



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

Visitor Services Project



Hawai'i Volcanoes National Park Visitor Study

Spring 2007



University of Idaho

Park Studies Unit
Visitor Services Project
Report 185



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Nancy Holmes is a Research Assistant and Dr. Steven Hollenhorst is the Director of the Park Studies Unit, Department of Conservation Social Sciences, University of Idaho. We thank Margaret Littlejohn, Katheryn Bilodeau, Saori Tsuchida, David Barnes, and the staff of Hawai'i Volcanoes National Park for assisting the survey fieldwork, and David Vollmer for his technical assistance.

**Visitor Services Project
Hawai'i Volcanoes National Park
Report Summary**

- This report describes the results of a visitor study at Hawai'i Volcanoes National Park (NP) during March 11-17, 2007. A total of 987 questionnaires were distributed to visitor groups, including 932 in English and 55 in Japanese. Of those, 641 English (68.9%) and 45 Japanese questionnaires (81.8%) were returned, resulting in 686 questionnaires returned, an overall 69.5% response rate.
- This report profiles a systematic random sample of visitors to Hawai'i Volcanoes NP. 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.
- Forty-four percent of visitor groups were in groups of two and 40% were groups of four or more. Sixty-eight percent of visitor groups were in family groups.
- Fifty-one percent of visitors were ages 41-65 years and 10% were ages 15 years or younger.
- Thirty-five percent of individuals held a bachelor's degree, 27% held a graduate degree, and 22% had attended some college.
- United States visitors comprised 85% of total respondents (N=1,893 individuals) and were from California (12%), Hawai'i (9%), Texas (9%), 47 other states, and Washington, D.C. Fifteen percent of visitors were international, of which 40% were from Canada, 36% from Japan, and 7% from Germany.
- Most visitors (88%) visited the park once in the twelve months prior to the survey (N=1,826 individuals). Seventy-two percent of visitors had visited the park once in their lifetime (N=2,036 individuals).
- Prior to their visit, most visitors obtained information about Hawai'i Volcanoes NP through travel guides/tour books (57%), friends/relatives/word of mouth (46%), other printed materials (34%) and previous visits (30%).
- Among visitor groups who spent less than 24 hours in the park, 58% spent three to six hours (N=441 groups). The average length of stay for these visitors was 6.1 hours. Of those visitor groups who were in the park for more than 24 hours, 41% spent 2 days (N=110 groups). The average length of stay for this group was 3.7 days. The average length of stay for all visitors was 22.5 hours (N=551 groups).
- The park sites that received the most visitation were the Kilauea Visitor Center (84%), the steam vents (76%), Thurston Lava Tube (68%) and Kilauea Overlook (66%). For 57% of visitor groups, viewing active lava flows was a primary reason for visiting the park.
- 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 642 visitor groups included the restrooms (76%), exhibits and signs along roads and trails (66%), and assistance from the Kilauea Visitor Center information desk staff (64%). The services/facilities that received the highest combined proportions of "extremely important" and "very important" ratings included restrooms (90%, N=474), ranger-led walks and talks (84%, N=95) and the active lava flow site staff (84%, N=222). The services/facilities that received the highest combined proportions of "very good" and "good" quality ratings were ranger-led walks/talks (93%, N=91), the Volcano Art Center Gallery (88%, N=82) and assistance from the Kilauea Visitor Center information desk staff (87%, N=383).
- Most visitor groups (92%, N=672) rated the overall quality of services, facilities, and recreational opportunities at Hawai'i Volcanoes NP as "very good" or "good." Fewer 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 Hawai'i Volcanoes National Park (NP) during March 11–17, 2007 by the National Park Service (NPS) Visitor Services Project (VSP), as part of the Park Studies Unit (PSU) at the University of Idaho.

Organization of the report

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*. A copy of the original questionnaire distributed to groups.

Appendix 2: *Additional Analysis*. 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*. An explanation of how the non-response bias was determined.

Appendix 4: *Visitor Services Project Publications*. A 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.

*total percentages do not equal 100 due to rounding

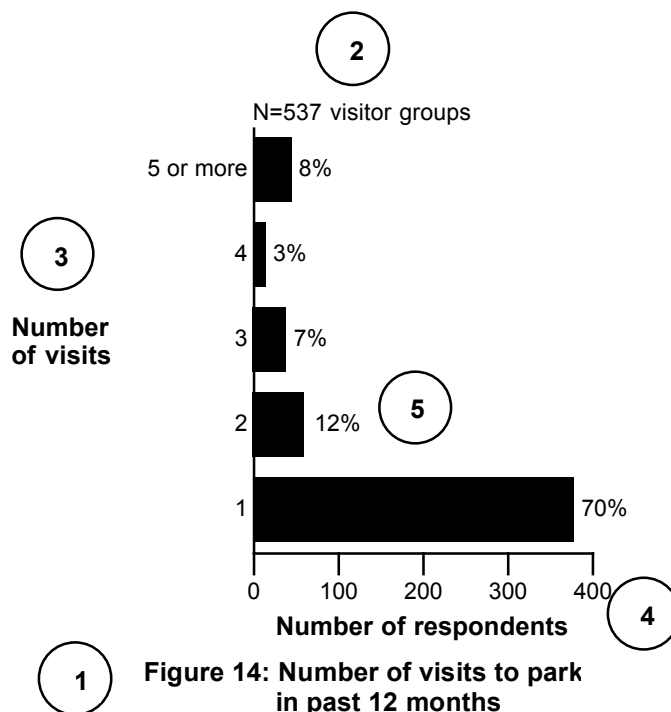
**total percentages do not equal 100 because visitors could select more than one answer

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.



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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). Using this methodology, the sample size was calculated based on park visitation statistics of previous years.

Brief interviews were conducted with a systematic, random sample of visitor groups that arrived at Hawai'i Volcanoes NP during March 11-17, 2007. During the survey, 1,353 visitor groups were contacted and 987 of these groups (72.9%) accepted questionnaires. The distributed questionnaires included 932 English and 55 Japanese (the latter distributed by two bi-lingual Japanese speaking interviewers). Returned questionnaires included 641 English (68.7%) and 45 Japanese questionnaires (81.8%), totaling 686 questionnaires returned, an overall 69.5% response rate. Table 1 presents the locations selected based on park visitation statistics and advice from park staff.

Table 1: Questionnaire distribution location

N=number of questionnaires distributed;
percentage does not equal 100 due to rounding.

Sampling site	Total N distributed	English questionnaires				Japanese questionnaires			
		Distributed		Returned		Distributed		Returned	
		N	% of total	N	% of total	N	% of total	N	% of total
Kilauea Visitor Center	450	439	47	302	32	11	20	8	15
Jaggar Museum	316	272	29	187	20	44	80	37	67
Eruption site	145	145	16	88	9	0	--	--	--
Hilo airport helicopter tours	76	76	8	64	7	0	--	--	--
Total	987	932	100	641	68.9	55	100	45	81.8

Questionnaire design

The Hawai'i Volcanoes NP 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 Hawai'i Volcanoes NP. Many questions asked visitors to choose answers from a list of responses, often with an open-ended option, while others were completely open-ended.

