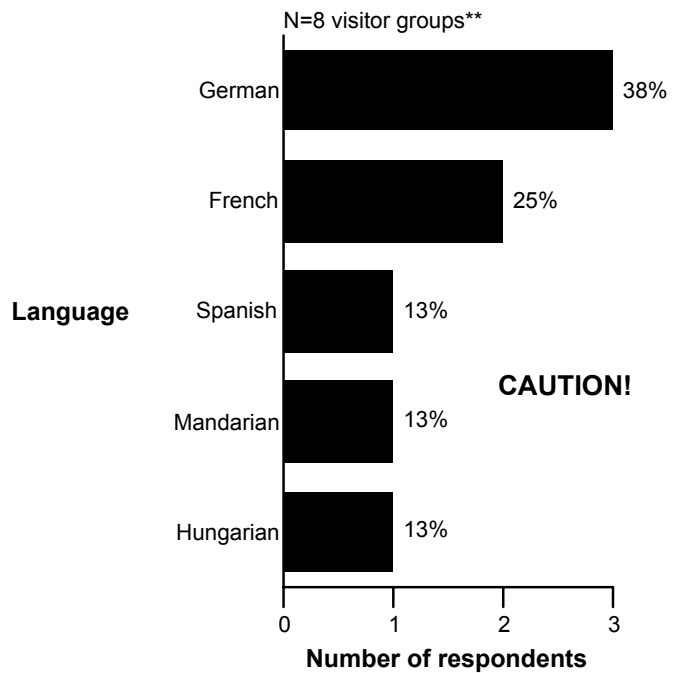
**Languages to provide services in**

Question 18d

Which languages?

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data (see Figure 13).



**Figure 13: Languages to provide services in**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

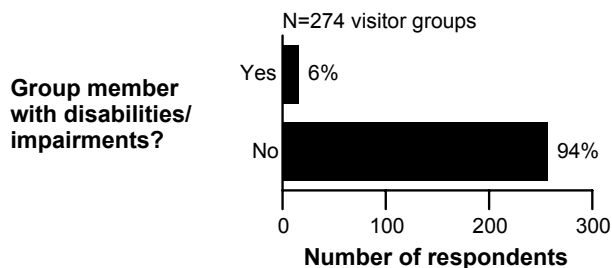
### Visitors with disabilities/impairments

**Question 20a**

Does anyone in your group have any disabilities/impairments that affected their visit to Devils Postpile National Monument?

**Results**

- 6% of visitor groups had members with disabilities/impairments that affected their park experience (see Figure 14).



**Figure 14: Visitor groups with members who had disabilities/impairments**

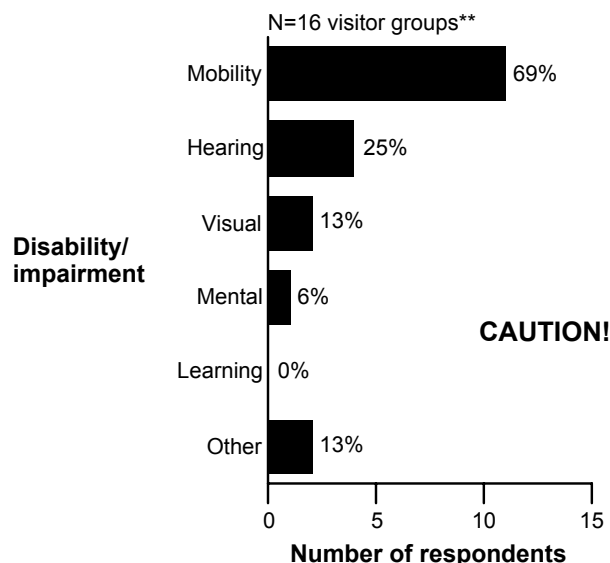
**Question 20b**

If YES, what kind of disability/impairment?

**Results - Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data (see Figure 15).
- “Other” types of disabilities/impairments (13%) included:

Bad back and legs  
Orthopedic



**Figure 15: Type of disability/impairment**

\*total percentages do not equal 100 due to rounding

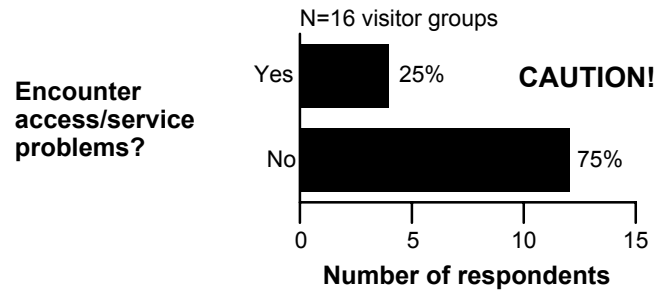
\*\*total percentages do not equal 100 because visitors could select more than one answer

Question 20c

Because of the disability/impairment, did you and your group encounter any access and/or service problems during this visit to Devils Postpile National Monument?

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data (see Figure 16).



**Figure 16: Visitor groups who encountered access and/or service problems due to disabilities/impairments**

Question 20d

If YES, what were the problems?

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data.
- Problems mentioned by visitor groups (N=5) included:

- General difficulty walking trail
- Unable to walk the trail
- Difficulty walking due to poor condition of trail (erosion)
- Need shade along the trail
- Need more resting places along the trail

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Trip/Visit Characteristics and Preferences**

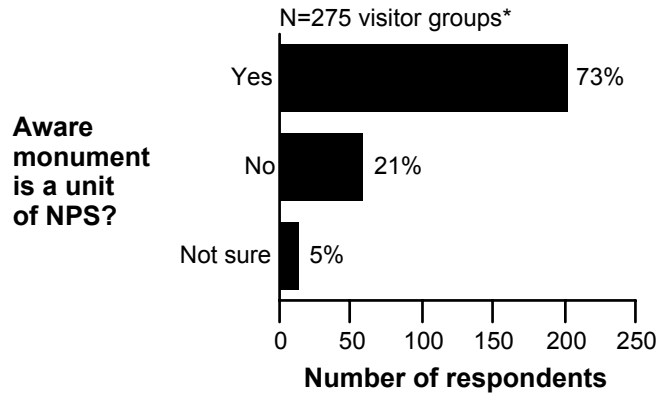
**Visitor awareness of management of Devils Postpile National Monument**

**Question 1a**

Prior to your visit to Devils Postpile National Monument, were you and your group aware that this is a unit of the National Park Service?

**Results**

- 73% of visitor groups were aware that Devils Postpile National Monument is a unit of the National Park Service (see Figure 17).
- 21% were not aware.
- 5% were not sure.



**Figure 17: Awareness of management of Devils Postpile National Monument**

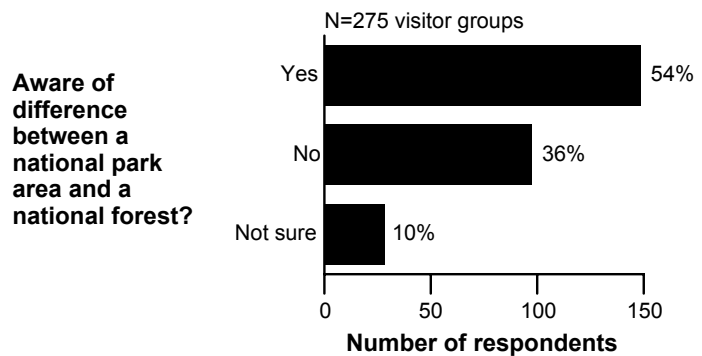
**Visitor awareness of difference between a national park area and a national forest**

**Question 1b**

Prior to your visit to Devils Postpile National Monument, were you and your group aware of the difference between a national park area and a national forest?

**Results**

- 54% of visitor groups were aware of the difference between a national park area and a national forest (see Figure 18).
- 36% were not aware.
- 10% were not sure.



**Figure 18: Awareness of difference between a national park area and a national forest**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

### Information sources used prior to visit

**Question 2a**

Prior to this visit, how did you and your group obtain information about Devils Postpile National Monument?

**Results**

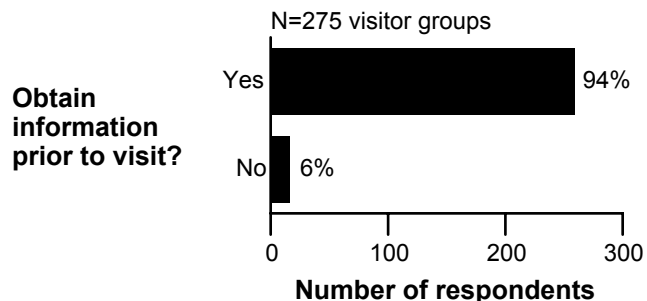
- 6% of visitor groups did not obtain any information about the monument prior to their visit (see Figure 19).

- As shown in Figure 20, of those who obtained information (94%), the most common sources of information included:

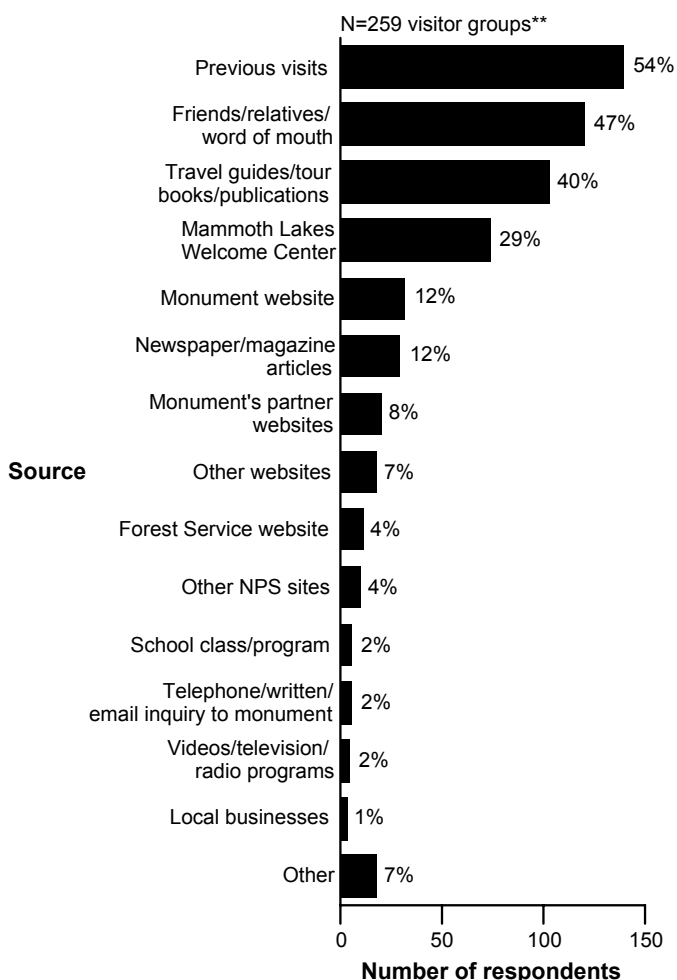
- 54% Previous visits
- 47% Friends/relatives/word of mouth
- 40% Travel guides/tour books/publications

- “Other” sources of information (7%) included:

- Bishop, CA Visitor Center
- Highway/road signs
- General knowledge
- Maps
- Postcards in welcome center



**Figure 19: Visitors who obtained information about the monument prior to this visit**



**Figure 20: Sources of information used by visitor groups prior to this visit**

\*total percentages do not equal 100 due to rounding

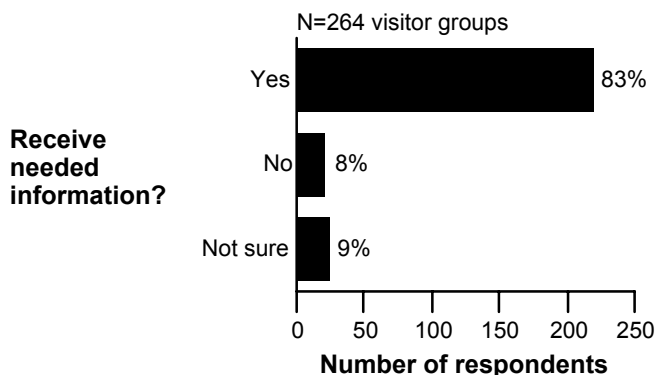
\*\*total percentages do not equal 100 because visitors could select more than one answer

Question 2c

From the sources you used prior to this visit, did you and your group receive the type of information about the monument that you needed?

Results

- 83% of visitor groups obtained the information they needed to prepare for this trip to Devils Postpile National Monument (see Figure 21).



**Figure 21: Visitor groups who obtained needed information prior to this visit to Devils Postpile National Monument**

Question 2d

If NO, what type of information did you and your group need that was not available?

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data.
- Additional information that visitor groups (N=22) needed but was not available through these sources included:

- Was unaware that to get to the monument you had to pay to ride the shuttle run by the Forest Service
- Unclear on the process for driving into Reds Meadow Resort on Minaret Rd. - especially times allowed
- Information on road opening/closure dates
- Better explanation of the bus system and trails - where to obtain the bus tickets and boarding locations
- Specific information about hikes - degree of difficulty, distances, description, and more info about locations.
- Hiking trail options for shuttle stops
- More accurate trail maps
- More hiking maps on websites
- Information on river levels (low-average-high)
- History behind the monument
- How Devils Postpile was formed, both in scientific and layman's terms

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer



### Sources of information to use in planning a future visit

**Question 2b**

On future trips to Devils Postpile National Monument, what sources would you and your group prefer to use to obtain information in planning your visit?

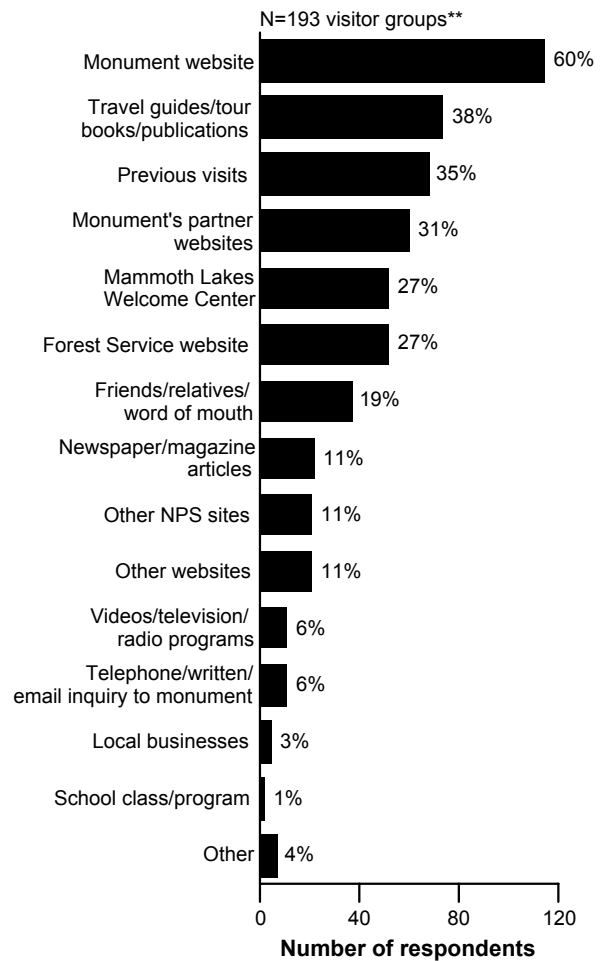
**Results**

- As shown in Figure 22, the most preferred sources of information to use in planning a future visit included:

- 60% Monument website
- 38% Travel guides/tour books/publications
- 35% Previous visits

- “Other” sources of information (4%) included:

- AAA
- Forest Service
- Maps



**Figure 22: Preferred sources of information to use in planning a future visit**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Primary reason for Devils Postpile National Monument area**

**Question 3**

What was your primary reason for visiting the Devils Postpile National Monument area (within 75 miles of the monument)?

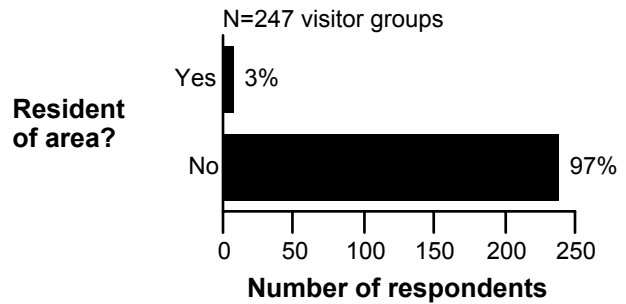
**Results**

- 3% of visitor groups were residents of the local area (see Figure 23).
- As shown in Figure 24, the most common reasons for visiting the Devils Postpile National Monument area were:

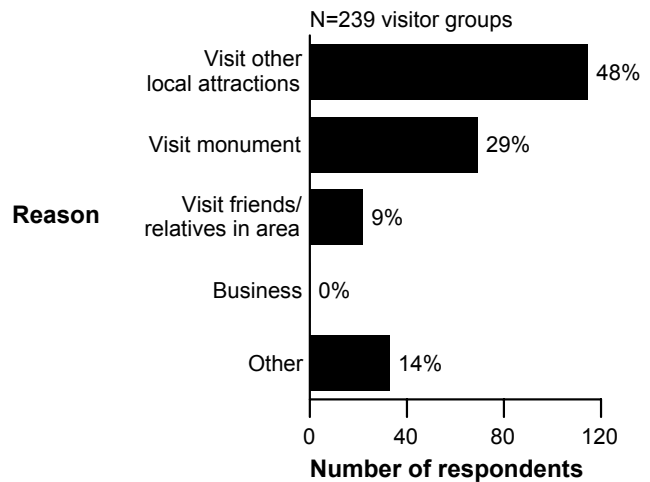
48% Visit other attractions in the area  
29% Visit the monument

- “Other” primary reasons (14%) for visiting included:

- Backpacking and camping
- Dayhiking
- Downhill mountain biking at Mammoth Ski area
- Driving tour of Route 395
- Interested in geology and forests
- Explore new places
- Family reunion
- Fishing
- Fun
- Passing through to another destination
- Vacation



**Figure 23: Resident of the Devils Postpile National Monument area (within 75 miles of the monument)**



**Figure 24: Reason for visiting the Devils Postpile National Monument area (within 75 miles of the monument)**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Places visited in the Devils Postpile National Monument area**

**Question 4**

On this visit to Devils Postpile National Monument, what other places within a 2-hour drive of the monument did you and your group visit?

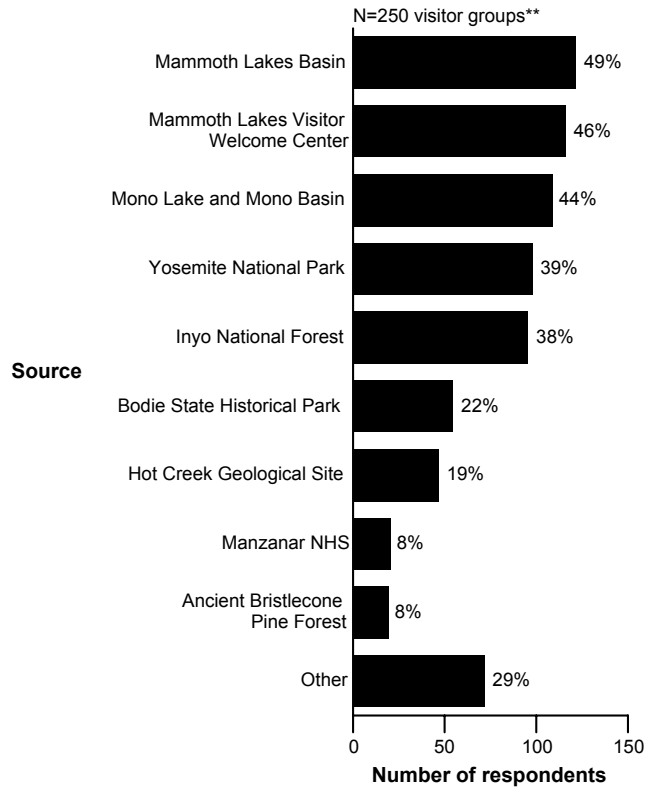
**Results**

- As shown in Figure 25, other places in the area visited included:

- 49% Mammoth Lakes Basin
- 46% Mammoth Lakes Visitor Welcome Center
- 44% Mono Lake and Mono Basin

- “Other” places visited (29%) included:

- Alabama Hills
- Backpacking Duck Pass – McGee Pass
- Big Pine Creek
- Bishop
- Bridgeport
- Convict Lake
- Death Valley
- Earthquake fault
- East Walker River
- Ebbetts Pass area
- Fern Lake
- Grant Lake
- Gull Lake
- John Muir Wilderness
- June Lakes
- Lake Crowley
- Lake Elery
- Lake Mary
- Lake Tahoe
- Little Lakes Valley
- Local hikes & waterfalls
- Lone Pine
- Mammoth Bike Park
- Mammoth Dog Teams
- Mammoth Mountain
- Mount Whitney



**Figure 25: Places visited in the area (within a 2-hour drive of the monument)**

“Other” places visited continued:

- Owens River
- Rock Creek
- Saddlebag Lake
- Starkweather Lake Trail
- Tioga Pass area
- Twin Lakes
- Virginia Lake
- Whitmore Hot Springs

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Adequacy of directional signs**

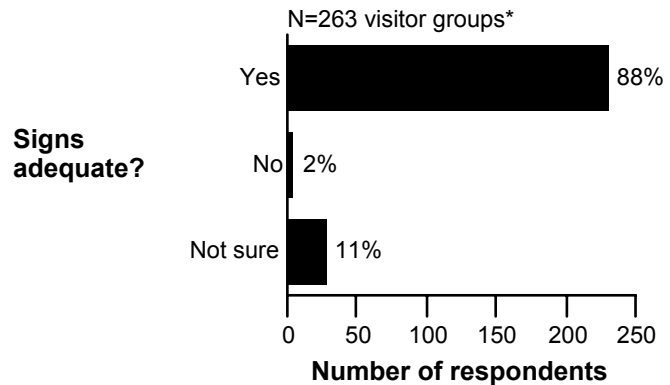
**Question 7a**

Were the signs directing you to sites at Devils Postpile National Monument adequate?

Signs on state highways

**Results**

- 88% of visitor groups reported directional signs on state highways were adequate (see Figure 26).

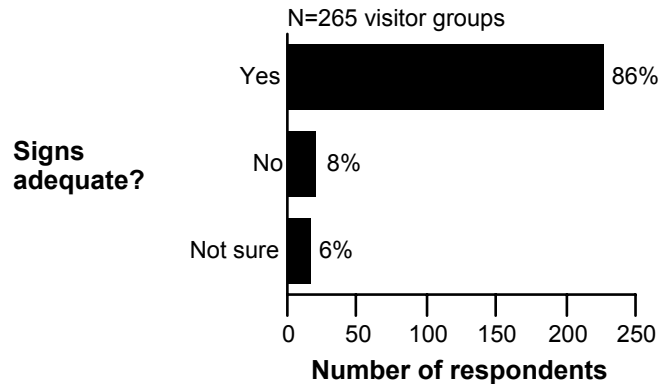


**Figure 26: Adequacy of directional signs on state highways**

Signs through Mammoth Lakes to shuttle bus departure area

**Results**

- 86% of visitor groups reported directional signs through Mammoth Lakes to shuttle bus departure area were adequate (see Figure 27).

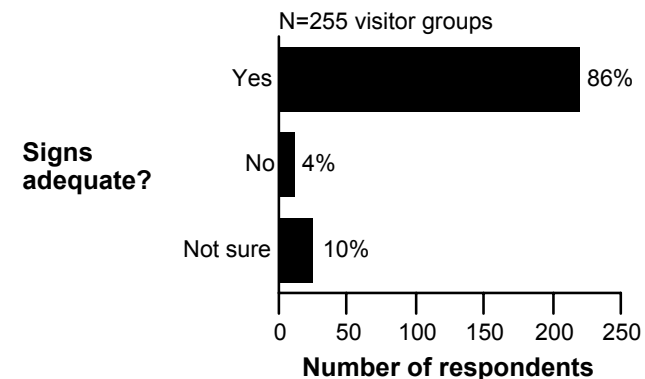


**Figure 27: Adequacy of directional signs through Mammoth Lakes to shuttle bus departure area**

Signs from shuttle bus departure area through the valley to the monument (via Minaret Vista Check Station)

**Results**

- 86% of visitor groups reported directional signs from shuttle bus departure area through the valley to the monument were adequate (see Figure 28).



**Figure 28: Adequacy of directional signs from shuttle bus departure area through the valley to the monument (via Minaret Vista Check Station)**

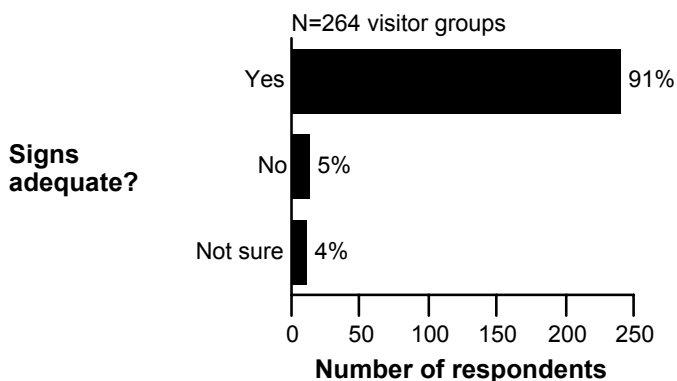
\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

Signs inside the monument

Results

- 91% of visitor groups reported directional signs inside the monument were adequate (see Figure 29).



**Figure 29: Adequacy of directional signs inside the monument**

Question 7b

If NO, please explain the problem.

Results - **Interpret with CAUTION!**

- Not enough visitor groups responded to this question to provide reliable data.
- Problems with directional signs reported by visitor groups (N=25) included:

John Muir Trail to monument not marked  
 Maps at hiking trailhead would be nice  
 Need more signs: direction, departure/pick-up, ticket office  
 The hike from Rainbow Falls to Postpile is not very clear on how long the hike is  
 There are not enough signs along the trail way  
 More signs for distance  
 Trail signs should be better marked and maps should provide level of difficulty for hikes  
 Confusion about how and where to catch the shuttle  
 Not clear that there was a shuttle, where to park, and where to buy tickets  
 Some of the stops were not well indicated  
 We saw the shuttle bus announcements but did not know where it would go and what was the advantage for us

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

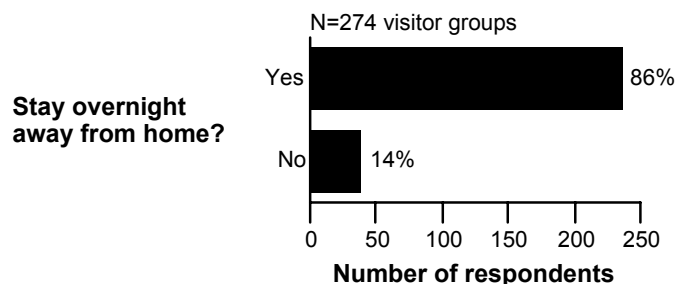
**Overnight accommodations**

**Question 5a**

On this trip, did you and your group stay overnight away from home in the Devils Postpile National Monument/Mammoth Lakes area (within 75 miles of the monument)?

**Results**

- 86% of visitor groups stayed overnight away from home in the Devils Postpile National Monument/Mammoth Lakes area (see Figure 30).



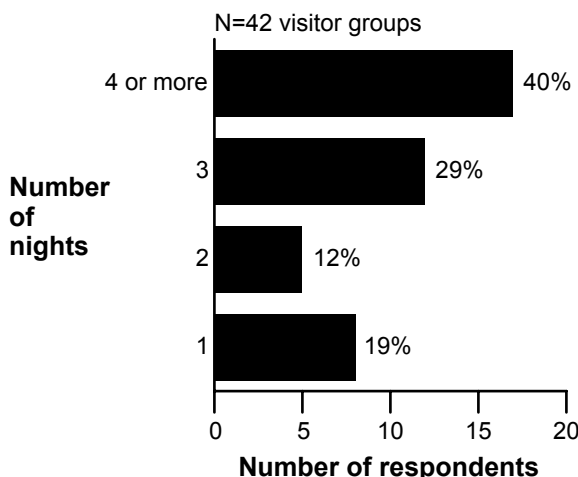
**Figure 30: Visitor groups that stayed Overnight away from home in the Devils Postpile National Monument/Mammoth Lakes area**

**Question 5b**

Please list the number of nights you and your group stayed inside the monument.

**Results**

- 40% of visitor groups spent four or more nights inside the monument (see Figure 31).
- 29% spent three nights.



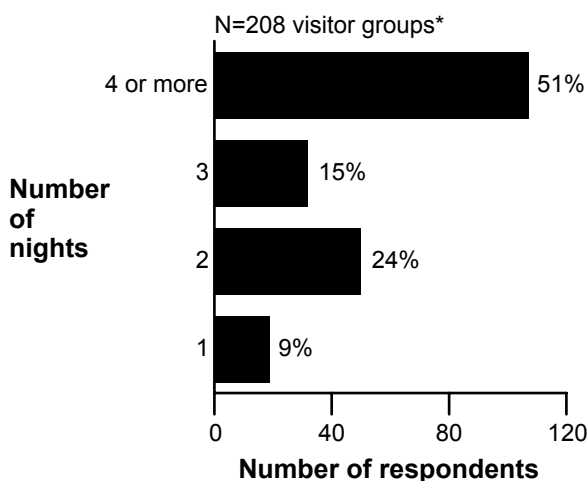
**Figure 31: Number of nights inside the monument**

**Question 5b**

Please list the number of nights you and your group stayed in the Devils Postpile National Monument/Mammoth Lakes area (within 75 miles of the monument).

**Results**

- 51% of visitor groups spent four or more nights in the Devils Postpile National Monument/Mammoth Lakes area (see Figure 32).
- 24% spent two nights.



**Figure 32: Number of nights in the Devils Postpile National Monument/Mammoth Lakes area**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

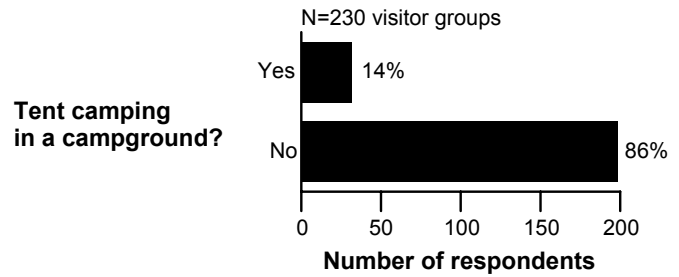
**Question 5c**

In what type of lodging did you and your group spend the night inside the monument?

Note: Tent camping in a campground was the only type of lodging available in the park.

**Results**

- 14% of visitor groups camped in a tent in a campground inside the monument (see Figure 33).



**Figure 33: Type of lodging visitor groups used inside the monument**

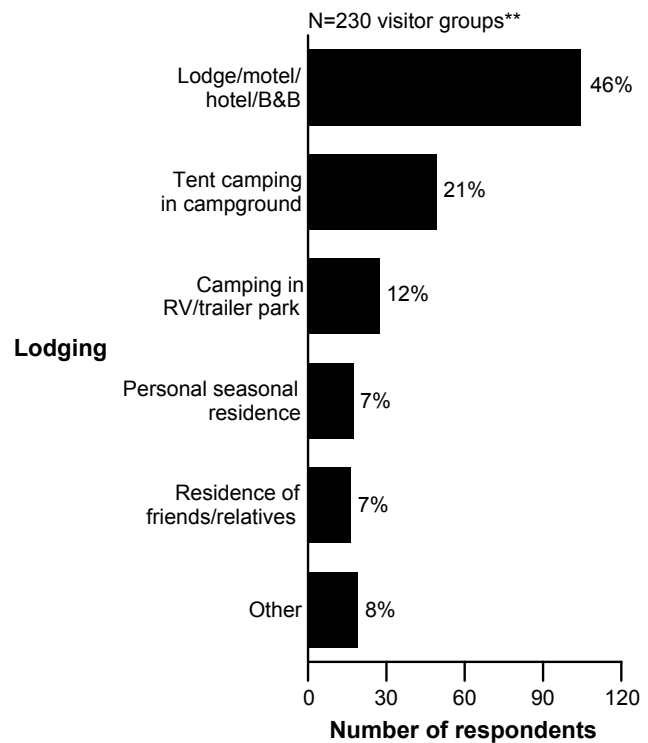
**Question 5c**

In what type of lodging did you and your group spend the night in the Devils Postpile National Monument/Mammoth Lakes area (within 75 miles of the monument)?

**Results**

- 46% of visitor groups stayed in lodges, motels, hotels, bed & breakfasts, etc. (see Figure 34).
- 21% camped in a tent in a campground.
- “Other” types of lodging (8%) included:

Condominium  
Backpacking in a tent (not in a campground)



**Figure 34: Type of lodging visitor groups used in the Devils Postpile National Monument/Mammoth Lakes area (within 75 miles of the monument)**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

### Length of visit

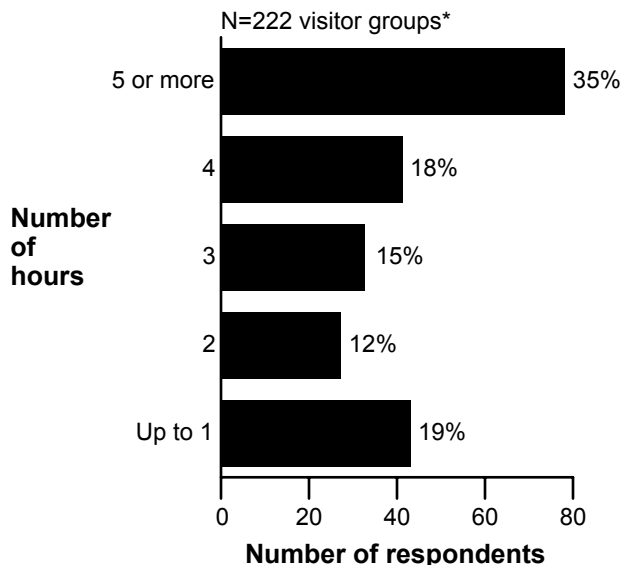
**Question 10**

On this visit, how long did you and your group spend at Devils Postpile National Monument? (Please list partial hours/days as 1/4, 1/2, or 3/4.)

Number of hours, if less than 24 hours

**Results**

- 35% of visitor groups spent five or more hours at the monument (see Figure 35).
- 33% spent three or four hours.
- 31% spent up to two hours.
- The average length of stay for visitors who spent less than 24 hours in the monument was four hours.

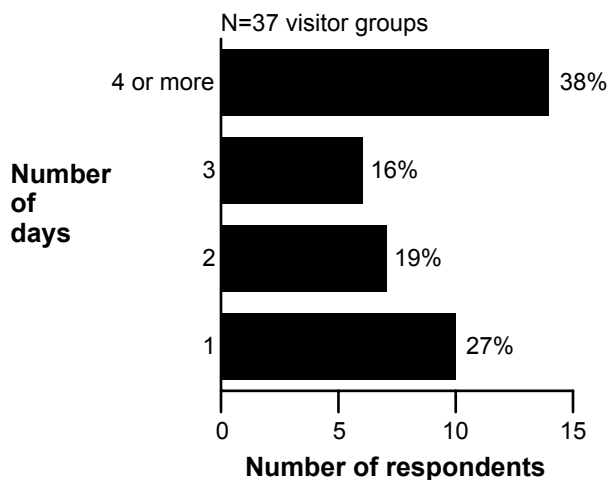


**Figure 35: Number of hours visiting the monument**

Number of days, if 24 hours or more

**Results**

- 38% of visitor groups spent four or more days at the monument (see Figure 36).
- 35% spent two or three days.
- 27% spent one day.
- The average length of stay for visitors who spent 24 hours or more in the monument was three days.



**Figure 36: Number of days visiting the monument**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer



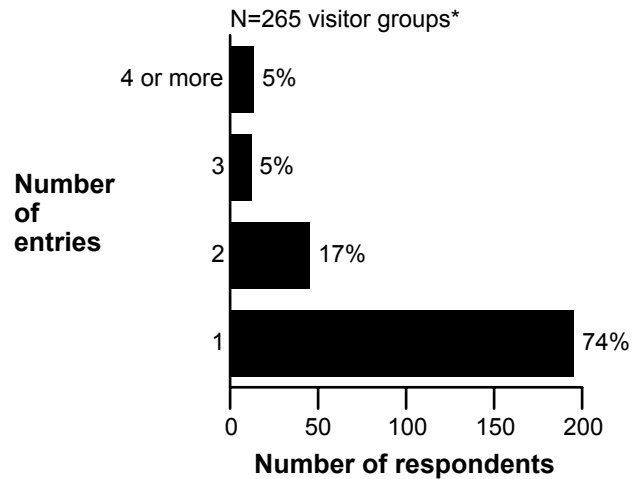
**Number of entries into the monument**

**Question 11**

On this visit, how many times did you and your group enter Devils Postpile National Monument?

**Results**

- 74% of visitor groups entered the monument once (see Figure 37).
- 17% entered the monument twice.



**Figure 37: Number of entries into the monument**

**Sites visited**

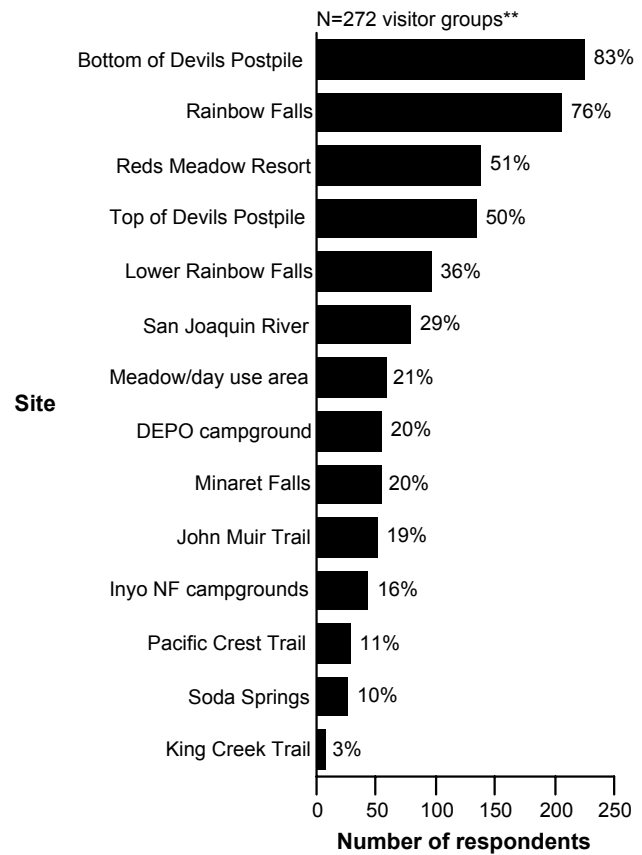
**Question 8**

During this visit to Devils Postpile National Monument, which of the following sites did you and your group visit?