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No pilot study was conducted to test the Hawai'i Volcanoes NP 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. Visitors were asked to complete the survey after their visit, and return the questionnaire 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 were 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. The data was entered twice—by two independent data entry staff—and validated by a third staff member.

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 their 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 March 11-17, 2007. 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 respondents, as the results may be unreliable. Whenever the sample size is less than 30, the word **"CAUTION!"** is included in the graph, figure, table, text or open-ended comment tally.

*total percentages do not equal 100 due to rounding

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

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

The weather was often cool and cloudy, with some rain and mist. High levels of sulfur fumes required survey interviewers to work indoors for several days. These conditions may also have affected visitors' activities and length of stay in some areas, since the park staff recommended staying indoors during high sulfur levels for safety reasons.

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Checking Non-response Bias

At Hawaii Volcano NP, 1,353 visitor groups were contacted and 986 of these groups (73%) accepted the questionnaire. Questionnaires were completed and returned by 685 visitor groups, resulting in a 69.6% 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	Actual responded	Total distributed	Expected value
Alone	36	47	31
Family	448	653	434
Friends	102	147	98
Family and friends	55	79	53
Other	15	23	15
Total	656	986	
Chi-square = 1.482 df = 4 p-value = 0.830			

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

Variable	Respondent		Non-respondent		p-value (t-test)
	N	Average	N	Average	
Group size	672	3.70	295	3.75	0.857
Age	655	49.09	295	43.59	<0.001

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 Hawai'i Volcano National Park visitor population.

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RESULTS

Demographics

Visitor group size

Question 19a

On this visit, how many people were in your personal group, including yourself?

Results

- 45% of visitors were in groups of two (see Figure 1).
- 34% were in groups of three or four.
- 18% were in groups of five or more.

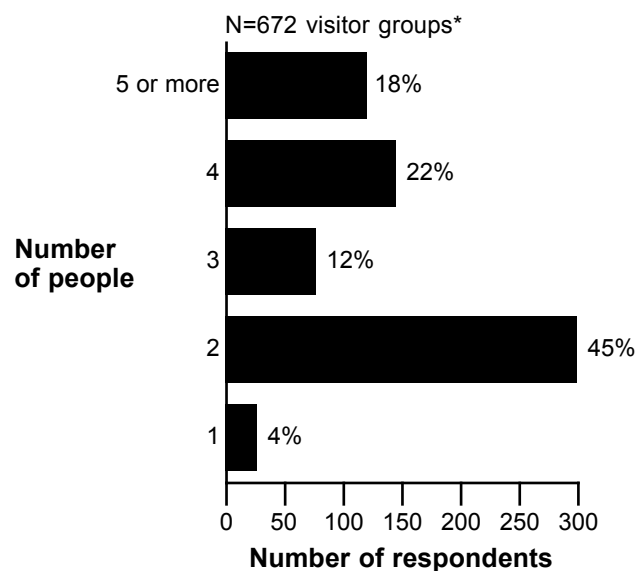


Figure 1: Visitor group size

Visitor group type

Question 18

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

Results

- 68% of visitor groups consisted of family members (see Figure 2).
- 16% were in a group of friends.
- 8% were with family and friends.
- 5% were alone.
- “Other” groups (2%) included:

Research team
Flight attendants
Women's exercise retreat

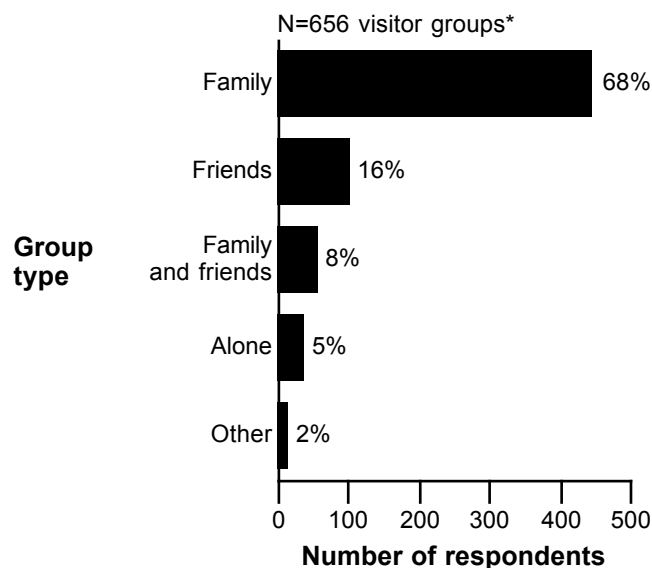


Figure 2: Visitor group type

*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 17a

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

Results

- 14% of visitor groups were with a commercial guided tour group (see Figure 3).

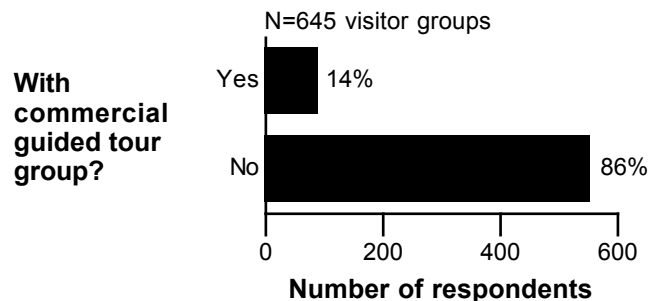


Figure 3: Visitors traveling with a commercial guided tour group

Question 17b

On this visit, were you and your personal group with a school/educational group?

Results

- 1% of visitor groups were with a school/educational group (see Figure 4).

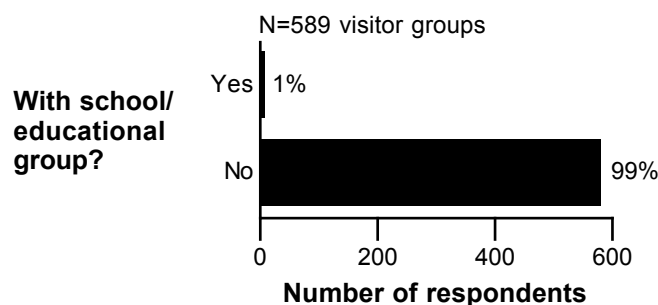


Figure 4: Visitors traveling with a school/educational group

Question 17c

On this visit, were you and your personal group with another organized group (business, scout group, etc.)?

Results

- 2% of visitor groups were with an other organized group (see Figure 5).

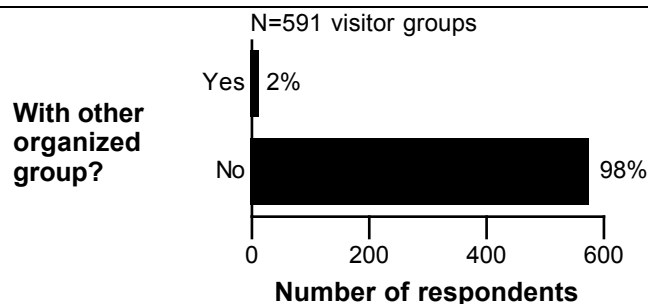


Figure 5: Visitors traveling with another organized group (business, scout group, etc.)

*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 20b

For you and your personal group on this visit, what is your current age?

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

Results

- Visitor ages ranged from 1 to 87 years old.
- 44% of visitors were aged 46-65 years (see Figure 6).
- 10% were 15 years or younger.

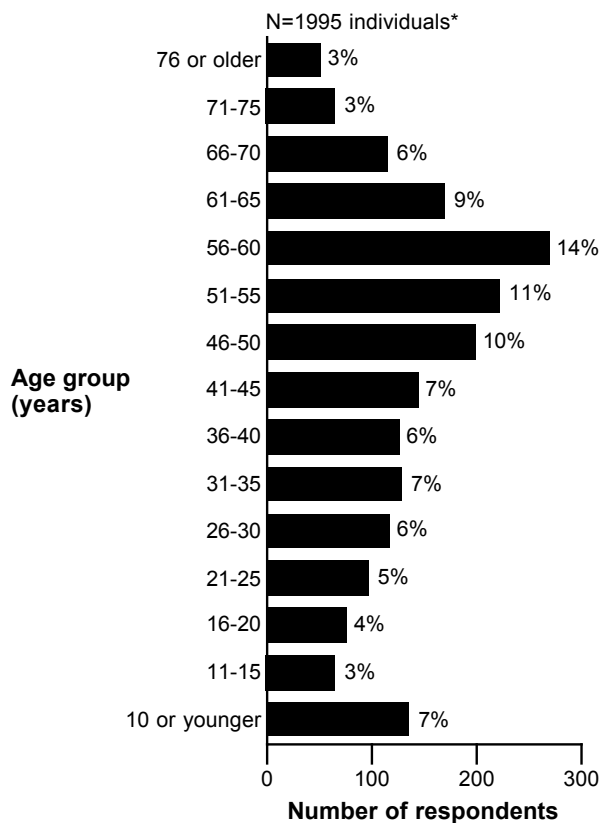


Figure 6: Visitor age

Visitor gender

Question 20a

For you and your personal group, what is your gender?

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

Results

- 52% of visitors were female (see Figure 7).
- 48% were male.

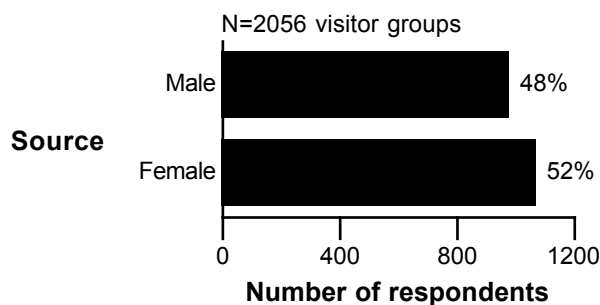


Figure 7: Visitor gender

*total percentages do not equal 100 due to rounding

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

Visitor level of education

Question 21

For you and each member (age 16 or over) in your personal group on this visit, please indicate the highest level of education completed.

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

Results

- 35% of visitors had a bachelor's degree (see Figure 8).
- 27% completed a graduate degree.
- 22% attended some college.

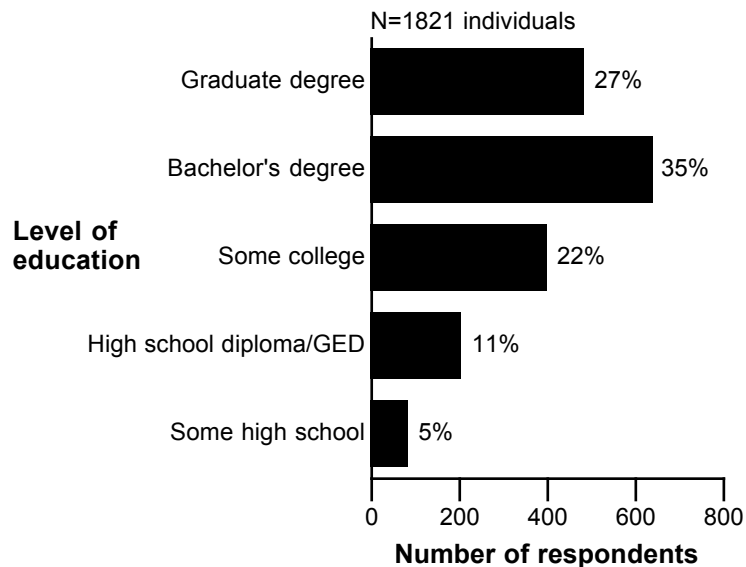


Figure 8: Visitor level of education

*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 20c

For you and your personal group,
what is your state of residence?

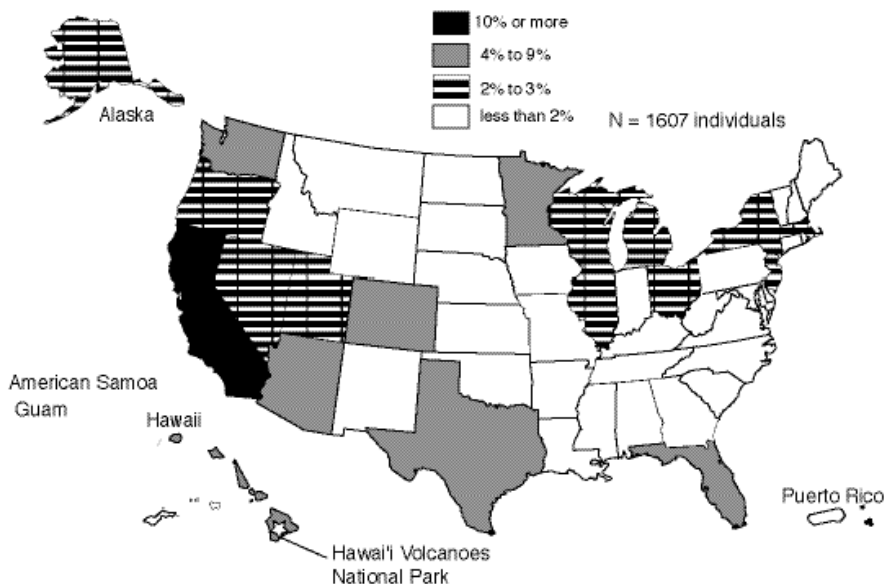
Table 4: United States visitors by state of residence*

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

Results

- U.S. visitors came from 50 states and comprised 85% of total visitation to the park during the survey period.
- 12% of U.S. visitors came from California (see Table 4 and Map 1).
- 9% came from Hawai'i and 9% from Texas.
- Smaller proportions came from 31 other states and Washington, D.C.

State	Number of visitors	Percent of U.S. visitors N=1,607 individuals	Percent of total visitors N=1,893 individuals
California	192	12	10
Hawai'i	139	9	7
Texas	137	9	7
Colorado	83	5	4
Washington	78	5	4
Minnesota	65	4	3
Arizona	63	4	3
Florida	57	4	3
New York	53	3	3
Oregon	52	3	3
Utah	50	3	3
Wisconsin	45	3	2
Alaska	40	2	2
New Jersey	40	2	2
Michigan	35	2	2
Ohio	35	2	2
Illinois	31	2	2
Massachusetts	31	2	2
Nevada	31	2	2
31 other states and Washington, D.C.	350	22	18



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 20c

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

- International visitors came from 16 countries, and comprised 15% of the total visitation to the park during the survey period.
- 40% of international visitors came from Canada (see Table 5).
- 36% came from Japan.
- 7% came from Germany.