**Results**

- As shown in Figure 38, the most commonly visited sites were:

- 83% Bottom of Devils Postpile
- 76% Rainbow Falls
- 51% Reds Meadow Resort
- 50% Top of Devils Postpile



**Figure 38: Sites visited**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

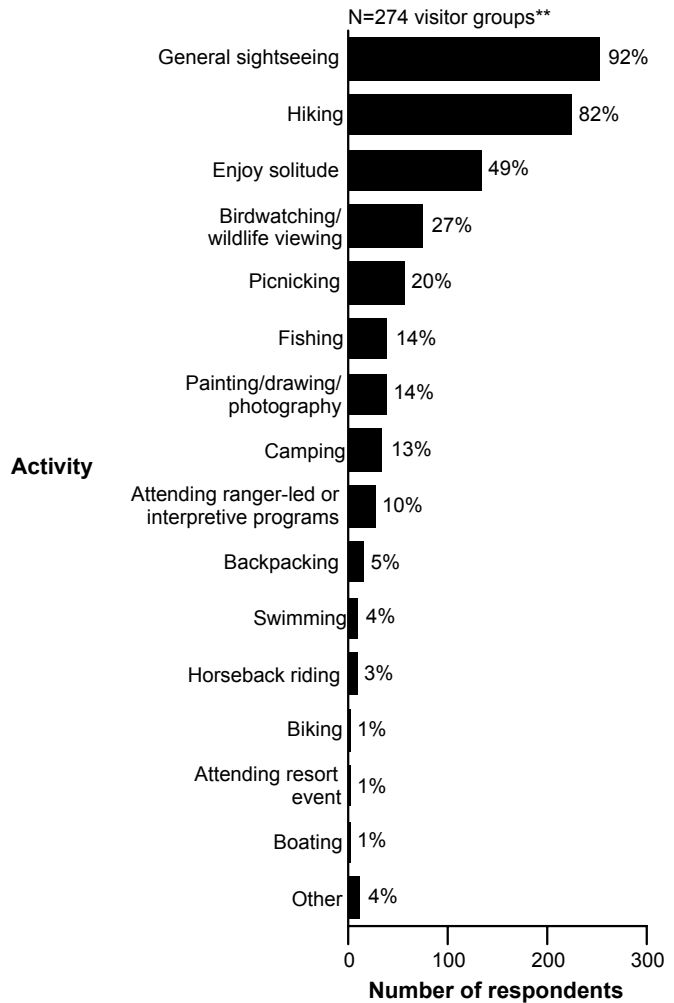
**Activities inside the monument**

**Question 9a**

On this visit, what activities did you and your group participate in while inside Devils Postpile National Monument?

**Results**

- As shown in Figure 39, the most common activities inside the monument were:
  - 92% General sightseeing
  - 82% Hiking
  - 49% Enjoy solitude
- “Other” activities (4%) included:
  - Junior Ranger program
  - Visit Mammoth Mountain summit



**Figure 39: Activities inside the monument**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Activities inside the Reds Meadow Valley area**

**Question 9b**

On this visit, what activities did you and your group participate in while visiting Reds Meadow Valley area?

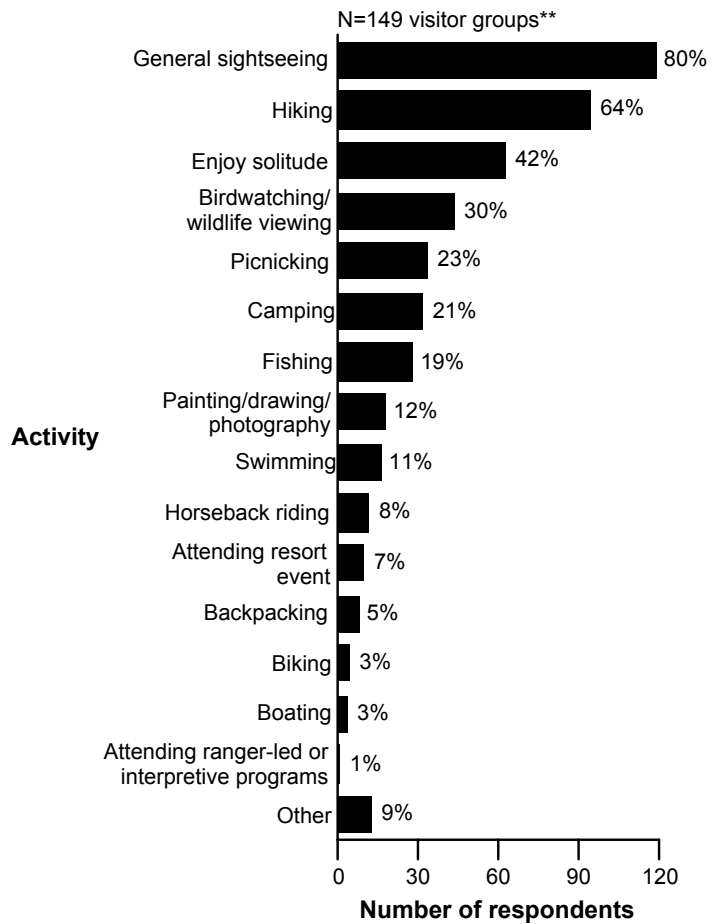
**Results**

- As shown in Figure 40, the most common activities inside the Reds Meadow Valley area were:

- 80% General sightseeing
- 64% Hiking
- 42% Enjoy solitude

- “Other” activities (9%) included:

- Attend Mass at St. Josephs
- Eat lunch
- Look at horses
- Motorcycle riding
- Golfing
- Running
- Relaxing
- Shopping



**Figure 40: Activities inside the Reds Meadow Valley area**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

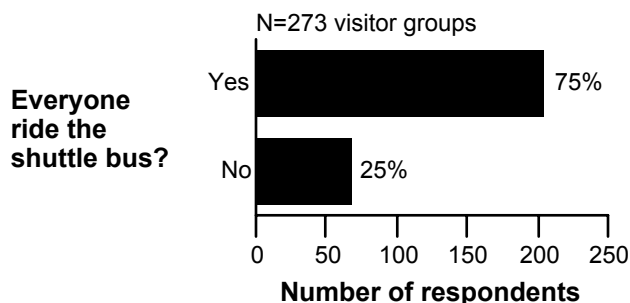
### Visitors who rode shuttle bus into monument

**Question 6a**

On this visit to Devils Postpile National Monument, did everyone in your group ride the shuttle bus into the monument?

**Results**

- 75% of visitor groups rode the shuttle bus into the monument (see Figure 41).



**Figure 41: Visitors who rode the shuttle bus into the monument**

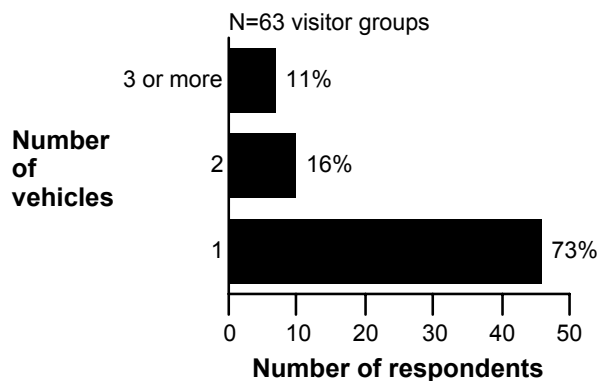
### Number of vehicles

**Question 6b**

If NO, how many vehicles did you and your group use to drive into the monument?

**Results**

- 73% of visitor groups used one vehicle to enter the monument (see Figure 42).



**Figure 42: Number of vehicles used to enter the monument**

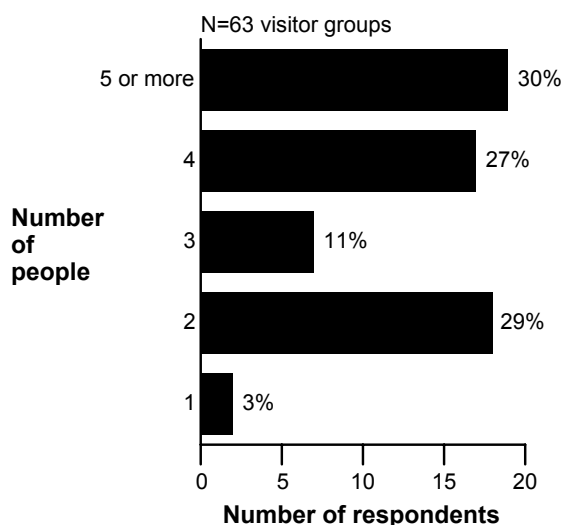
### Number of people in vehicles

**Question 6c**

How many people in total were in the vehicles?

**Results**

- 30% of visitor groups had five or more people per vehicle (see Figure 43).
- 29% had two people.
- 27% had four people.



**Figure 43: Number of people in vehicles**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

## Ratings of Visitor Services, Facilities, Elements, Attributes and Resources

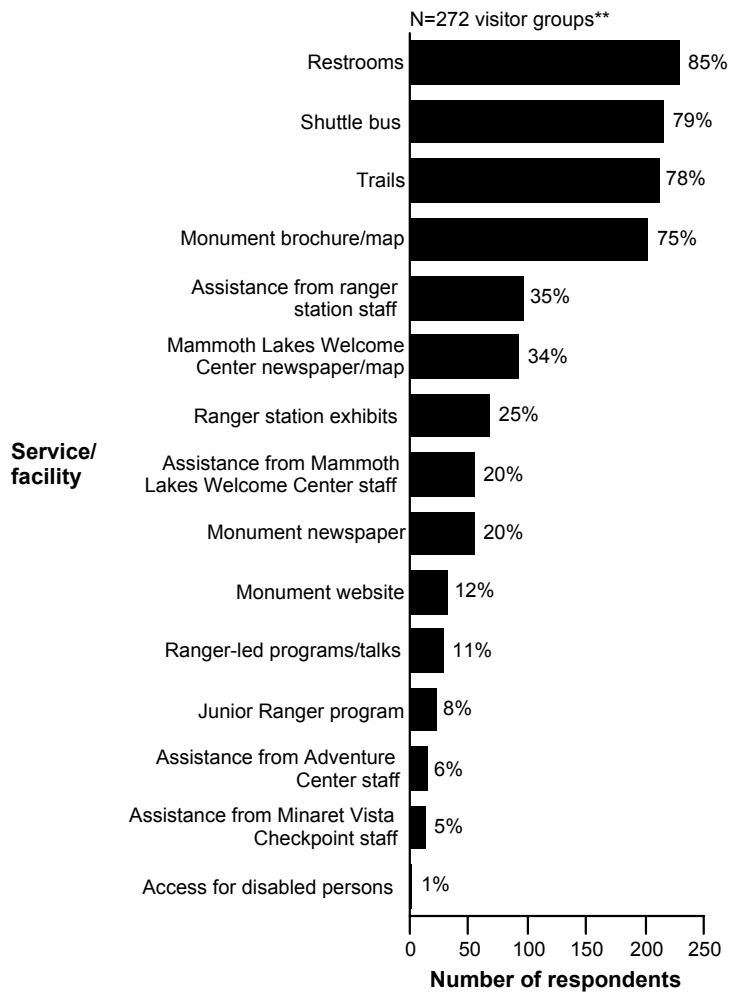
### Visitor services and facilities used

**Question 12a**

Please indicate all of the visitor services and facilities that you and your group used during this visit to Devils Postpile National Monument.

**Results**

- As shown in Figure 44, the most used visitor services and facilities included:
  - 85% Restrooms
  - 79% Shuttle bus
  - 78% Trails
  - 75% Monument brochure/map
- The least used service and facility was:
  - 1% Access for disabled persons



**Figure 44: Visitor services and facilities used**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

### Importance ratings of visitor services and facilities

**Question 12b**

For only those services that you or your group used, please rate their importance from 1 to 5.

- 1=Not important
- 2=Somewhat important
- 3=Moderately important
- 4=Very important
- 5=Extremely important

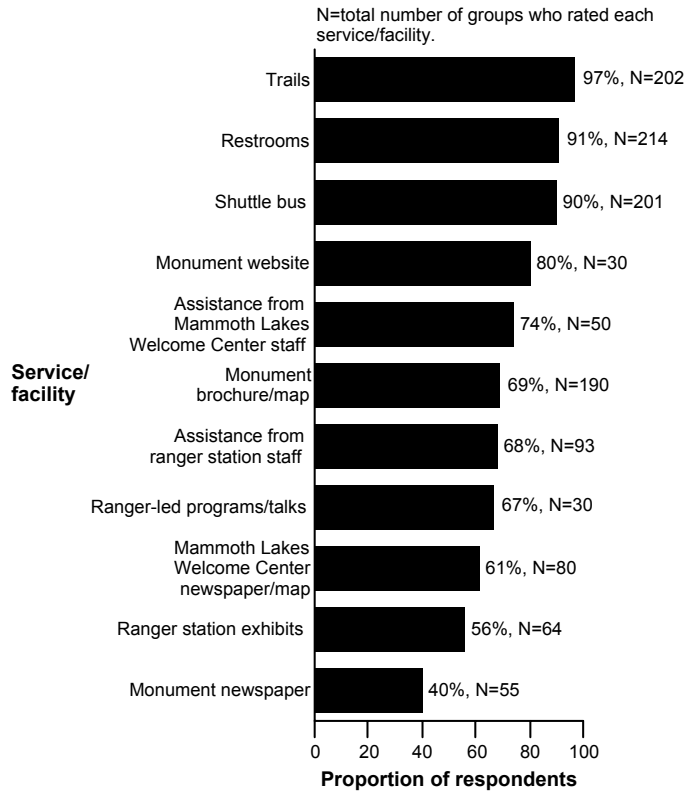
**Results**

- Figure 45 shows the combined proportions of “extremely important” and “very important” ratings for visitor services and facilities that were rated by 30 or more visitor groups.
- The services/facilities receiving the highest combined proportions of “extremely important” and “very important” ratings were:

- 97% Trails
- 91% Restrooms
- 90% Shuttle bus

- Figures 46 to 60 show the importance ratings for each service/facility.
- The service/facility receiving the highest “not important” rating was:

- 7% Importance of monument newspaper



**Figure 45: Combined proportions of “extremely important” and “very important” ratings for visitor services and facilities**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