Country	Number of visitors	Percent of international visitors N=286 individuals	Percent of total visitors N=1,893 individuals
Canada	114	40	6
Japan	103	36	5
Germany	20	7	1
Australia	16	6	1
United Kingdom	10	4	1
Switzerland	5	2	<1
New Zealand	3	1	<1
Chile	2	1	<1
Denmark	2	1	<1
Netherlands	2	1	<1
Russia	2	1	<1
Singapore	2	1	<1
South Korea	2	1	<1
Brazil	1	<1	<1
Finland	1	<1	<1
Mexico	1	<1	<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 park in past 12 months

Question 20d

How many times have you and your personal group visited the park in the past 12 months (including this visit)?

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

Results

- 88% of visitors visited the park once in the past 12 months (see Figure 9).
- 8% visited two times in the past 12 months.

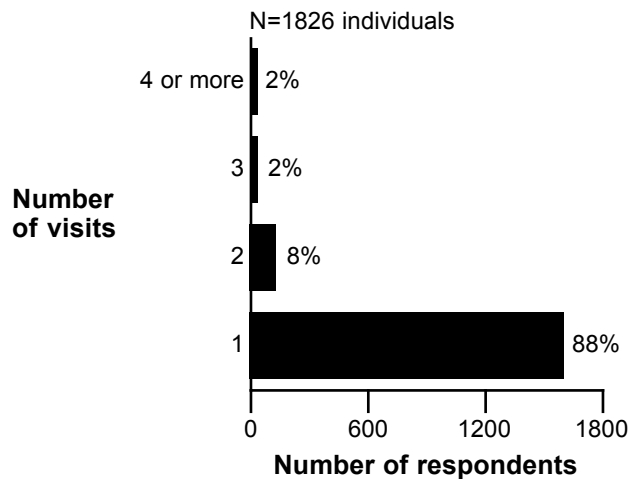


Figure 9: Number of visits to park in the past 12 months

Number of visits to the park in lifetime

Question 20e

How many times have you and your personal group visited the park in your lifetime (including this visit)?

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

Results

- 72% of visitors had visited the park once in their lifetime (see Figure 10).
- 19% visited two or three times.

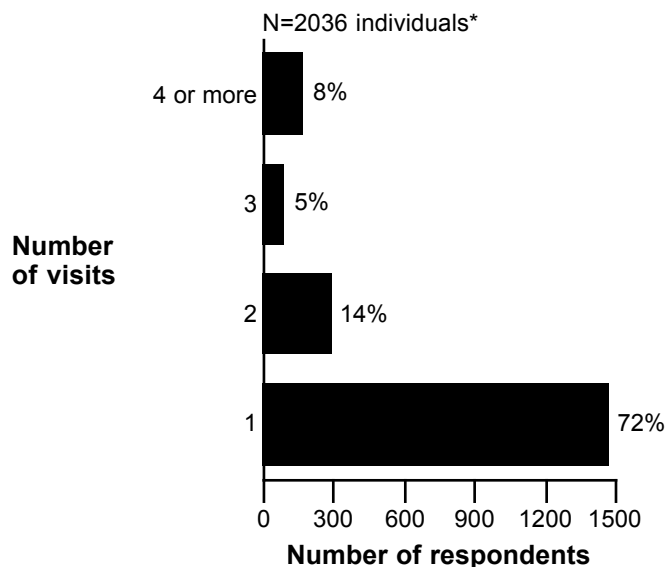


Figure 10: Number of visits to park in lifetime

*total percentages do not equal 100 due to rounding

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

Preferred languages for speaking and writing

Table 6: Preferred language for speaking

N=674 visitor groups

Question 22a

What is the one language you and/or members of your group prefer to use for speaking?

Results

- Most visitor groups (92%) preferred to speak English (see Table 6).
- 6% of visitor groups preferred to speak Japanese.

Language - speaking	Number of times mentioned
English	617
Japanese	39
German	7
French	3
Russian	2
English/German	2
Hebrew	1
Portuguese	1
Spanish	1
Tagalog	1

Question 22a

What is the one language you and/or members of your group prefer to use for reading?

Results

- Most visitor groups (92%) preferred to read English (see Table 7).
- 6% preferred to read in Japanese.

Table 7: Preferred language for reading

N=661 visitor groups

Language - reading	Number of times mentioned
English	607
Japanese	37
German	7
French	3
English/German	2
Hebrew	1
Portuguese	1
Russian	1
Russian/English	1
Spanish	1

*total percentages do not equal 100 due to rounding

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

Questions 22b and 22c

What services in the park would you like to have provided in languages other than English (22b), and in which language (22c)?

Results

- Visitors listed a number of services that they would like to be provided in other languages, including natural history, exhibits, safety, and information about lava/volcanoes (see Table 8).

Table 8: Services desired in other languages

N=77 visitor groups

Service	Language	Number of times mentioned
All services/basic information	Japanese	2
All services	French	1
Everything on natural history	Spanish	1
All services	Mandarin Chinese	1
All safety information	Japanese	1
Movie	German	1
Signage	French	1
Ranger information	German	1
Language interpreter	Japanese	1
Explanations/descriptions	Japanese	1
(services listed, but no language indicated)		
Exhibits		6
Safety		4
Information about lava/volcanoes		3
All services		3
Any needed		2
Brochures		1
Information about research		1
Guided tour		1
Radio information		1
Visual images		1
(languages listed, but no service indicated)		
	Hawaiian	6
	French	1
	Japanese	1
	Mandarin Chinese	1
	Spanish	

*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 physical conditions/impairments

Question 23a

Does anyone in your group have a physical condition that made it difficult to access or participate in park activities or services?

Results

- 14% of visitor groups had members with physical conditions that made access difficult (see Figure 11).

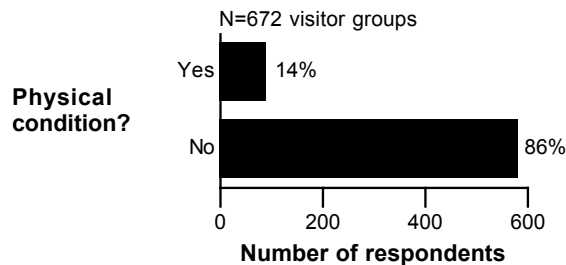


Figure 11: Visitors with physical condition

Question 23b

If YES, on this visit, what activities or services did the person have difficulty accessing or participating in?