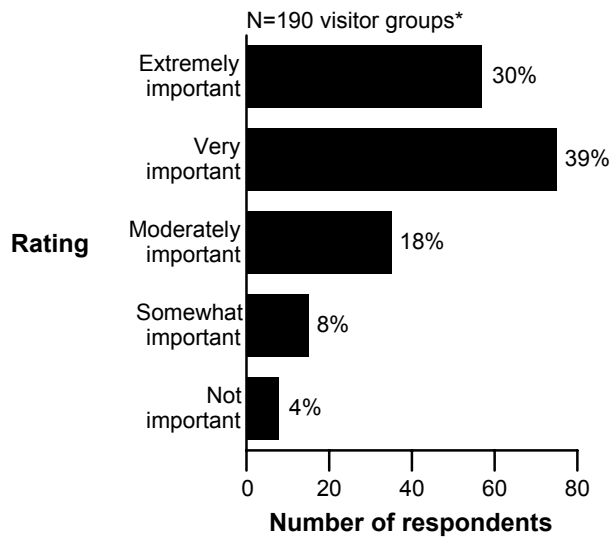


Figure 46: Importance of monument brochure/map

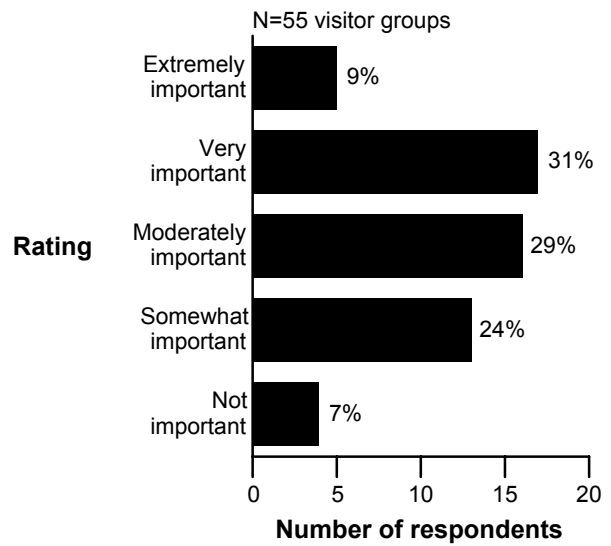


Figure 47: Importance of monument newspaper

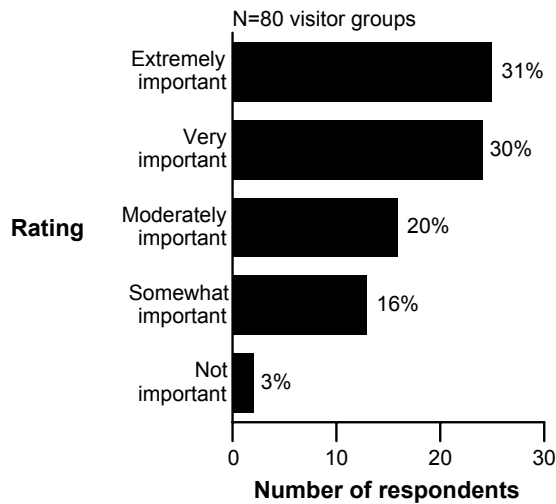


Figure 48: Importance of Mammoth Lakes Welcome Center newspaper/map

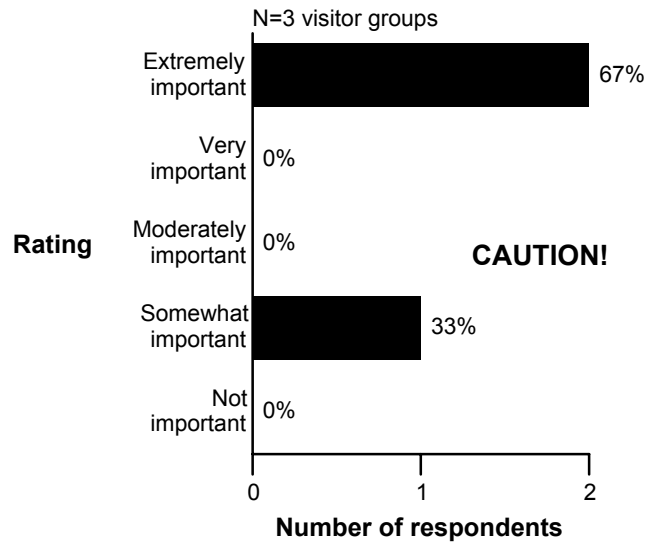


Figure 49: Importance of access for disabled persons

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

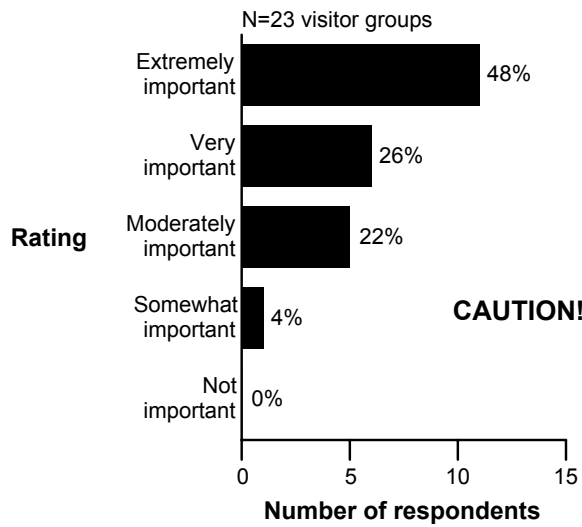


Figure 50: Importance of Junior Ranger program

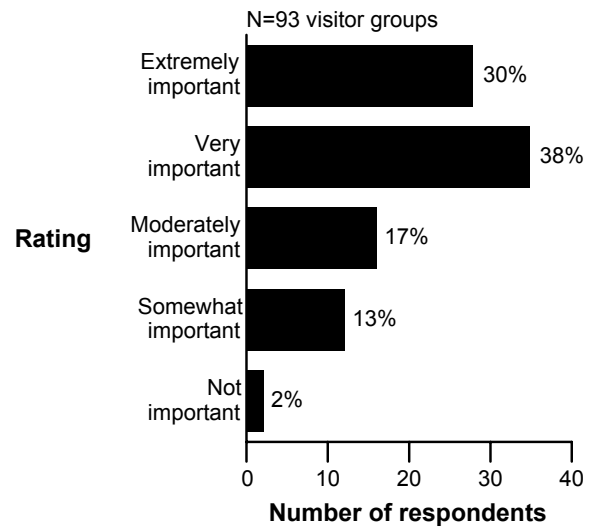


Figure 51: Importance of assistance from ranger station staff

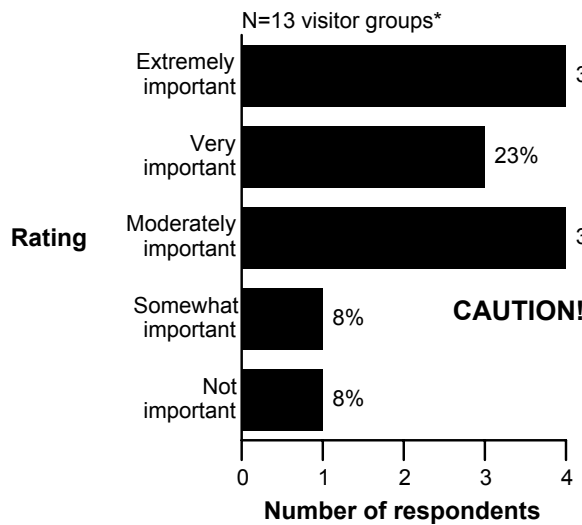


Figure 52: Importance of Minaret Vista checkpoint staff

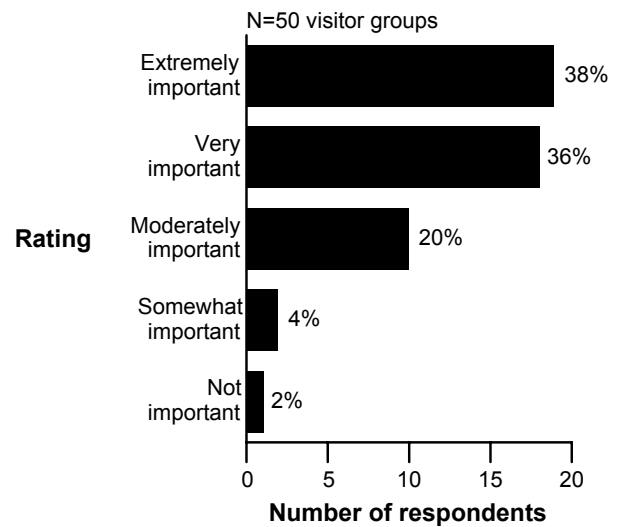


Figure 53: Importance of assistance from Mammoth Lakes Welcome Center staff

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer



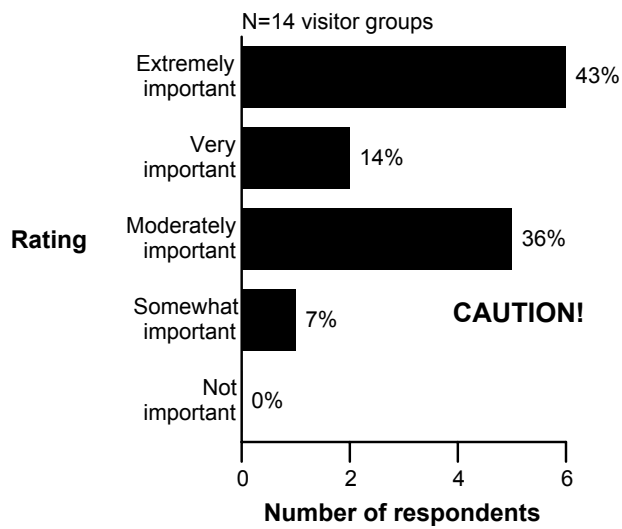


Figure 54: Importance of assistance from Adventure Center staff

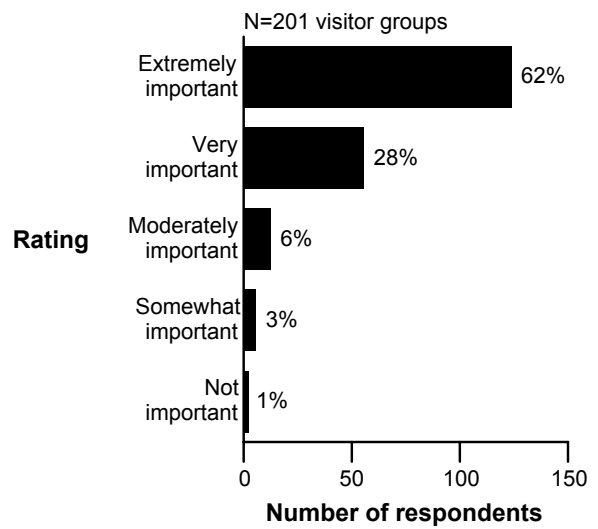


Figure 55: Importance of shuttle bus

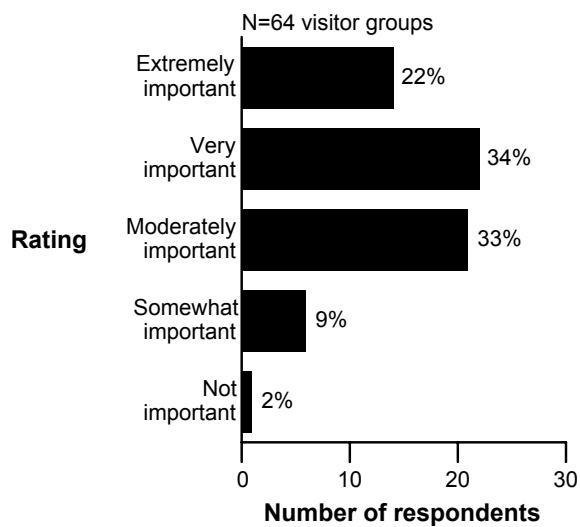


Figure 56: Importance of ranger station exhibits

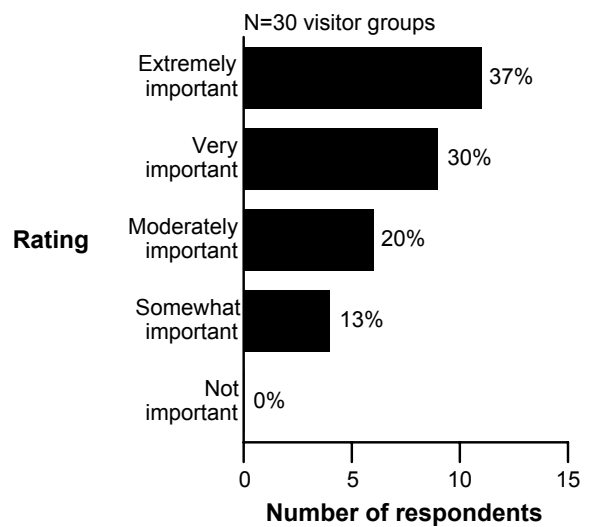


Figure 57: Importance of ranger-led programs/talks

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

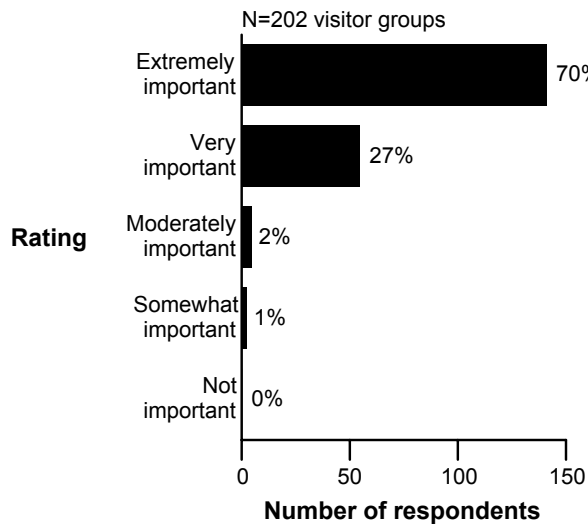


Figure 58: Importance of trails

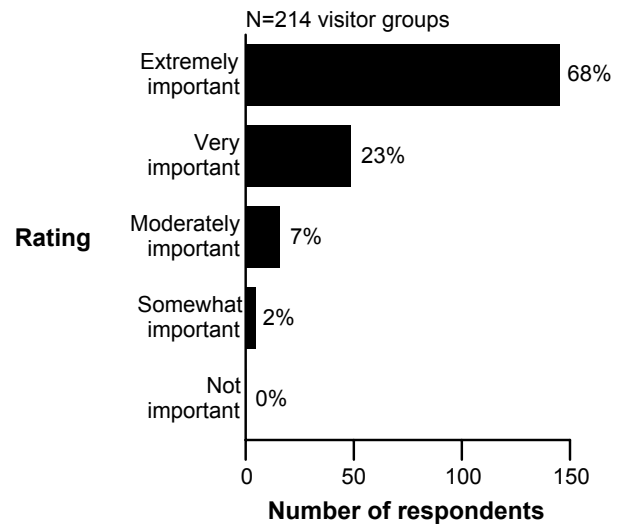


Figure 59: Importance of restrooms

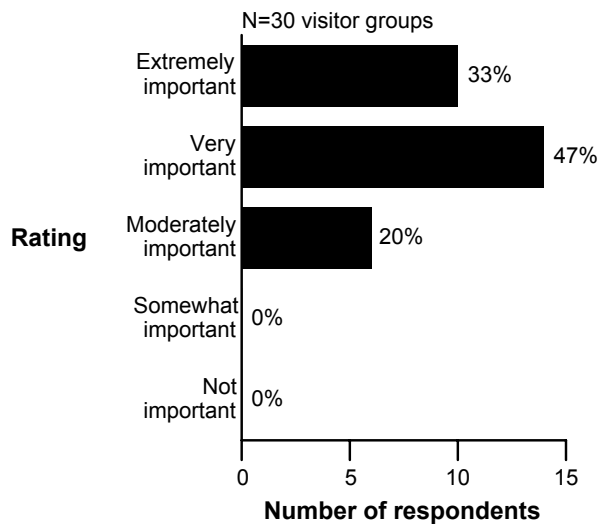


Figure 60: Importance of monument website

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

### Quality ratings of visitor services and facilities

**Question 12c**

Finally, for only those services and facilities that you and your group used, please rate their quality from 1-5.

- 1=Very poor
- 2=Poor
- 3=Average
- 4=Good
- 5=Very good

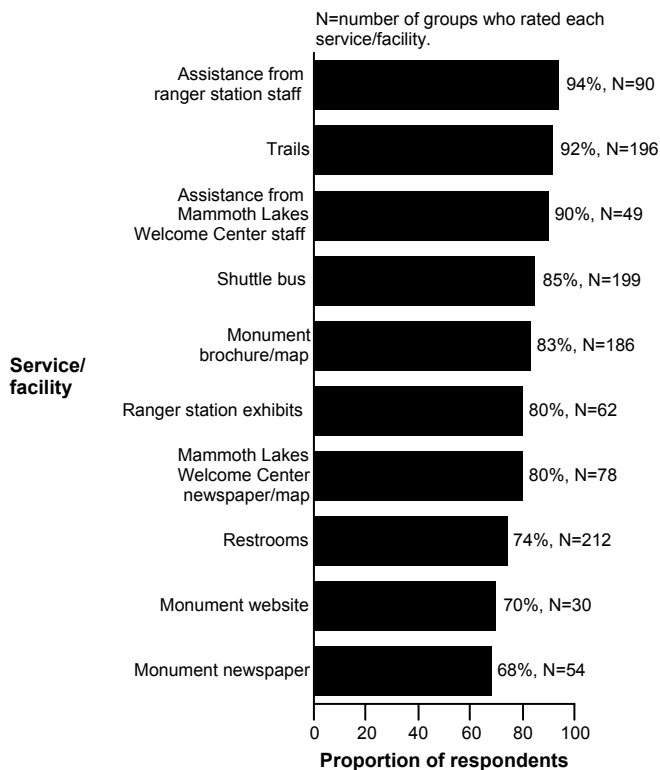
**Results**

- Figure 61 shows the combined proportions of “very good” and “good” quality ratings for visitor services and facilities that were rated by 30 or more visitor groups.
- The services/facilities that received the highest combined proportions of “very good” and “good” quality ratings were:

- 94% Assistance from ranger station staff
- 92% Trails
- 90% Assistance from Mammoth Lakes Welcome Center staff

- Figures 62 to 76 show the quality ratings for each service/facility.
- The services/facilities receiving the highest “very poor” quality ratings were:

- 2% Assistance from ranger station staff
- 2% Assistance from Mammoth Lakes Welcome Center staff
- 2% Ranger station exhibits
- 2% Restrooms



**Figure 61: Combined proportions of “very good” and “good” quality ratings for visitor services and facilities**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