Results

- 95% of visitor groups who had members with disabilities had problems accessing services (see Figure 12).
- In the groups above, visitors with a physical condition had difficulty accessing the following activities/services (see Figure 13):

67% Active lava flow
55% Trails.
14% Overlooks

- "Other" types of activities/services (22%) included:

Lava tube
Day hikes
Steam vents
Walk from parking to lava flow site
Walking on lava

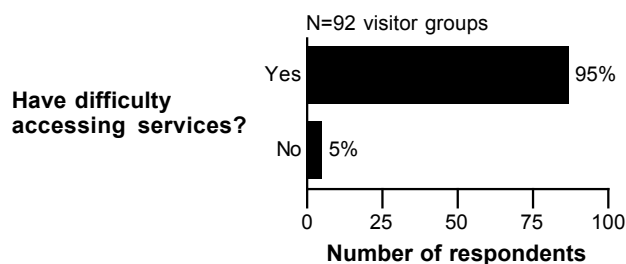


Figure 12: Visitor groups with disabled members who had difficulty accessing activities/services

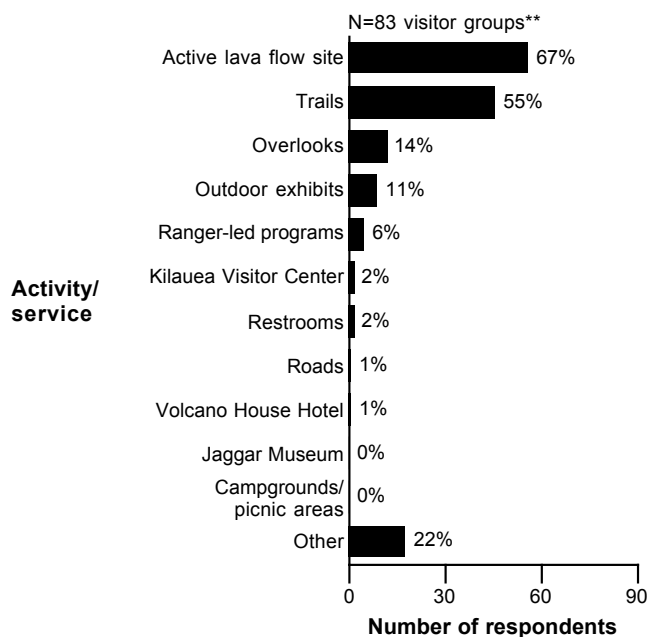


Figure 13: Activities/services difficult to participate in/access

*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

Because of the physical condition, what specific problems did the person(s) have?

Results

- Of the visitors that had physical conditions/impairments, 74% listed mobility as an impairment (see Figure 14).
- Hearing impairments accounted for 7% of the physical conditions/impairments.
- "Other" physical conditions (26%) included:

Breathing
Asthma
Pregnancy

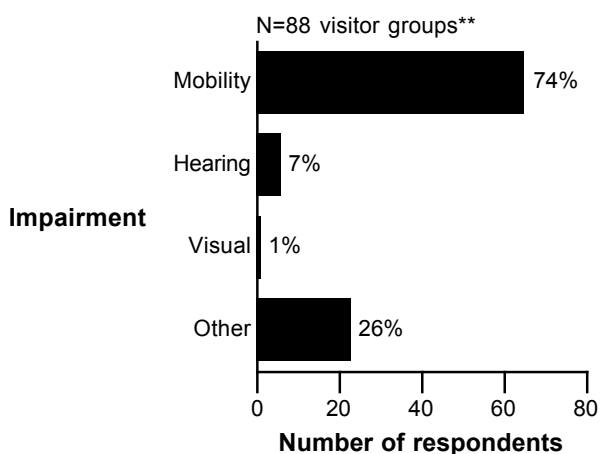


Figure 14: Type of disability/impairment

*total percentages do not equal 100 due to rounding

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

Trip/Visit Characteristics and Preferences

Information sources prior to visit

Question 1a

Before this visit, how did you and your group obtain information about Hawai'i Volcanoes National Park (NP)?

Results

- 95% of visitor groups obtained information about the park prior to their visit (see Figure 15).
- As shown in Figure 16, of those who did obtain information (95%), the most common sources of information included:

57% Travel guides/tour books/publications
 46% Friends/relatives/word of mouth
 34% Other printed materials
 30% Previous visits
 21% Official park website

- "Other" sources of information (7%) included:

Resident of area
 Library
 Car rental agency
 Conference excursion
 Elderhostel
 Geology book
 Hawaiian Airlines video
 Kohala Foundation
 Military book
 NPS Pass booklet
 State Board of Education

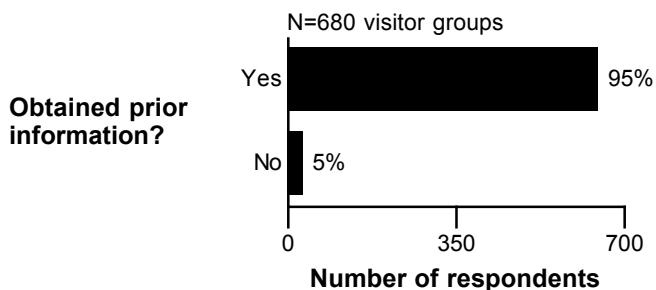


Figure 15: Visitors who obtained information about park prior to this visit

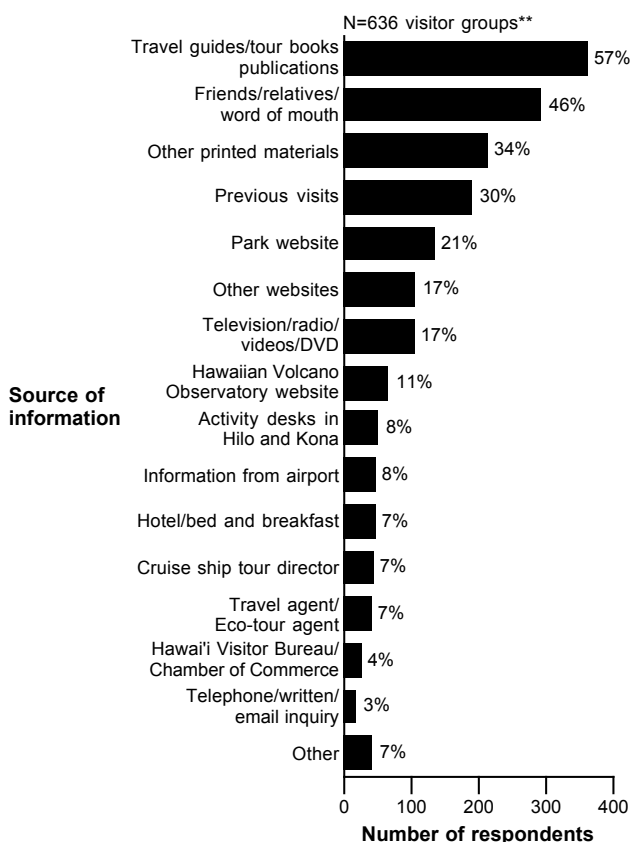


Figure 16: Sources of information used by visitor groups prior to this visit

*total percentages do not equal 100 due to rounding

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

Question 1c

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

Results

- 88% of visitor groups obtained the information they needed for this trip to Hawai'i Volcanoes National Park (see Figure 17).

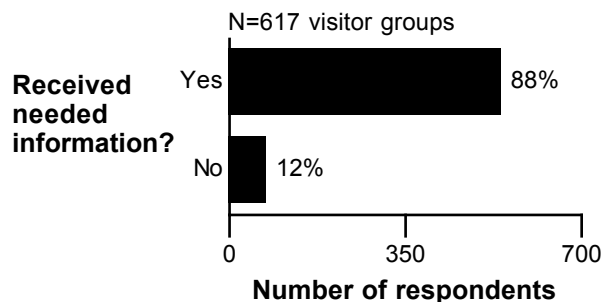


Figure 17: Visitor groups who obtained needed information prior to this visit

Question 1d

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

Results

- Additional information that visitor groups (N=90) needed included:

Where/how to see lava
Hiking information
Weather conditions
Distance to sites
Current lava flow information
Recommended clothing
Food availability
Activities
General information
More detailed travel information
Time requirements
What to expect
Where/how to see hot lava
Geology information
Other

*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 for future visit

Question 1b

Before your next visit, how would you and your group prefer to obtain information about Hawai'i Volcanoes NP?