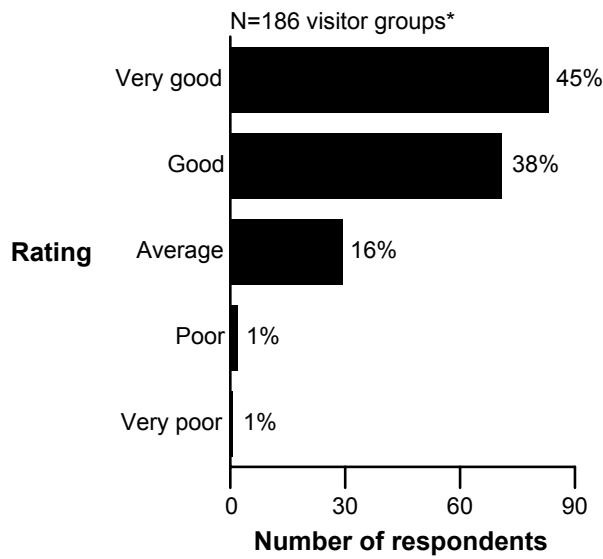


Figure 62: Quality of monument brochure/ map

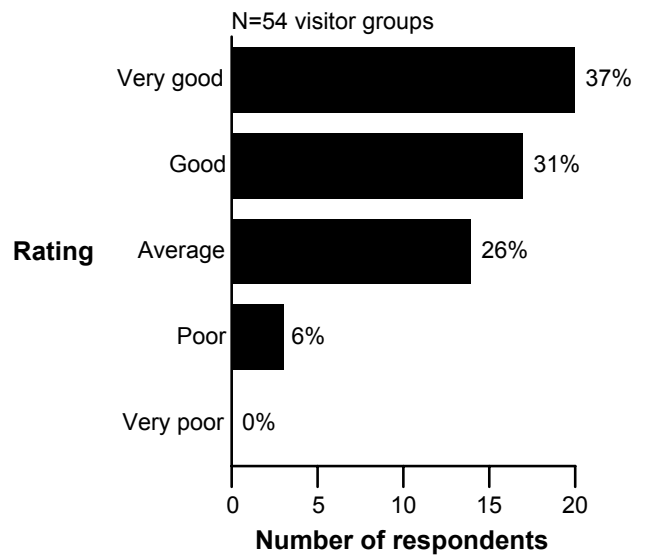


Figure 63: Quality of monument newspaper

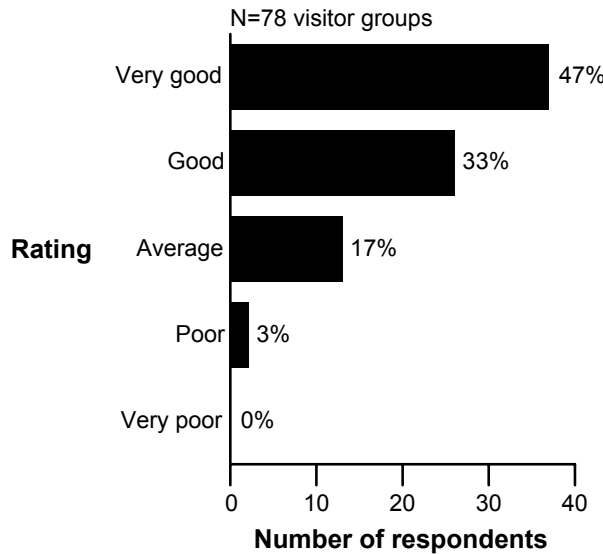


Figure 64: Quality of Mammoth Lakes Welcome Center newspaper/map

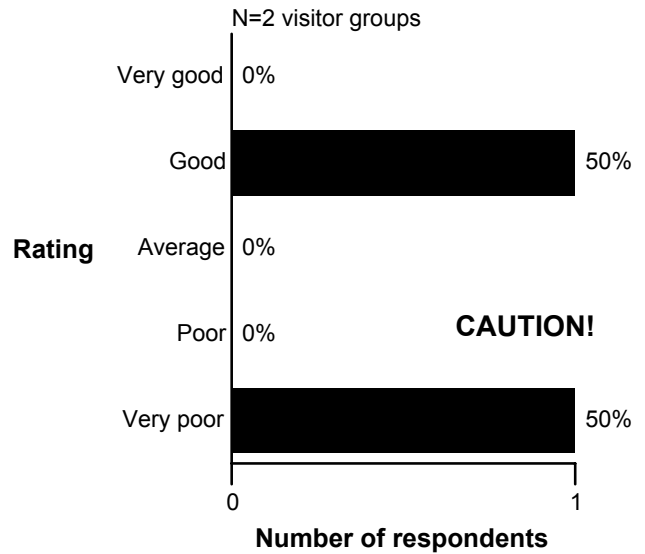


Figure 65: Quality of access for disabled persons

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

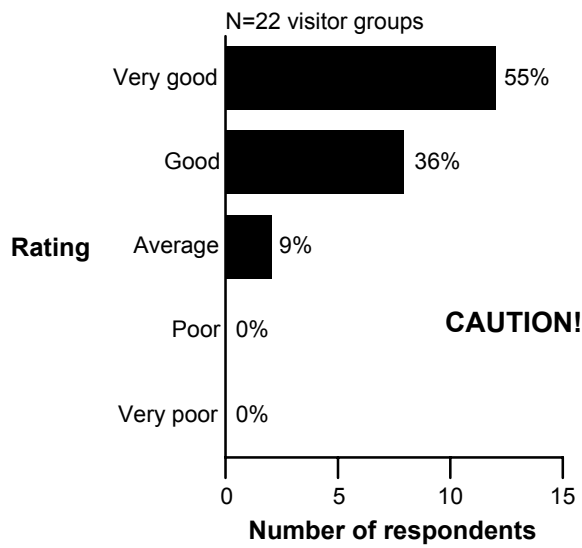


Figure 66: Quality of Junior Ranger program

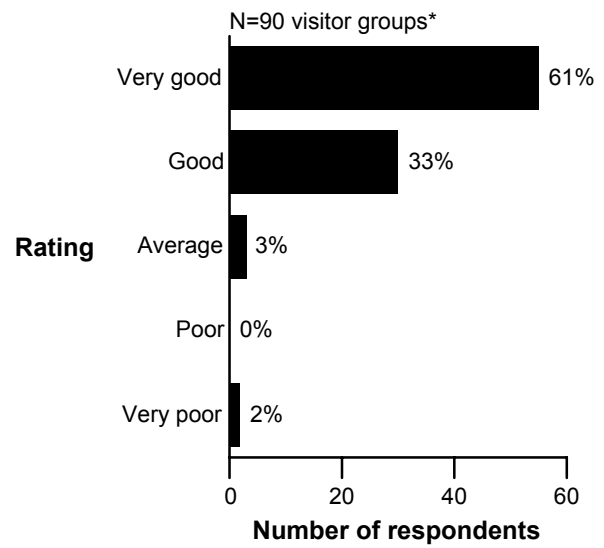


Figure 67: Quality of assistance from ranger station staff

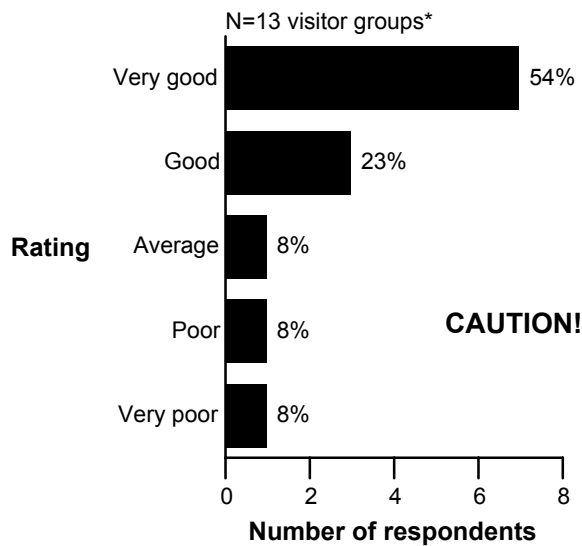


Figure 68: Quality of assistance from Minaret Vista checkpoint staff

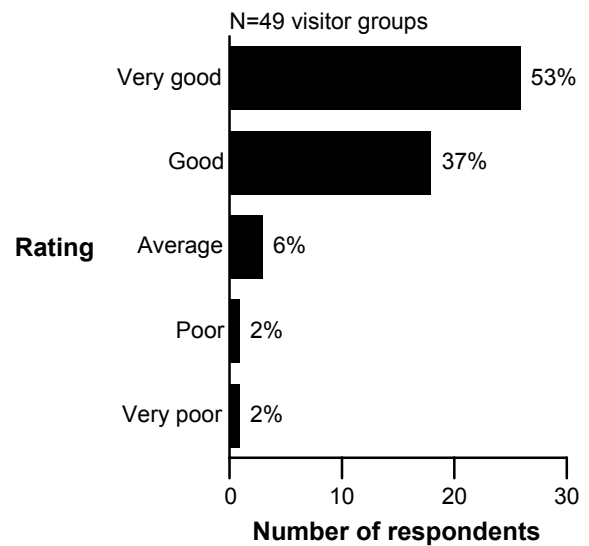


Figure 69: Quality of assistance from Mammoth Lakes Welcome Center staff

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

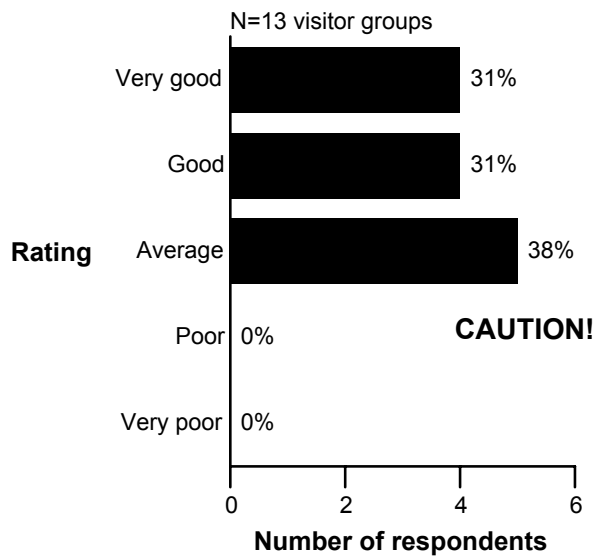


Figure 70: Quality of assistance from Adventure Center staff

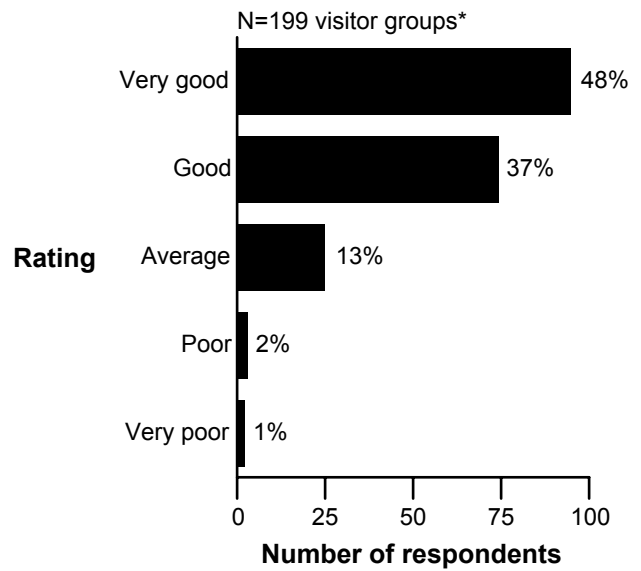


Figure 71: Quality of shuttle bus

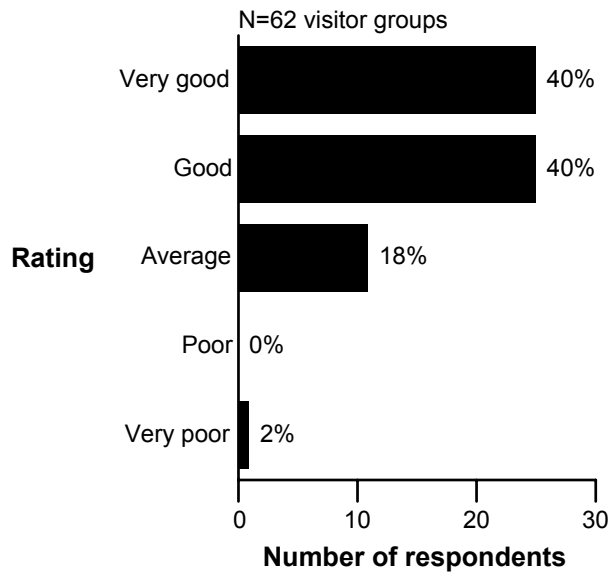


Figure 72: Quality of ranger station exhibits

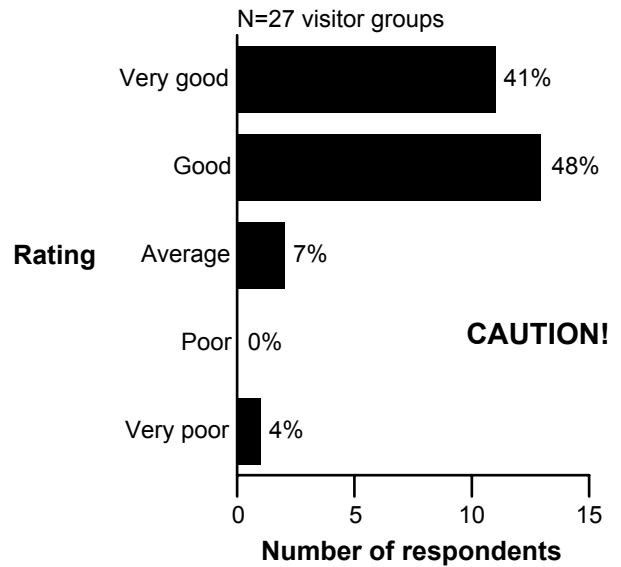


Figure 73: Quality of ranger-led programs/talks

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

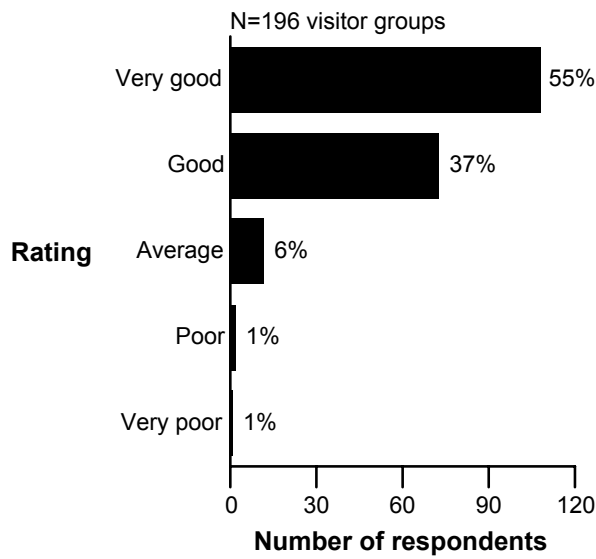


Figure 74: Quality of trails

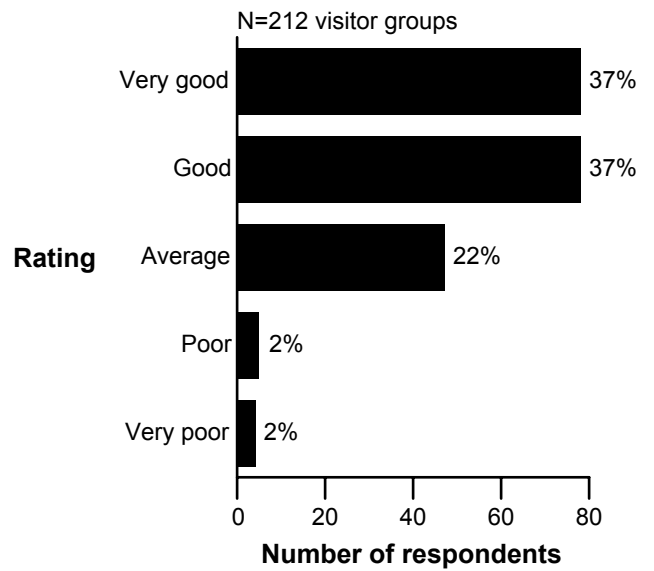


Figure 75: Quality of restrooms

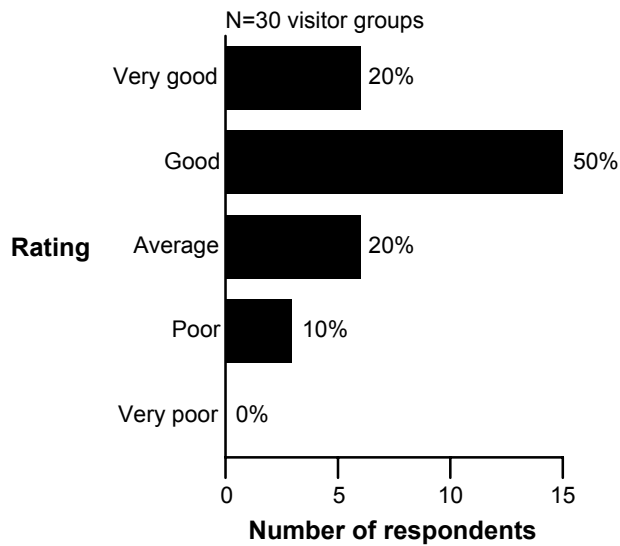


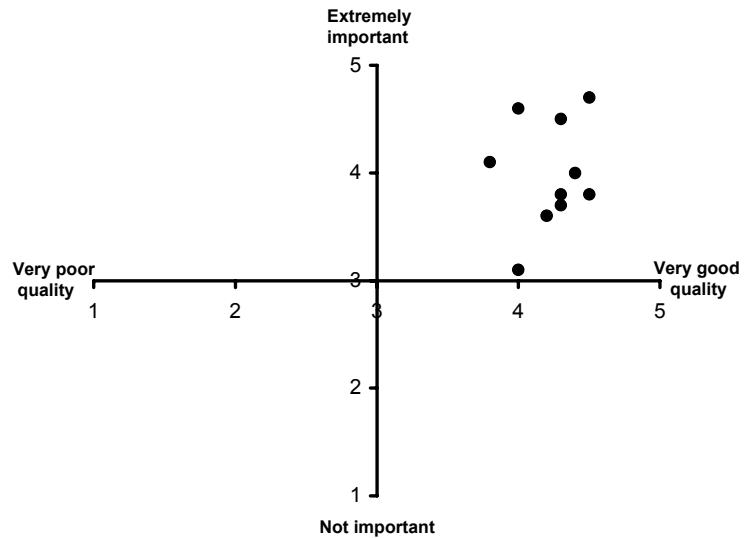
Figure 76: Quality of monument website

\*total percentages do not equal 100 due to rounding

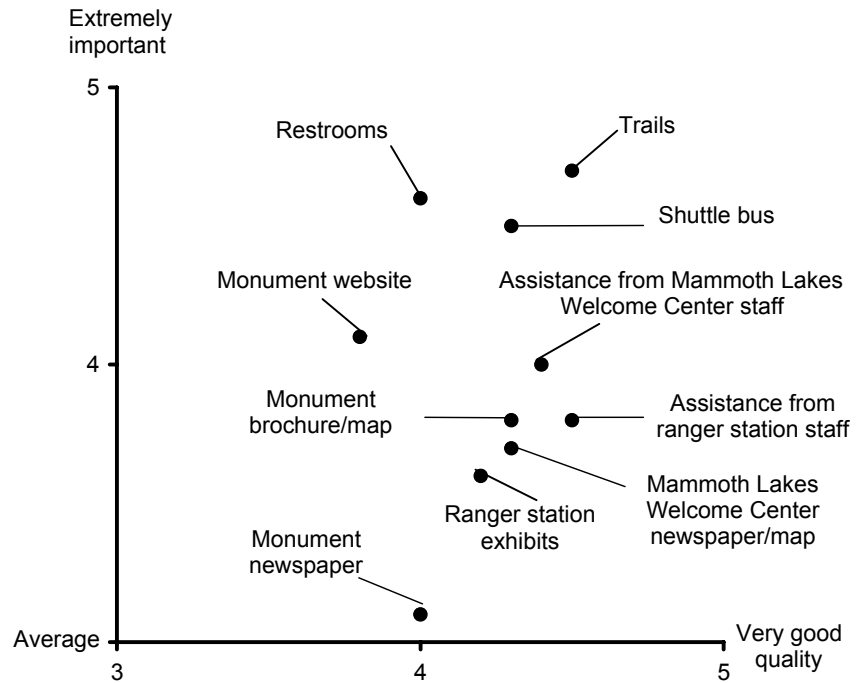
\*\*total percentages do not equal 100 because visitors could select more than one answer

**Mean scores of importance and quality ratings**

- Figures 77 and 78 show the mean scores of importance and quality ratings for all visitor services and facilities that were rated by 30 or more visitor groups.
- All visitor services and facilities were rated above average in importance and quality.



**Figure 77: Mean scores of importance and quality ratings for visitor services and facilities**



**Figure 78: Details of Figure 77**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer



### Importance of protection of monument attributes/resources

**Question 24**

It is the National Park Service's responsibility to protect Devils Postpile National Monument's natural, scenic, and cultural resources, while at the same time providing for public enjoyment. Choose five items from the list below that were the most important to you and your group during your visit to Devils Postpile, and rank them from 1-5 (1=Most important and 5= Fifth in importance).

NOTE: The results showed that 52 out of 226 respondents (23%) used the scale incorrectly, despite the instructions. Mistakes were made in three ways:

- 1) respondents selected more than 5 items to rank;
- 2) respondents repeated rankings (e.g., 1, 1, 2, 2, 3) instead of rank-ordering; and
- 3) respondents put a check mark instead of a number in respective boxes. Some respondents also made a combination of the above mistakes.

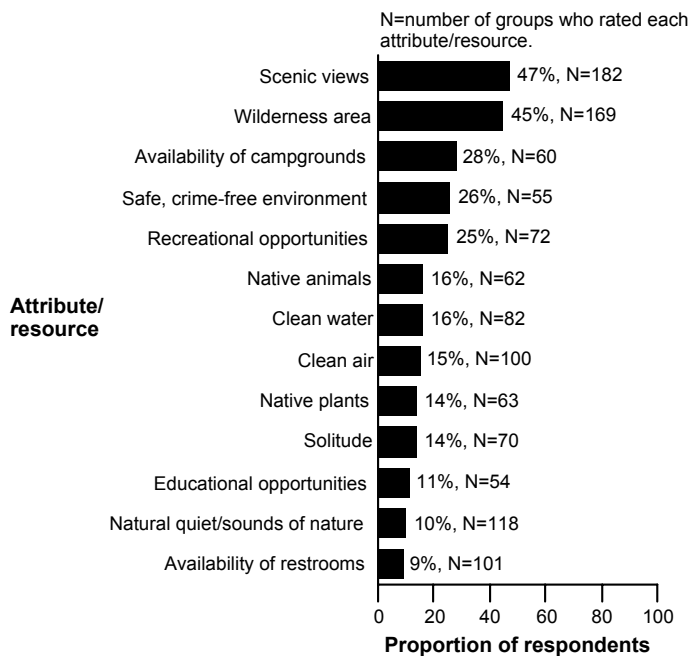
**Results**

- As shown in Figure 79 and Table 6, the monument attributes and resources that were rated “most important” included:

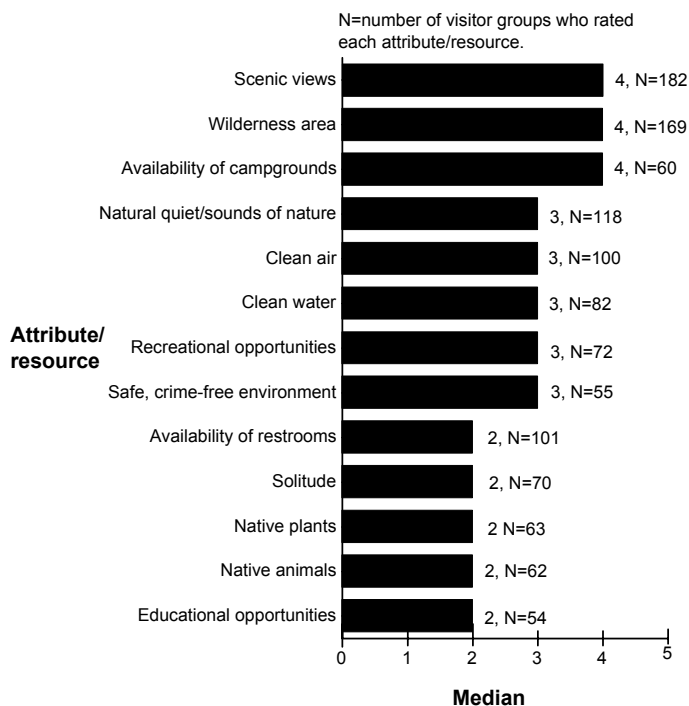
47% Scenic views  
45% Wilderness area

- Figure 80 shows the median (50% of groups rated more and 50% rated less) of the importance of the benefits of the current shuttle system. The benefits with the highest medians were:

4 Scenic views  
4 Wilderness area  
4 Availability of campgrounds



**Figure 79: Proportions of visitors who rated the importance of monument attributes/resources**



**Figure 80: Medians of importance of monument attributes/resources**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Table 6: Importance of protection of monument attributes/resources\***

N=number of visitor groups who rated each attribute/resource.

| Attribute/resource                | N   | Not<br>rated | Median | Rating (%)        |     |     |     |                      |
|-----------------------------------|-----|--------------|--------|-------------------|-----|-----|-----|----------------------|
|                                   |     |              |        | Most<br>important | 2nd | 3rd | 4th | 5th in<br>importance |
| Wilderness area                   | 169 | 57           | 4      | 45                | 20  | 18  | 10  | 8                    |
| Clean air                         | 100 | 126          | 3      | 15                | 31  | 21  | 18  | 15                   |
| Clean water                       | 82  | 144          | 3      | 16                | 15  | 27  | 23  | 20                   |
| Availability of campgrounds       | 60  | 166          | 4      | 28                | 23  | 17  | 7   | 25                   |
| Availability of restrooms         | 101 | 125          | 2      | 9                 | 17  | 14  | 27  | 34                   |
| Safe, crime-free<br>environment   | 55  | 171          | 3      | 26                | 9   | 22  | 22  | 22                   |
| Scenic views                      | 182 | 44           | 4      | 47                | 19  | 15  | 10  | 8                    |
| Solitude                          | 70  | 156          | 2      | 14                | 16  | 19  | 26  | 26                   |
| Native plants                     | 63  | 163          | 2      | 14                | 14  | 16  | 27  | 29                   |
| Native animals                    | 62  | 164          | 2      | 16                | 10  | 19  | 32  | 23                   |
| Recreational opportunities        | 72  | 154          | 3      | 25                | 22  | 21  | 11  | 21                   |
| Educational opportunities         | 54  | 172          | 2      | 11                | 26  | 7   | 17  | 39                   |
| Natural quiet/sounds of<br>nature | 118 | 108          | 3      | 10                | 17  | 26  | 25  | 21                   |

\*total percentages do not equal 100 due to rounding

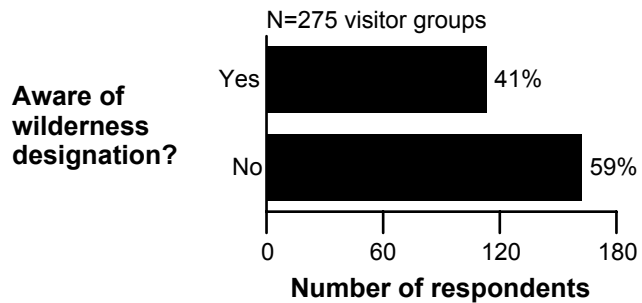
\*\*total percentages do not equal 100 because visitors could select more than one answer

### Wilderness Area

#### Visitor awareness of wilderness designation in the monument

**Question 21a**

Devils Postpile National Monument provides hiking access to the High Sierra backcountry and Ansel Adams and John Muir Wilderness areas. Over 90% of the monument is designated wilderness area. Prior to this visit to the monument, were you aware of this fact?



**Results**

- 59% of visitor groups were not aware of the wilderness designation (see Figure 81).
- 41% were aware.

**Figure 81: Awareness of wilderness designation in the monument**

#### Visitor awareness of wilderness area values

**Question 21b**

Prior to this visit, were you aware of the following values of a wilderness area?

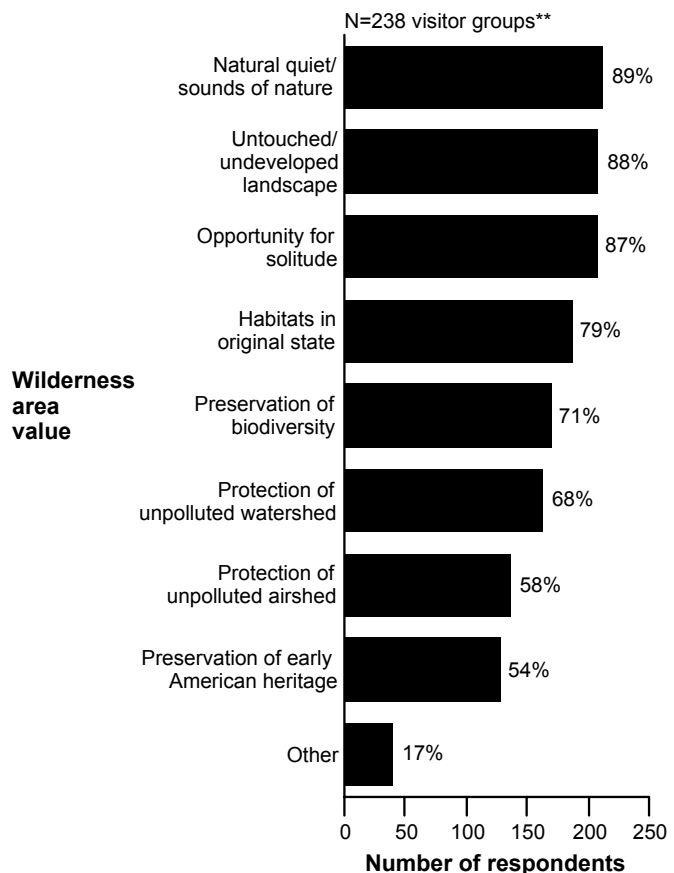
**Results**

- As shown in Figure 82, the wilderness area values visitors were aware of were:

- 89% Natural quiet/sounds of nature
- 88% Untouched/undeveloped landscape
- 87% Opportunity for solitude

- Other wilderness area values (17%) included:

- Astronomy/stargazing
- Awe-inspiring views
- De-stressing
- Exercise opportunities
- Fishing
- Preservation for future generations
- Geology
- Hiking
- Impact of ice/water on landscape
- Natural beauty
- Observe plants/animals in their natural environment
- Personal health
- Spiritual fulfillment



**Figure 82: Awareness of wilderness area values**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

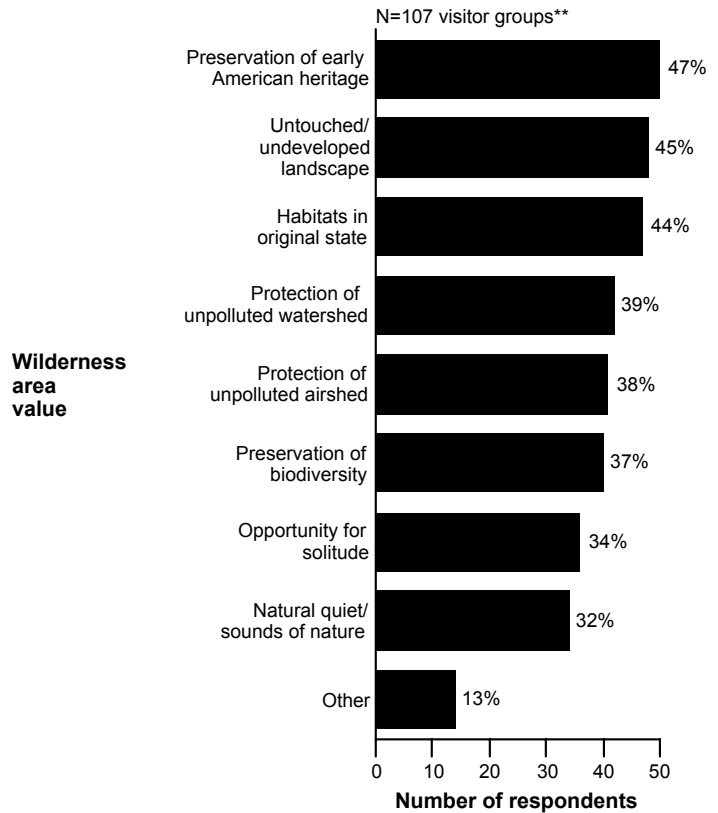
**Wilderness area values learned on this visit**

Question 21c

Did you learn about the values of a wilderness area during this visit to Devils Postpile National Monument?

Results

- As shown in Figure 83, the wilderness area values visitors learned about were:
  - 47% Preservation of early American heritage (Native American and pioneer)
  - 45% Untouched/undeveloped landscape
  - 44% Habitats in original state (minimum impacts by human activities)
- “Other” wilderness values (13%) included:
  - Fishing
  - Geological formations
  - Impact of fire on wilderness
  - Natural/geographical wonders
  - Nature observations
  - New experience for family
  - Diversity of levels of wilderness preparedness



**Figure 83: Wilderness area values learned on this visit**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Wilderness area values to learn on a future visit**

**Question 21d**

On a future visit, would you like to learn about the values of a wilderness area?

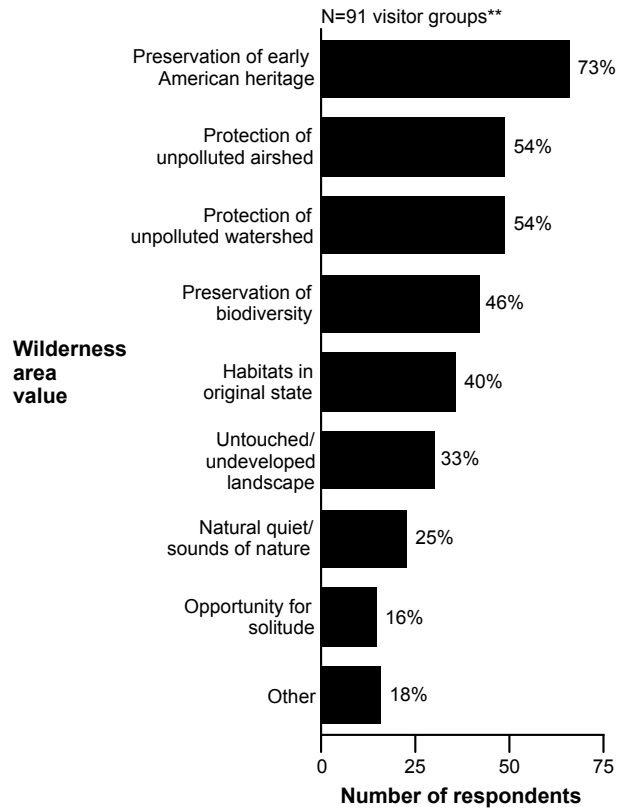
**Results**

- As shown in Figure 84, the wilderness area values visitors would like to learn about on a future visit were:

- 73% Preservation of early American heritage (Native American and pioneer)
- 54% Protection of unpolluted airshed
- 54% Protection of unpolluted watershed

- “Other” wilderness values (18%) were:

- Geological history
- Plants
- Things to look for while hiking
- Wildlife
- Weather patterns



**Figure 84: Wilderness area values to learn on a future visit**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

## Shuttle Bus System

### Importance of the current shuttle system benefits

**Question 23a**

The current mandatory shuttle bus system with some exceptions (campers and visitors with disabilities) has been operating since 1979.

Please rank the importance of the following benefits of the current shuttle system from 1 to 9 (1=most important and 9=least important).

**NOTE:** The results showed that 22 out of 256 respondents (8.6%) used the scale incorrectly, despite the instructions. Mistakes were made in three ways:

- 1) respondents selected less than 9 items to rank;
- 2) respondents repeated rankings (e.g., 1, 1, 2, 2, 3) instead of rank-ordering; and
- 3) respondents put a check mark instead of a number in respective boxes. Some respondents also made a combination of the above mistakes.

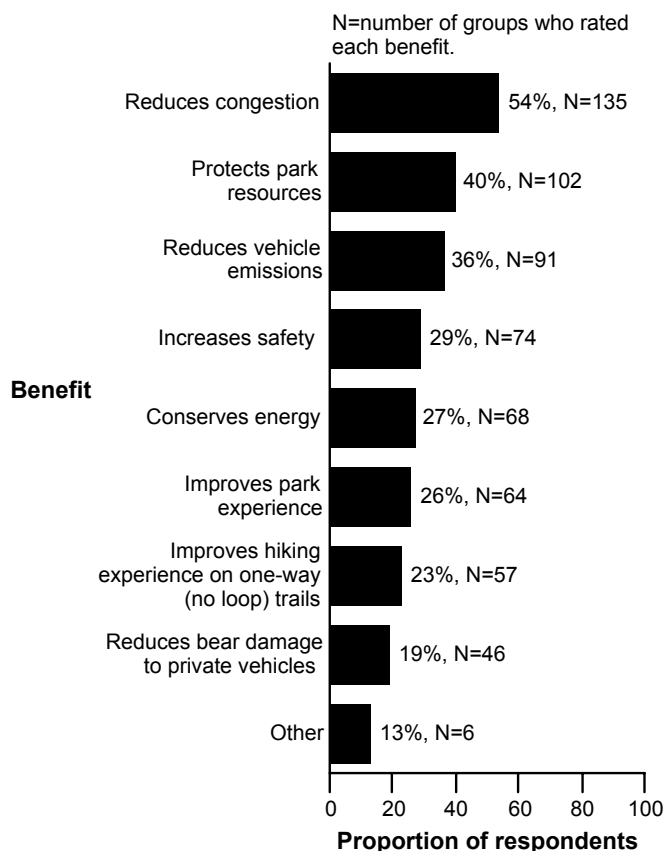
**Results**

- As shown in Figure 85 and Table 7, the benefits of the current shuttle system that were rated “most important” included:

- 54% Reduces congestion
- 40% Protects park resources
- 36% Reduces vehicle emissions

- “Other” benefits (13%) included:

- Controls number of visitors in park
- Convenience
- Deters vandalism
- Helps the elderly/disabled to get around in park
- Improves wilderness preservation
- Obtain information from drivers
- Opportunity to socialize with others
- Preserves habitat
- Reduces accidents
- Reduces noise pollution
- Teaches good values

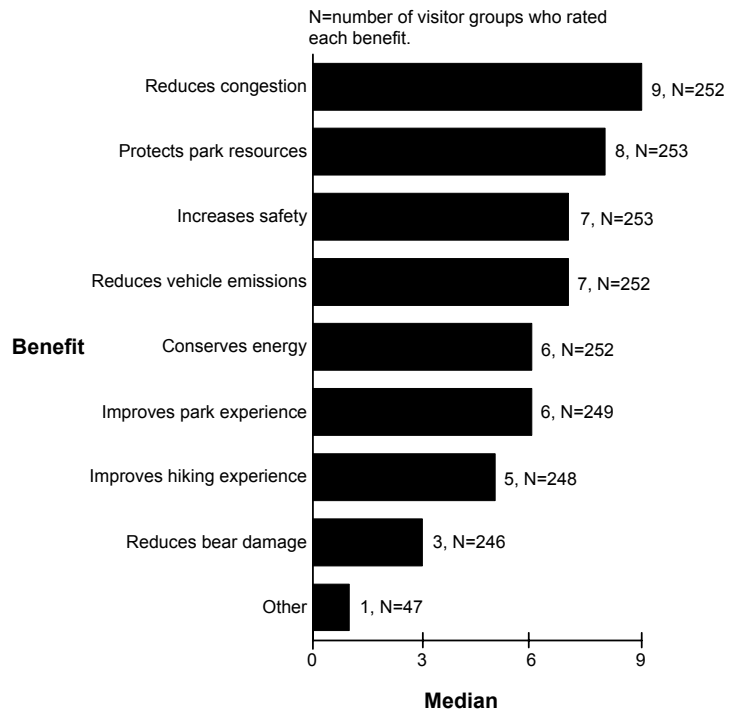


**Figure 85: Proportions of visitors who rated the current shuttle system benefits as most important**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

- Figure 86 shows the median (50% of groups rated more and 50% rated less) of the importance of the benefits of the current shuttle system.
- The benefit with the highest median was:  
 9 Reduces congestion



**Figure 86: Medians of importance of the current shuttle system benefits**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Table 7: Benefits of current shuttle system\***  
 N=number of visitor groups who rated each benefit.

| Benefit  | N   | Median | Rating (%)     |     |     |     |     |     |     |     | Least important |
|--|-----|--------|----------------|-----|-----|-----|-----|-----|-----|-----|-----------------|
|  |     |        | Most important | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |                 |
| Reduces congestion                                     | 252 | 9      | 54             | 12  | 7   | 5   | 3   | 2   | 2   | 1   | 13              |
| Increases safety                                       | 253 | 7      | 29             | 9   | 13  | 8   | 12  | 6   | 7   | 6   | 10              |
| Protects park resources                                | 253 | 8      | 40             | 13  | 13  | 6   | 6   | 3   | 3   | 4   | 12              |
| Conserves energy                                       | 252 | 6      | 27             | 10  | 8   | 12  | 12  | 10  | 6   | 5   | 10              |
| Improves park experience for visitors                  | 249 | 6      | 26             | 10  | 8   | 12  | 10  | 10  | 10  | 4   | 10              |
| Improves hiking experience on one-way (no loop) trails | 248 | 5      | 23             | 8   | 5   | 8   | 10  | 10  | 17  | 8   | 10              |
| Reduces bear damage to private vehicles                | 246 | 3      | 19             | 4   | 4   | 4   | 9   | 7   | 6   | 29  | 17              |
| Reduces vehicle emissions                              | 252 | 7      | 36             | 13  | 8   | 8   | 9   | 5   | 6   | 5   | 10              |
| Other  | 47  | 1      | 13             | 2   | 4   | 2   | 2   | 6   | 0   | 6   | 64              |

\*Total percentages do not equal 100 due to rounding

\*\*Total percentages do not equal 100 because visitors could select more than one answer

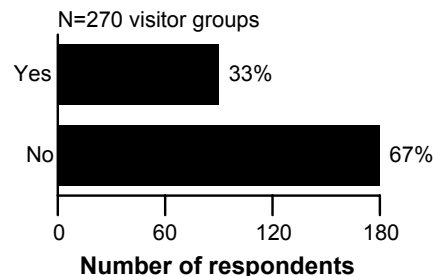


### Visitor awareness of management of shuttle bus system

**Question 23b**

The current shuttle bus system taking visitors to Devils Postpile National Monument is operated by the Forest Service with the shuttle fee collected by the Forest Service according to the Recreation Fee Program. Prior to your visit, were you and your group aware of this fact?

**Aware of shuttle operation by USFS?**



**Results**

- 67% of visitor groups were not aware of the operation of the shuttle bus system by the U.S. Forest Service (see Figure 87).
- 33% were aware.

**Figure 87: Awareness of operation of shuttle bus system by the U.S. Forest Service**

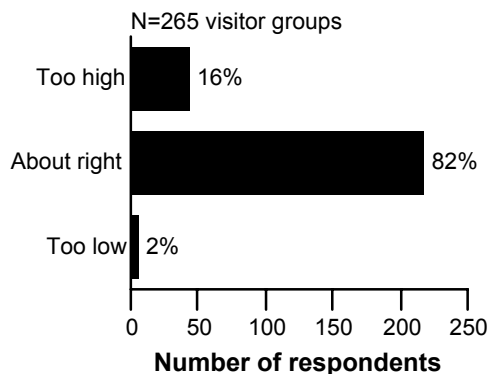
### Shuttle bus fees

**Question 23c**

How would you rate the cost of the shuttle bus fee?