Results

- As shown in Figure 18, the most common sources of information preferred for a future visit were:

65% Park website
44% Travel guides/tour books
42% Hawaiian Volcano NP Observatory website

- "Other" sources of information (2%) included:

Books
E-mail
Friends of Volcano NP
Konaweb.com
News reports
Radio
Scientific information

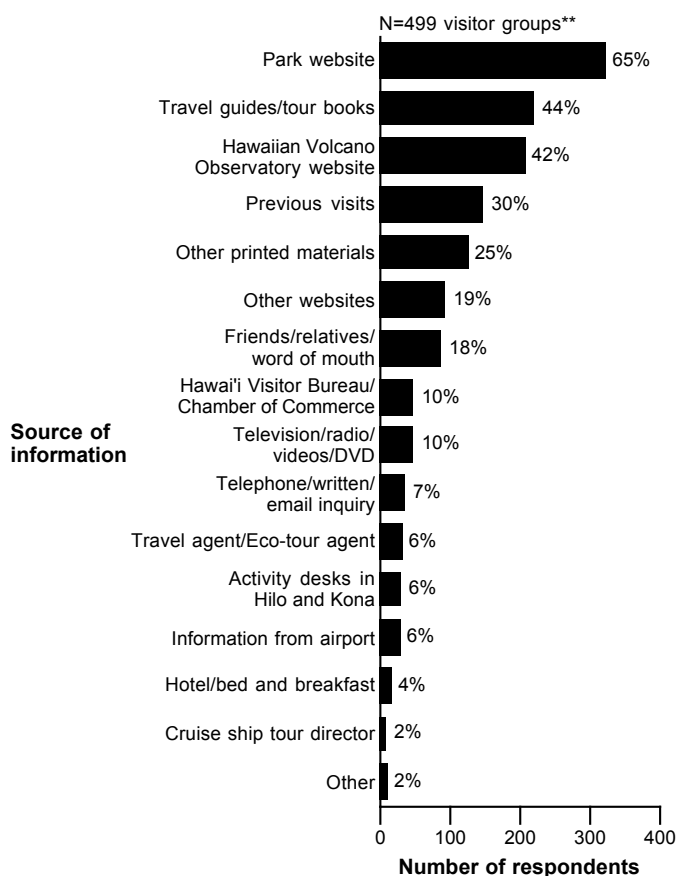


Figure 18: Sources of information preferred for a future visit

Question 1e

Did you and your group receive accessibility information for people with disabilities from any of the above sources?

Results

- 8% of visitor groups obtained accessibility information (see Figure 19).

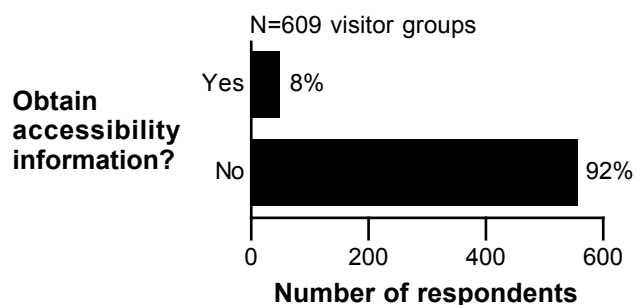


Figure 19: Visitor groups who obtained accessibility information

*total percentages do not equal 100 due to rounding

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

Question 1e

If YES, from what source(s)?

Results:

- As shown in Table 9, visitors obtained accessibility information from a variety of sources, including:

Travel guide/tour books (19%)

Printed materials (13%)

Cruise ship information (8%)

Websites (8%)

Table 9: Information sources about accessibility

N=48 visitor groups

Source	Number of times mentioned
Travel guides/tour books	9
Printed materials	6
Cruise ship information	4
Websites	4
Don't remember/not sure	3
Television	3
Park website	2
Previous visits	2
Other	15

*total percentages do not equal 100 due to rounding

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

Timing of decision to visit

Question 3a

For this visit, when did you and your group make the decision to visit Hawai'i Volcanoes NP?

Results

- 47% of visitor groups made the decision to visit the park two to six months ago (see Figure 20).
- 18% decided to visit less than one month ago.
- 17% decided to visit the park after arriving in Hawai'i.

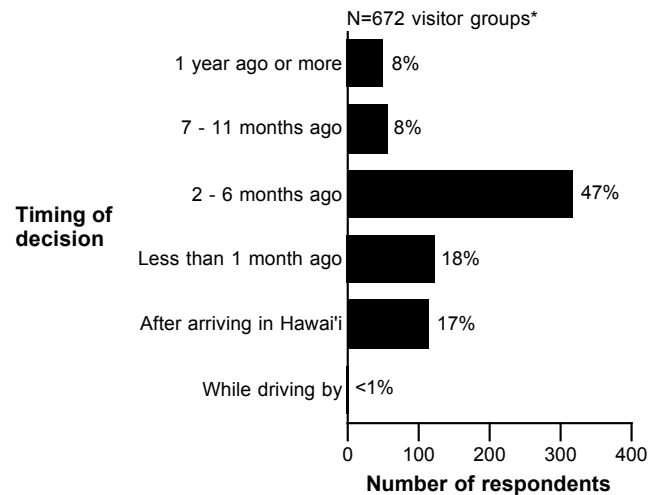


Figure 20: Timing of decision to visit the park

*total percentages do not equal 100 due to rounding

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

Question 3b

Why did you and your group choose to visit when you did?

Results:

- As shown in Table 10, the most common reasons for deciding when to visit Hawai'i Volcanoes NP were:
 17% vacation schedule/itinerary
 12% spring break
 7% cruise schedule

Table 10: Reasons for timing of visit
N=552 comments

Reason	Number of times mentioned
Vacation schedule/itinerary	95
Spring break	67
Cruise schedule	39
Right timing	36
Visiting with family/friends	34
Coincided with visit to Hawai'i	22
Business trip/conference/convention	20
To see lava flow	19
Work schedule/time off	18
To see volcano	17
Convenient time	15
Weather at home	14
Weather on site	13
School schedule/vacation	11
Tour schedule	11
No particular reason	9
Airfare/special rates	9
Whale watching time	9
Attend a wedding	8
Activity with family/friends	7
Previous visit	7
Anniversary	6
Time share available	6
Birthday	5
Had the opportunity	5
Honeymoon	5
Only free day	4
Tour group schedule	4
Personal schedule	4
In the Hilo area	4
Special event/festival	3
Good time of year	2
Winter break/vacation	2
Hotel information	2
Military leave	2
Off season - less crowded	2
On the way to airport	2
Television ad	2
Travel agency offer	2
Friend/guide book recommendation	2
Other	8

*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 stay

Question 10a

On this visit, how long did you and your group visit Hawai'i Volcanoes NP?

Number of hours if less than 24 hours

Results

- Of those visitor groups who spent less than 24 hours in the park, 45% spent four to six hours (see Figure 21).
- 28% spent eight or more hours.
- 21% spent up to three hours.
- For visitor groups who spent less than 24 hours, the average length of stay was 6.1 hours.

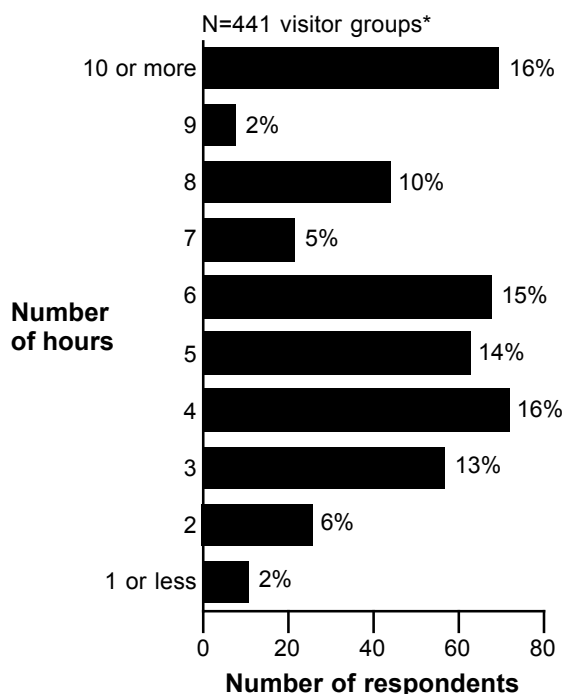


Figure 21: Number of hours spent visiting the park

Question 10b

On this visit, how long did you and your group visit Hawai'i Volcanoes NP?

Number of days if 24 hours or more

Results

- Of those visitor groups who were in the park for more than 24 hours, 65% spent two or three days (see Figure 22).
- 13% spent four or five days.
- 11% spent seven or more days.
- For visitor groups who spent 24 hours or more, the average length of stay was 3.7 days.

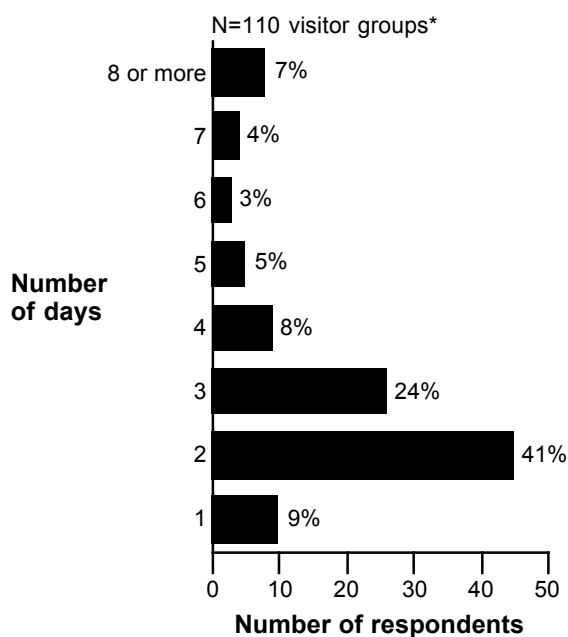


Figure 22: Number of days spent visiting the park

*total percentages do not equal 100 due to rounding

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

Schedule and time planned for visit

Question 4a

When visiting Hawai'i Volcanoes NP, were you and your group on a fixed schedule (such as schedules set up by cruise ship tours or other tours, business meetings, etc.)?

Results

- 77% of visitor groups were not on a fixed schedule (see Figure 23).
- 23% were on a fixed schedule.

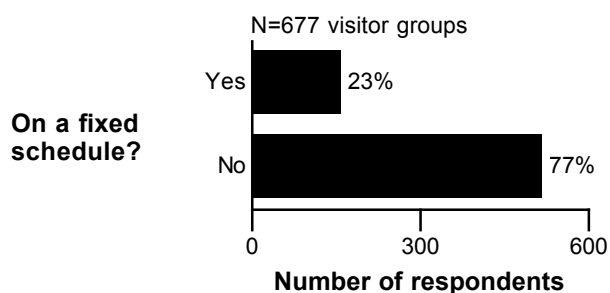


Figure 23: Visitors on a fixed schedule

Question 4b

If NO, how did the amount of time that you and your group spent visiting compare with what you had planned?

Results

- 36% of visitor groups had no planned time frame for their visit (see Figure 24).
- 36% spent about the same amount of time as they had planned.

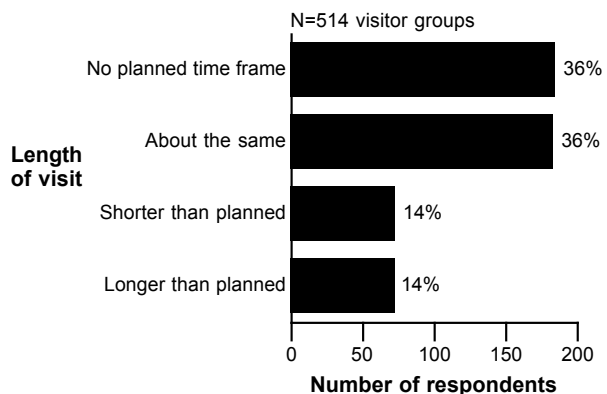


Figure 24: Time spent compared to time planned

*total percentages do not equal 100 due to rounding

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

Question 4c

If you and your group stayed for a shorter or longer time than planned, what were your reasons for changing your plans?

Results

- 53% of visitor groups changed the length of their visit to Hawai'i Volcanoes NP because there were more things to see/do than expected (see Figure 25).
- "Other" reasons for changing their plans (39%) included:

Weather
Hike to lava farther/longer than expected
Insufficient daylight
Travel time/distance
Late arrival
Took more time than expected
Traveling with a child
Wanted to see lava
Air quality
Difficult hiking conditions
Health problem
Travel time
Cruise ship schedule
Decided to visit observatory
Did not walk to lava flow
Difficulty seeing Nene Goose
Enjoyed nature
Late start

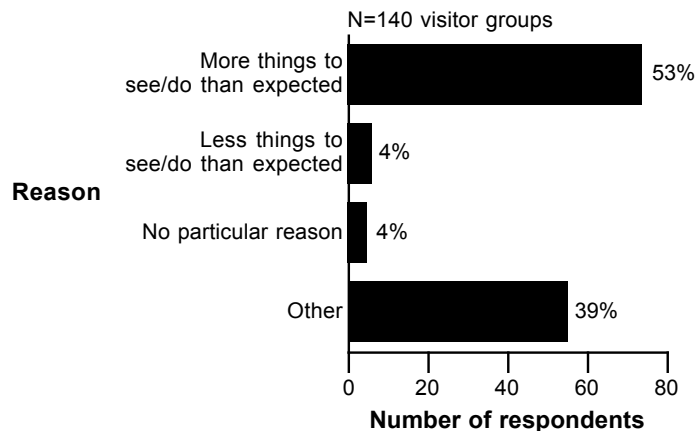


Figure 25: Reasons for changing plans

*total percentages do not equal 100 due to rounding

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

Overnight stay

Question 8a

On this visit to Hawai'i Volcanoes NP, did you and your group stay overnight away from home on the big island of Hawai'i?

Results

- 76% of visitor groups stayed overnight away from home on the big island (see Figure 26).