\$7/adult

**Rating**



**Results**

- 82% of visitor groups rated the cost of the shuttle bus fee for adults as “about right” (see Figure 88).
- 16% rated fee as “too high.”

**Figure 88: Visitor opinion of \$7 shuttle bus fee for adults**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

Question 23c

How would you rate the cost of the shuttle bus fee?

\$4/child

Results

- 83% of visitor groups rated the cost of the shuttle bus fee for children as “about right” (see Figure 89).
- 15% rated fee as “too high.”

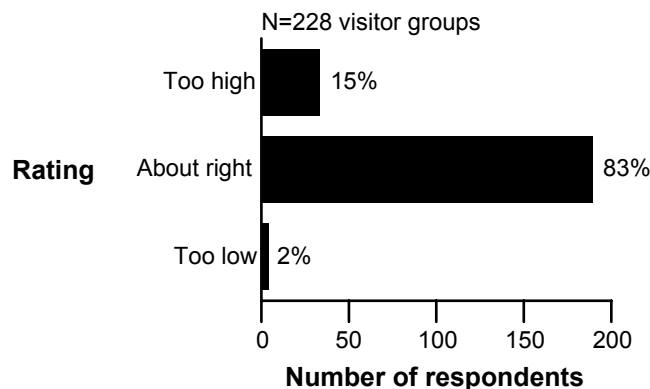


Figure 89: Visitor opinion of \$4 shuttle bus fee for children

Question 23d

Over the next two years, in order to provide quieter and cleaner buses with more energy efficiency, additional funding is needed. Would you be willing to pay a \$3 increase in the shuttle bus fee for adults (to \$10) and children (to \$7) to fund the purchase of these buses? Without the increase, the park would continue to use the current buses.

Results

- 56% of visitor groups reported they would likely be willing to pay a \$3 increase in shuttle bus fees for adults and children (see Figure 90).
- 25% were unlikely to pay the fee increase.
- 19% were “not sure.”

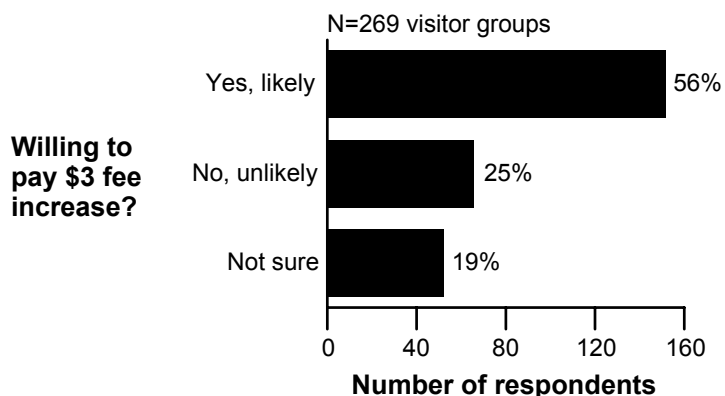


Figure 90: Willingness to pay \$3 increase in shuttle bus fees

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

## Plan for alternative access strategies at the monument

### Question 23e

A plan for alternative access strategies at Devils Postpile National Monument is being considered. Which one of the following options would you and your group prefer?

Reservations accepted prior to arrival and visitors without reservations admitted by a lottery system, allowing the fewest number of people to visit the monument (maximum of 500 private vehicles a day). This option has no waiting time during peak seasons, reduces congestion on roads and in parking areas, and has medium impact on native habitats. During peak seasons entrance is not guaranteed.

First come/first serve policy to allow a maximum of 250 private vehicles in the monument at a time. During peak season, this option has a waiting time of more than 30 minutes, has maximum congestion on roads and in parking areas, and maximum impact on native habitats. Entrance is not guaranteed during peak seasons.

Continue current shuttle bus system with existing exceptions to allow the greatest number of people to visit the monument. This option has a waiting time of approximately 30 minutes over the entire visit (due to a fixed bus schedule), minimizes congestion on roads and in parking areas, and has the least impact on native habitats. During peak seasons entrance is guaranteed.

### Results

- 92% of visitor groups would like to continue the current shuttle bus system with existing exceptions (see Figure 91).

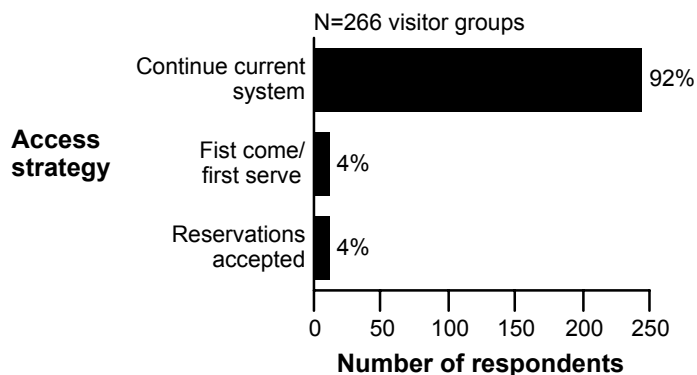


Figure 91: Plan for alternative access strategies at the monument

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

|  |  |
|--|--|
| <p>Question 23f<br/>Is there anything else you want to tell us about the shuttle bus system?</p> | <p>Results</p> <ul style="list-style-type: none"> <li>Visitor groups (N=105) responded with additional comments about the shuttle bus system (see Table 8).</li> </ul> |
|--|--|

**Table 8: Shuttle bus system**  
N=137 comments;  
some visitor groups made more than one comment.

| Comment   | Number of times mentioned |
|---|---------------------------|
| <b>Bus Drivers</b>  |                           |
| Knowledgeable/informative   | 14                        |
| Not knowledgeable/informative   | 4                         |
| Entertaining  | 4                         |
| Safe  | 3                         |
| Unsafe  | 2                         |
| Helpful   | 2                         |
| Excellent   | 2                         |
| Friendly  | 2                         |
| Unfriendly  | 1                         |
| Add to park experience  | 1                         |
| Use driver, ranger, or volunteer to inform and create anticipation during the ride  | 1                         |
| <b>Shuttle bus fees</b>   |                           |
| Fee is too high   | 3                         |
| Should have flat rate fee for family  | 2                         |
| We only intended to camp & fish, so being charged for the shuttle bus & camping seemed in excess  | 1                         |
| How much of the entrance fee stays in the monument?   | 1                         |
| Why is a fee increase necessary? What do I pay taxes for?   | 1                         |
| Would be interested in 2-3 day pass for reduced fee   | 1                         |
| Fees need to be built in somehow so people don't "compare" it to "competitor"; driving to Yosemite or elsewhere that they consider cheaper or free. | 1                         |
| A one-way trip, leaving for a hike, should be less  | 1                         |
| \$25+ per carload is more expensive than visiting a national park   | 1                         |
| Children should pay half fee  | 1                         |
| Cost of bus is keeping low income folks out   | 1                         |
| If the fee charged is a vehicle impact fee, why is it that you charge per-person fee when a private vehicle enters?                                 | 1                         |
| As a local, I would respond to increased fees by working harder to try to avoid them (i.e. arriving before the service starts)                      | 1                         |

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Table 8: Shuttle bus system  
(continued)**

| Comment  | Number of times mentioned |
|--|---------------------------|
| General comment  |                           |
| Current system works well  | 20                        |
| Enjoyed the shuttle bus system   | 7                         |
| Would like to use Golden age pass  | 5                         |
| Update buses to run on alternative fuels, electric, or CNG   | 5                         |
| Shuttle bus system is easy/convenient  | 4                         |
| Don't allow vehicles in unless they are camping or using cabins  | 3                         |
| As a camper, don't need/use shuttle system   | 3                         |
| Shuttle service/waiting time is slower than time indicated   | 3                         |
| Express lane for shuttle bus at fee station  | 2                         |
| Drivers should use microphones   | 2                         |
| Roads too narrow and need guard rails  | 2                         |
| I think its a great system to protect resources  | 2                         |
| Publish "rules of the road" for drivers of private vehicles  | 2                         |
| Buses are antiquated   | 2                         |
| Bus is safe way to travel  | 2                         |
| I don't like the fact that you cannot drive into area  | 1                         |
| Bus restrictions would have chased us away without stopping to visit   | 1                         |
| Eliminate shuttle bus system   | 1                         |
| Do not use bus due to disability   | 1                         |
| Consider using shuttle system like Zion NP   | 1                         |
| We camped so we used the shuttle system very little  | 1                         |
| I did not want the road to be paved as it kept out people who did not respect this valley                    | 1                         |
| What kind of fuel in new bus?  | 1                         |
| I don't mind noise from buses  | 1                         |
| It's nice to meet people on the bus  | 1                         |
| I think more parties should use it   | 1                         |
| It was really no problem   | 1                         |
| Maximum seating arrangements except in emergency   | 1                         |
| I think it also will force people to hike and actually see more nature, too                                  | 1                         |
| Reduce bus frequency from 20 to 10 minutes when peak   | 1                         |
| Post a large map on the bus of the travel route and stops  | 1                         |
| Add safety features to bus, such as seat belts, child restraint systems                                      | 1                         |
| Be considerate of people with motion sickness - careful, careful driving and seats available in front of bus | 1                         |
| Is it possible to have one-way traffic in the 1/2 hour - avoiding head-on traffic?                           | 1                         |
| Keep private vehicles on the same 7:00 am arrival - after that shuttle                                       | 1                         |
| Continue to allow dogs on buses  | 1                         |

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

**Methods to learn about the monument on a future visit**

**Question 22**

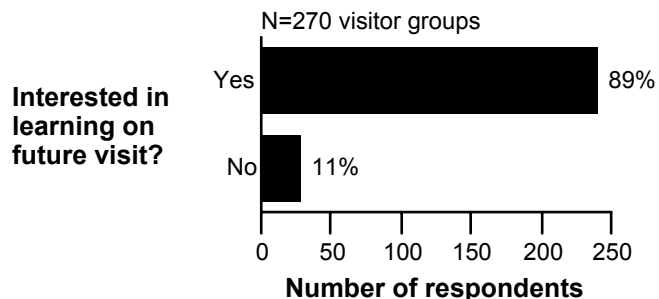
On a future visit to Devils Postpile National Monument, how would you and your group like to learn about natural and cultural history of the monument?

**Results**

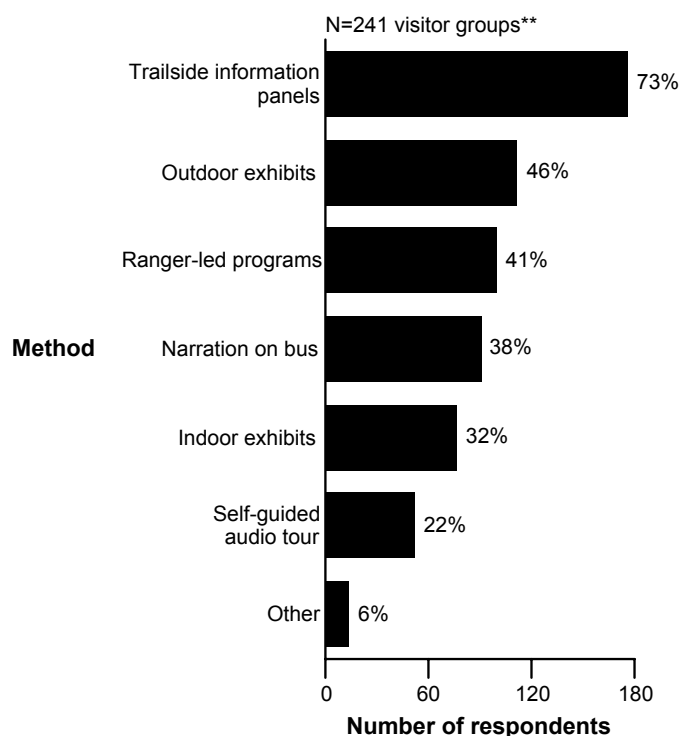
- 89% of visitor groups would like to learn about the natural and cultural history of the monument on a future visit (see Figure 92).
- As shown in Figure 93, the methods visitors would like to use to learn on a future visit were:

- 73% Trailside information panels
- 46% Outdoor exhibits
- 41% Ranger-led programs

- “Other” methods (6%) were:
  - Brochures in foreign languages
  - Historical programs
  - Information booklets/pamphlets
  - Internet
  - Llama-back tours
  - Ranger-led programs geared to children aged 6-16 years old



**Figure 92: Visitor groups interested in learning about natural and cultural history of the monument**



**Figure 93: Methods to learn about the monument on a future visit**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

### Availability of interpretive programs on a future visit

**Question 25**

On a future visit to Devils Postpile National Monument, what interpretive programs would you and your group like to have available at the monument?

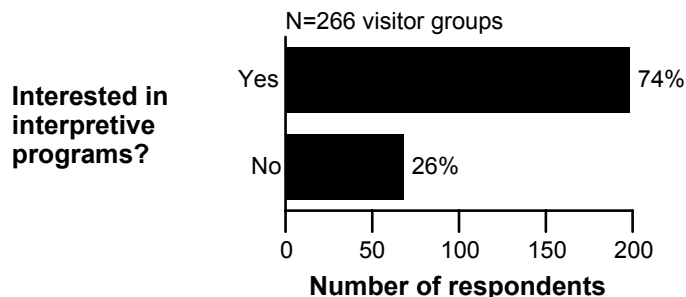
**Results**

- 74% of visitor groups would like to have interpretive programs available on a future visit (see Figure 94).
- As shown in Figure 95, the interpretive programs visitors would like to have available on a future visit were:

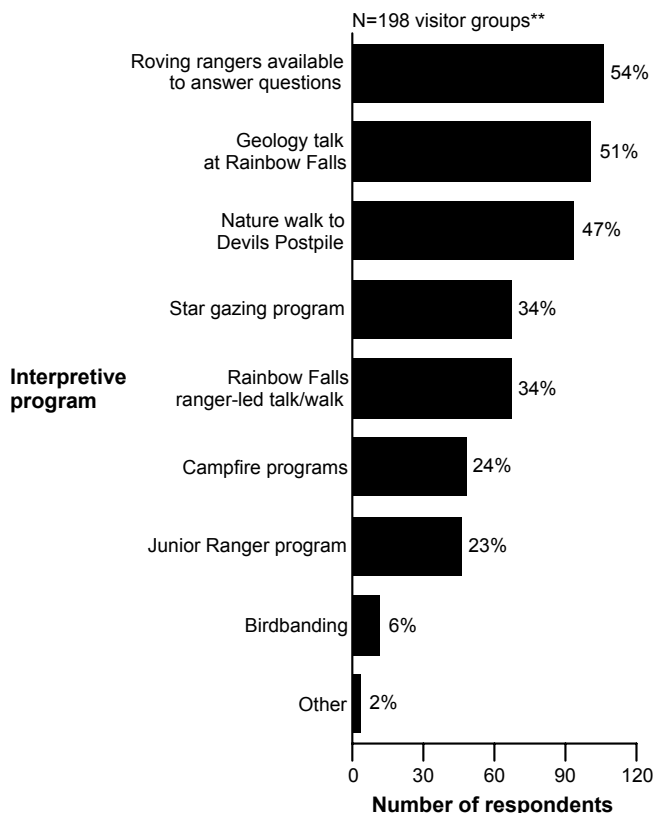
- 54% Roving rangers available to answer questions
- 51% Geology talk at Rainbow Falls
- 47% Nature walk to Devils Postpile

- “Other” interpretive programs (2%) included:

- Guided hikes to other areas
- Important people of the wilderness and mountaineers
- Informational boards
- Wildflower walks



**Figure 94: Visitor groups interested in interpretive programs on a future visit**



**Figure 95: Interpretive programs on a future visit**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer

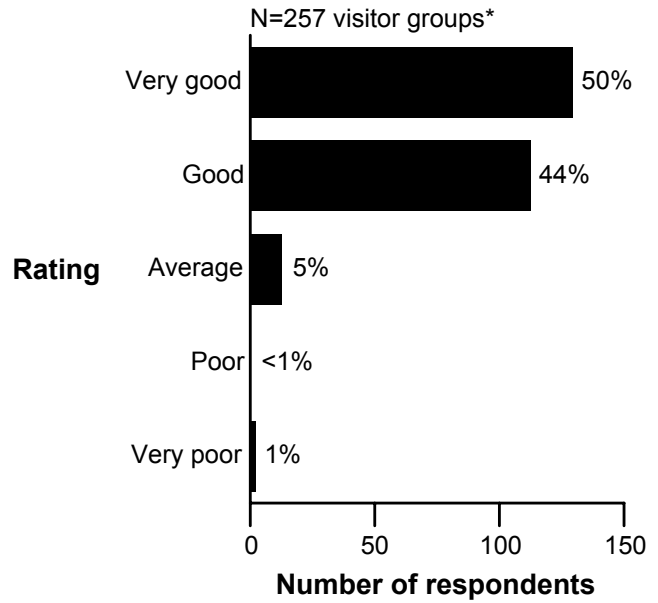
**Overall Quality**

**Question 13**

Overall, how would you and your group rate the quality of facilities, services, and recreational opportunities at Devils Postpile National Monument during this trip?

**Results**

- 94% of visitor groups rated the overall quality as “very good” or “good” (see Figure 96).
- Less than 2% rated the overall quality as “very poor” or “poor.”



**Figure 96: Overall quality of visitor facilities, services, and recreational opportunities**

\*total percentages do not equal 100 due to rounding

\*\*total percentages do not equal 100 because visitors could select more than one answer



**Visitor Comments**

**What visitors liked most**

Question 26a

What did you and your group like most about your visit to Devils Postpile National Monument?

Results

- 88% of visitor groups (N=242) responded to this question.
- Table 9 shows a summary of visitor comments. A complete copy of hand-written comments is included in the Visitor Comments Appendix.

**Table 9: What visitors liked most**  
N=364 comments;  
some visitor groups made more than one comment.

| Comment                         | Number of times mentioned |
|---------------------------------|---------------------------|
| <b>PERSONNEL</b>                |                           |
| Rangers                         | 7                         |
| <b>INTERPRETIVE SERVICES</b>    |                           |
| Historical value                | 5                         |
| Junior Ranger Program           | 4                         |
| Amount of information available | 3                         |
| Learning park information       | 2                         |
| The variety of park activities  | 2                         |
| <b>FACILITIES/MAINTENANCE</b>   |                           |
| Scenic views                    | 45                        |
| Trails                          | 20                        |
| Campgrounds/camping             | 6                         |
| Cleanliness of park             | 4                         |
| Reds Meadow                     | 2                         |
| <b>POLICIES/MANAGEMENT</b>      |                           |
| Shuttle bus transportation      | 11                        |
| Solitude                        | 10                        |
| Lack of crowds                  | 8                         |
| Access to park                  | 4                         |
| Organization of park            | 3                         |
| <b>RESOURCE MANAGEMENT</b>      |                           |
| Rainbow Falls                   | 26                        |
| Geology                         | 17                        |
| Postpile                        | 13                        |
| Rivers                          | 10                        |
| Wilderness                      | 9                         |
| Wildlife                        | 8                         |
| Waterfalls                      | 7                         |
| Clean air                       | 4                         |
| Plants                          | 4                         |
| Fishing                         | 3                         |
| Minaret Falls                   | 2                         |

---

**Table 9: What visitors liked most  
(continued)**

| Comment                    | Number of times<br>mentioned |
|----------------------------|------------------------------|
| <b>GENERAL COMMENTS</b>    |                              |
| Natural beauty             | 67                           |
| Hiking                     | 34                           |
| Everything                 | 6                            |
| The entire area            | 6                            |
| Family/friend togetherness | 5                            |
| New/unique area            | 4                            |
| Other comments             | 3                            |

---

## What visitors liked least

### Question 26b

What did you and your group like least about your visit to Devils Postpile National Monument?

### Results

- 69% of visitor groups (N=191) responded to this question.
- Table 10 shows a summary of visitor comments. A complete copy of hand-written comments is included in the Visitor Comments Appendix.

**Table 10: What visitors liked least**  
N=210 comments;  
some visitor groups made more than one comment.

| Comment                                | Number of times mentioned |
|--|---------------------------|
| <b>INTERPRETIVE SERVICES</b>           |                           |
| Information on hikes                   | 14                        |
| Poor information/no information on bus | 3                         |
| Information from rangers               | 2                         |
| <b>FACILITIES/MAINTENANCE</b>          |                           |
| Trail conditions                       | 16                        |
| Long trail access to Postpile          | 9                         |
| No escape from the sun                 | 6                         |
| Dirty restrooms                        | 5                         |
| Narrow access road                     | 2                         |
| Lack of drinking water availability    | 2                         |
| Other comments                         | 3                         |
| <b>POLICIES/MANAGEMENT</b>             |                           |
| Shuttle congestion/crowding            | 25                        |
| Crowds                                 | 10                        |
| Horse manure on trails                 | 4                         |
| Large vehicles in campground           | 4                         |
| Expensive admission                    | 2                         |
| Expensive prices in park               | 2                         |
| Bus fee                                | 2                         |
| Other comments                         | 2                         |
| <b>RESOURCE MANAGEMENT</b>             |                           |
| Bugs/insects                           | 18                        |
| Forest fire effects                    | 14                        |
| Poor quality fishing                   | 5                         |
| Other comment                          | 1                         |
| <b>GENERAL COMMENTS</b>                |                           |
| Nothing                                | 25                        |
| Weather                                | 20                        |
| Other visitors' behavior               | 7                         |
| Other comments                         | 7                         |

**Planning for the future**

Question 27

If you were a park manager planning for the future of Devils Postpile National Monument, what would you propose?

Results

- 66% of visitor groups (N=181) responded to this question.
- Table 11 shows a summary of visitor comments. A complete copy of handwritten comments is included in the Visitor Comments Appendix.

**Table 11: Planning for the future**  
 N=217 comments;  
 some visitor groups made more than one comment.

| Comment                                     | Number of times mentioned |
|---|---------------------------|
| <b>PERSONNEL</b>                            |                           |
| More ranger presence                        | 9                         |
| <b>INTERPRETIVE SERVICES</b>                |                           |
| More interpretive information               | 20                        |
| Improve trailside information               | 15                        |
| More park access information                | 9                         |
| Offer guided tours                          | 4                         |
| Other comments                              | 2                         |
| <b>FACILITIES/MAINTENANCE</b>               |                           |
| Improve trails                              | 14                        |
| More availability of drinking water         | 8                         |
| Facilities/building improvements            | 7                         |
| Widen the park roads                        | 3                         |
| Improve campgrounds                         | 2                         |
| More benches                                | 2                         |
| Other comments                              | 4                         |
| <b>POLICIES/MANAGEMENT</b>                  |                           |
| Keep the shuttle                            | 20                        |
| Protect the park                            | 15                        |
| Improve/modify shuttle buses                | 11                        |
| Keep costs low                              | 5                         |
| Limit the number of visitors                | 5                         |
| Improve park promotion                      | 4                         |
| Restrict vehicle access                     | 4                         |
| More access opportunities to park locations | 3                         |
| Reduce buses/allow personal vehicles        | 2                         |
| Other comments                              | 8                         |
| <b>RESOURCE MANAGEMENT</b>                  |                           |
| Continue restoration                        | 3                         |

---

**Table 11: Planning for the future  
(continued)**

| Comment                 | Number of times<br>mentioned |
|-------------------------|------------------------------|
| <b>GENERAL COMMENTS</b> |                              |
| Continue as is          | 25                           |
| Don't know              | 2                            |
| Other comments          | 11                           |

---

## Additional comments

### Question 28

Is there anything else you would like to tell us about your visit to Devils Postpile National Monument?

### Results

- 54% of visitor groups (N=148) responded to this question.
- Table 12 shows a summary of visitor comments. A complete copy of handwritten comments is included in the Visitor Comments Appendix.

**Table 12: Additional comments**  
N=179 comments;  
some visitor groups made more than one comment.

| Comment                                    | Number of times mentioned |
|--|---------------------------|
| <b>PERSONNEL</b>                           |                           |
| Rangers were helpful and knowledgeable     | 10                        |
| Shuttle drivers were good                  | 2                         |
| Other comments                             | 2                         |
| <b>INTERPRETIVE SERVICES</b>               |                           |
| More resource information                  | 3                         |
| More historic information                  | 2                         |
| Park website needs improvement             | 2                         |
| <b>FACILITIES/MAINTENANCE</b>              |                           |
| Fire damage still present and an eyesore   | 3                         |
| Other comments                             | 3                         |
| <b>POLICIES/MANAGEMENT</b>                 |                           |
| Shuttle should continue                    | 6                         |
| Glad it is pet friendly                    | 4                         |
| Lower the costs in the park                | 4                         |
| Affordable costs in the park               | 2                         |
| Further restoration of burned areas needed | 2                         |
| Other comments                             | 9                         |
| <b>GENERAL COMMENTS</b>                    |                           |
| Enjoyed the visit                          | 42                        |
| A wonderful park!                          | 25                        |
| Thank you                                  | 18                        |
| A great place to bring family              | 9                         |
| Will return                                | 7                         |
| Keep it up, you are doing a good job       | 4                         |
| Experience foul weather on visit           | 2                         |
| Other comments                             | 18                        |



## **APPENDICES**

|                                      |
|--------------------------------------|
| <b>Appendix 1: The Questionnaire</b> |
|--------------------------------------|





## Appendix 2: Additional Analysis

The Visitor Services Project (VSP) offers the opportunity to learn more from VSP visitor study data. Additional analysis can be done using the park's VSP visitor study data that was collected and entered into the computer. Two-way and three-way cross tabulations can be made of any of the characteristics listed below. Be as specific as possible—you may select a single program/service/facility instead of all that were listed in the questionnaire. Include your name, address and phone number in the request.

- Awareness that site is unit of NPS
- Awareness of difference between a national park area and national forest
- Sources of information used prior to visit
- Sources of information preferred for future visits
- Received needed information?
- Primary reason for visiting the monument area (within 75 mile drive)
- Sites visited within 2-hour drive of monument
- Overnight stay away from home in monument area
- Number of nights stayed inside monument
- Number of nights stayed in monument area
- Type of lodging in monument
- Type of lodging in monument area
- Visitors who rode shuttle bus into monument
- Number of vehicles used
- Number of people in vehicles
- Adequacy of directional signs
- Sites visited in the monument
- Activities inside the monument
- Activities in the Reds Meadow Valley area
- Length of stay visiting monument
- Number of entries into monument
- Visitor services and facilities used
- Importance of visitor services and facilities
- Quality of visitor services and facilities
- Overall quality of visitor facilities, services, and recreational opportunities
- Commercial guided tour group
- Educational group
- Other organized group
- Group type
- Group size
- Visitor age
- Zip code/state of residence
- Country of residence
- Number of monument visits prior to 2002
- Number of visits in 2002 and after
- English as primary language to speak and read
- Respondent ethnicity
- Respondent race
- Visitors with disabilities/ impairments
- Types of disabilities/ impairments
- Encounter access/service problems due to disability/ impairment
- Awareness of wilderness designation in monument
- Awareness of wilderness values prior to visit
- Learned wilderness values during visit
- Interest in learning wilderness values on future visit
- Interest in learning about monument natural/cultural resources on future visit
- Importance of benefits of current shuttle system
- Awareness of shuttle fee collected by USFS
- Rating of cost of shuttle fee
- Willingness to pay \$3/person shuttle bus fee increase
- Alternative access strategies
- Importance of attributes/ resources
- Interpretive programs on future visit

For more information please contact:  
 Visitor Services Project, PSU  
 College of Natural Resources  
 P.O. Box 441139  
 University of Idaho  
 Moscow, ID 83844-1139

Phone: 208-885-7863  
 Fax: 208-885-4261  
 Email: [littlej@uidaho.edu](mailto:littlej@uidaho.edu)  
 Website: <http://www.psu.uidaho.edu>

### Appendix 3: Decision Rules for Checking Non-response Bias

There are several methods for checking non-response bias. However, the most common way is to use some demographic indicators to compare between respondents and non-respondents (Dey 1997; Salant and Dillman 1994; Dillman 2000; Stoop 2004). In this study, group type, group size and age of the group member (at least 16 years old) completing the survey were three variables that were used to check for non-response bias.

A Chi-square test was used to detect the difference in the response rates among different group types. The hypothesis was that group types are equally represented. If p-value is greater than 0.05, the difference in group type is judged to be insignificant.

Two independent-sample T-tests were used to test the differences between respondents and non-respondents. The p-values represent the significance levels of these tests. If p-value is greater than 0.05, the two groups are judged to be insignificantly different.

Therefore, the hypotheses for checking non-response bias are:

1. Respondents from different group types are not equally represented
2. Average age of respondents – average age of non-respondents = 0
3. Average group size of respondents – average group size of non-respondents = 0

Table 2 shows no significant difference in group type.

As shown in Table 3, the p-value for respondent/non-respondent group size test is greater than 0.05, indicating insignificant differences between respondents and non-respondents. Thus, non-response bias for group size is judged to be insignificant. However, the p-value for respondent/non-respondent age test is less than 0.05 indicating significant age differences between respondents and non-respondents. In regard to age difference, various reviews of survey methodology (Dillman and Carley-Baxter 2000; Goudy 1976, Filion 1976, Mayer and Pratt Jr. 1967) have consistently found that in public opinion surveys, average respondent ages tend to be higher than average non-respondent ages. This difference is often caused by other reasons such as availability of free time rather than problems with survey methodology. In addition, because unit of analysis for this study is a visitor group, the group member who received the questionnaire may be different than the one who actually completed it after the visit. Sometimes the age of the actual respondent is higher than the age of the group member who accepted the questionnaire at the park. Thus, a 5-year difference in average age between respondents and non-respondents is an acceptable justification. Therefore, non-response bias is judged to be insignificant.

*References*

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- Salant, P. and Dillman, D. A. (1994) *How to Conduct Your Own Survey*. U.S.: John Wiley and Sons, Inc.
- Stoop, I. A. L. (2004) Surveying Non-respondents. *Field Methods*, 16 (1): 23.

## Appendix 4: Visitor Services Project Publications

Reports 1-6 (pilot studies) are available from the University of Idaho Park Studies Unit. All other VSP reports listed are available from the parks where the studies were conducted or from the UI PSU. All studies were conducted in summer unless otherwise noted.

### 1982

1. Mapping interpretive services: A pilot study at Grand Teton National Park.

### 1983

2. Mapping interpretive services: Identifying barriers to adoption and diffusion of the method.
3. Mapping interpretive services: A follow-up study at Yellowstone National Park and Mt Rushmore National Memorial.
4. Mapping visitor populations: A pilot study at Yellowstone National Park.

### 1985

5. North Cascades National Park Service Complex
6. Crater Lake National Park

### 1986

7. Gettysburg National Military Park
8. Independence National Historical Park
9. Valley Forge National Historical Park

### 1987

10. Colonial National Historical Park (summer & fall)
11. Grand Teton National Park
12. Harpers Ferry National Historical Park
13. Mesa Verde National Park
14. Shenandoah National Park (summer & fall)
15. Yellowstone National Park
16. Independence National Historical Park: Four Seasons Study

### 1988

17. Glen Canyon National Recreational Area
18. Denali National Park and Preserve
19. Bryce Canyon National Park
20. Craters of the Moon National Monument

### 1989

21. Everglades National Park (winter)
22. Statue of Liberty National Monument

23. The White House Tours, President's Park

### 1989 (continued)

24. Lincoln Home National Historic Site
25. Yellowstone National Park
26. Delaware Water Gap National Recreation Area
27. Muir Woods National Monument

### 1990

28. Canyonlands National Park (spring)
29. White Sands National Monument
30. National Monuments & Memorials, Washington, D.C.
31. Kenai Fjords National Park
32. Gateway National Recreation Area
33. Petersburg National Battlefield
34. Death Valley National Monument
35. Glacier National Park
36. Scott's Bluff National Monument
37. John Day Fossil Beds National Monument

### 1991

38. Jean Lafitte National Historical Park (spring)
39. Joshua Tree National Monument (spring)
40. The White House Tours, President's Park (spring)
41. Natchez Trace Parkway (spring)
42. Stehekin-North Cascades NP/ Lake Chelan NRA
43. City of Rocks National Reserve
44. The White House Tours, President's Park (fall)

### 1992

45. Big Bend National Park (spring)
46. Frederick Douglass National Historic Site (spring)
47. Glen Echo Park (spring)
48. Bent's Old Fort National Historic Site
49. Jefferson National Expansion Memorial
50. Zion National Park
51. New River Gorge National River
52. Klondike Gold Rush National Historical Park, AK
53. Arlington House-The Robert E. Lee Memorial

**Visitor Services Project Publications (continued)****1993**

- 54. Belle Haven Park/Dyke Marsh Wildlife Preserve (spring)
- 55. Santa Monica Mountains National Recreation Area (spring)
- 56. Whitman Mission National Historic Site
- 57. Sitka National Historical Park
- 58. Indiana Dunes National Lakeshore
- 59. Redwood National Park
- 60. Channel Islands National Park
- 61. Pecos National Historical Park
- 62. Canyon de Chelly National Monument
- 63. Bryce Canyon National Park (fall)

**1994**

- 64. Death Valley National Monument Backcountry (winter)
- 65. San Antonio Missions National Historical Park (spring)
- 66. Anchorage Alaska Public Lands Information Center
- 67. Wolf Trap Farm Park for the Performing Arts
- 68. Nez Perce National Historical Park
- 69. Edison National Historic Site
- 70. San Juan Island National Historical Park
- 71. Canaveral National Seashore
- 72. Indiana Dunes National Lakeshore (fall)
- 73. Gettysburg National Military Park (fall)

**1995**

- 74. Grand Teton National Park (winter)
- 75. Yellowstone National Park (winter)
- 76. Bandelier National Monument
- 77. Wrangell-St. Elias National Park & Preserve
- 78. Adams National Historic Site
- 79. Devils Tower National Monument
- 80. Manassas National Battlefield Park
- 81. Booker T. Washington National Monument
- 82. San Francisco Maritime National Historical Park
- 83. Dry Tortugas National Park

**1996**

- 84. Everglades National Park (spring)
- 85. Chiricahua National Monument (spring)
- 86. Fort Bowie National Historic Site (spring)
- 87. Great Falls Park, Virginia (spring)
- 88. Great Smoky Mountains National Park
- 89. Chamizal National Memorial
- 90. Death Valley National Park (fall)
- 91. Prince William Forest Park (fall)
- 92. Great Smoky Mountains National Park (summer & fall)

**1997**

- 93. Virgin Islands National Park (winter)
- 94. Mojave National Preserve (spring)
- 95. Martin Luther King, Jr., National Historic Site (spring)
- 96. Lincoln Boyhood National Memorial
- 97. Grand Teton National Park
- 98. Bryce Canyon National Park
- 99. Voyageurs National Park
- 100. Lowell National Historical Park

**1998**

- 101. Jean Lafitte National Historical Park & Preserve (spring)
- 102. Chattahoochee River National Recreation Area (spring)
- 103. Cumberland Island National Seashore (spring)
- 104. Iwo Jima/Netherlands Carillon Memorials
- 105. National Monuments & Memorials, Washington, D.C.
- 106. Klondike Gold Rush National Historical Park, AK
- 107. Whiskeytown National Recreation Area
- 108. Acadia National Park

**1999**

- 109. Big Cypress National Preserve (winter)
- 110. San Juan National Historic Site, Puerto Rico (winter)
- 111. St. Croix National Scenic Riverway
- 112. Rock Creek Park
- 113. New Bedford Whaling National Historical Park
- 114. Glacier Bay National Park & Preserve
- 115. Kenai Fjords National Park
- 116. Lassen Volcanic National Park
- 117. Cumberland Gap National Historical Park (fall)

**Visitor Services Project Publications (continued)****2000**

- 118. Haleakala National Park (spring)
- 119. White House Tour and White House Visitor Center (spring)
- 120. USS Arizona Memorial
- 121. Olympic National Park
- 122. Eisenhower National Historic Site
- 123. Badlands National Park
- 124. Mount Rainier National Park

**2001**

- 125. Biscayne National Park (spring)
- 126. Colonial National Historical Park (Jamestown)
- 127. Shenandoah National Park
- 128. Pictured Rocks National Lakeshore
- 129. Crater Lake National Park
- 130. Valley Forge National Historical Park

**2002**

- 131. Everglades National Park
- 132. Dry Tortugas National Park
- 133. Pinnacles National Monument
- 134. Great Sand Dunes National Monument & Preserve
- 135. Pipestone National Monument
- 136. Outer Banks Group (Cape Hatteras National Seashore, Ft. Raleigh National Historic Site, and Wright Brothers National Memorial)
- 137. Sequoia & Kings Canyon National Parks and Sequoia National Forest
- 138. Catoctin Mountain Park
- 139. Hopewell Furnace National Historic Site
- 140. Stones River National Battlefield

**2003**

- 141. Gateway National Recreation Area: Floyd Bennett Field (spring)
- 142. Cowpens National Battlefield (spring)
- 143. Grand Canyon National Park – North Rim
- 144. Grand Canyon National Park – South Rim
- 145. C&O Canal National Historical Park

**2003 (continued)**

- 146. Capulin Volcano National Monument
- 147. Oregon Caves National Monument
- 148. Knife River Indian Villages National Historic Site
- 149. Fort Stanwix National Monument
- 150. Arches National Park
- 151. Mojave National Preserve (fall)

**2004**

- 152. Joshua Tree National Park (spring)
- 153. New River Gorge National River
- 154. George Washington Birthplace National Monument
- 155. Craters of the Moon National Monument & Preserve
- 156. Dayton Aviation Heritage National Historical Park
- 157. Apostle Islands National Lakeshore
- 158. Keweenaw National Historical Park
- 159. Effigy Mounds National Monument
- 160. Saint-Gaudens National Historic Site
- 161. Manzanar National Historic Site
- 162. John Day Fossil Beds National Monument

**2005**

- 163. Congaree National Park
- 164. San Francisco Maritime National Historical Park
- 165. Lincoln Home National Historic Site
- 166. Chickasaw National Recreation Area
- 167. Timpanogos Cave National Monument
- 168. Yosemite National Park
- 169. Fort Sumter National Monument
- 170. Harpers Ferry National Historical Park
- 171. Cuyahoga Valley National Park
- 172. Johnstown Flood National Memorial
- 173. Nicodemus National Historic Site

**2006**

- 174. Kings Mountain National Military Park
- 175. John F. Kennedy National Historic Site
- 176. Devils Postpile National Monument

For more information about the Visitor Services Project, please contact the University of Idaho Park Studies Unit, website: [www.psu.uidaho.edu](http://www.psu.uidaho.edu) or phone (208) 885-7863.

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**Visitor Comments Appendix**

This section contains complete visitor comments of all open-ended questions and is bound separately from this report due to its size.