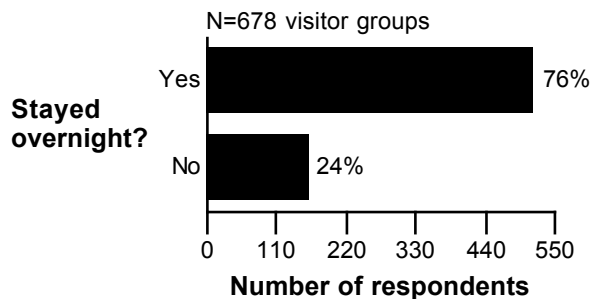


Figure 26: Overnight stays away from home on the big island?

Question 8b

If YES, how many nights did you stay on the big island of Hawai'i?

Results

- 43% of visitor groups stayed seven or more nights away from home on the big island (see Figure 27).
- 32% spent two to four nights.
- 17% spent five or six nights.

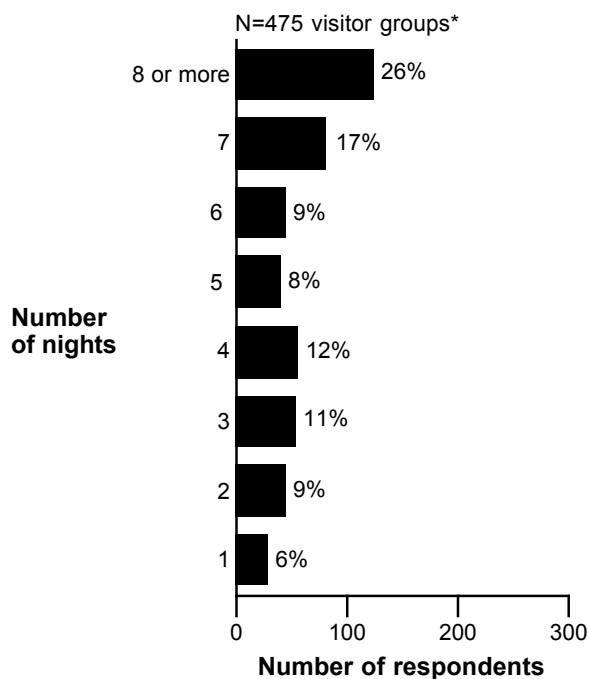


Figure 27: Number of nights stayed on the big island of Hawai'i

*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 8c

Where did you and your group stay?

Results

- 56% of visitor groups stayed in the Kona/Kohala area (see Figure 27).
- 24% stayed in the Hilo area.
- 17% stayed in vacation rentals (see Table 11 for specific locations).
- 8% stayed with friends and relatives (see Table 12 for specific locations).
- 10% of visitor groups listed "other" places (see Table 13 for specific locations).

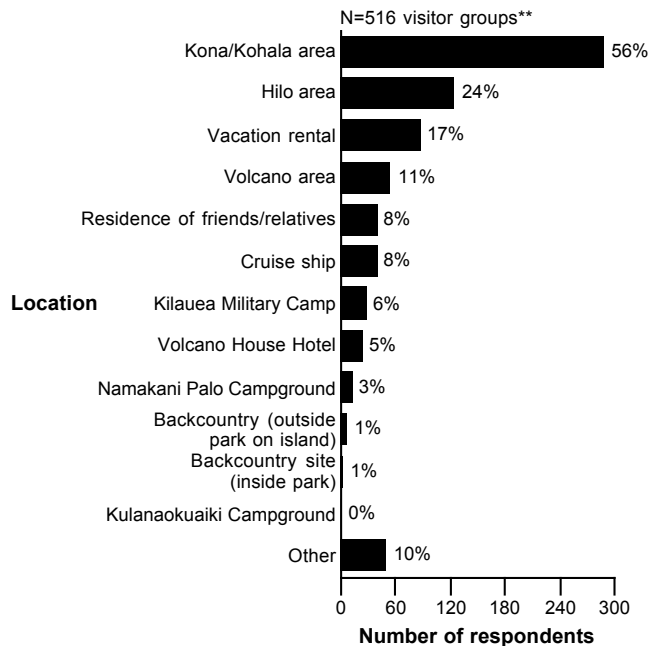


Figure 28: Type of lodging

Table 11: "Vacation rental" locations

N=80 visitor groups

Kona	Hale Ohia	Pahio Greens
Volcano	Hapuna Beach	Pahoa
Kona Coast Resorts	Hilton Waikoloa Village	Paneola Greens
Royal Sea Cliff	Holua Resort	Papa Bay
Hilo	Hotel	Puna Coast
Punalu'u	Kahalou Beach	Rented cottage
Volcano Village	Kai Kai B&B	Sea Mountain Resort
Waikoloa	Kapoho	Sea Village
Kailua-Kona	Keaau	Uncle Billy's, Kona
Kapalana	Kehena	Volcano Bed and Breakfast
Keahouhou	Kona Balikai	Volcano Cottage
Paniolo Greens	Kona Hawaiian Resort	Volcano House in Volcano Village
Timeshare	Leilani B&B	Volcano Rainforest Retreat
10th & Pearl	Maikalaoa	Waikoloa Bay Club
Alii Drive	Makai (South of Pahoa)	Waikoloa Resort
Billfisher-Kona	My Island B&B - Volcano Village	Waikoloa Village
Bougainvillea B&B	Orchid House B&B Volcano	Waimea
Condo	Village	Wiapio Valley
Country Goose	Pahala	

*total percentages do not equal 100 due to rounding

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

Table 12: Locations of “Residence of friends/relatives”
N=35 visitor groups

Kona
Hilo
Honakaa
Kailua
Ocean View
Pahoa
Waikoloa
Captain Cook
Friends
Kapoho
Kona Reef Condos
Mauna Lani
Naalehu
Puako
Sister's cabin
Waimea

Table 13: “Other” places that visitors stayed
N=50 visitor groups

Bed and breakfast	Hilo
Condo	Hilton Waikoloa Resort
Time share	Honoka's
Waimea area	Hookena Beach
Hotel	Hookena campground
Kilauea Lodge	Kihei area
Mauna Lani	King Kamehameha
Sheraton Hotel	Manago Hotel
Volcano Village Bed and Breakfast	North Island
Beach camping	Oahu
Captain Cook	Prince Resort Hotel
Chalet Kilauea Volcano	Private condo
Fairfield Vacation Resorts	Private residence
Hapuna Prince	Puna
Hawi town	Research housing - Kohala
	Volcano Inn

*total percentages do not equal 100 due to rounding

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

Question 8d

For the places that you and your group stayed, please indicated the number of nights that you stayed in each location.

Results:

- 516 visitor groups (75%) answered this question. Table 14 shows the proportion of visitors that spent a given number of nights in each location.

Table 14: Number of nights visitors stayed at selected locations

N=number of visitor groups

Nights (%)

Location	N	1	2	3	4	5	6	7 or more
Kona/Kohala	242	7	14	19	12	15	7	26
Hilo area	109	31	22	17	12	3	5	11
Vacation rental	66	5	5	8	14	9	11	50
Volcano area	51	41	29	16	10	2	0	2
Residence of friends/relatives	34	6	0	0	21	3	12	59
Cruise ship	32	47	25	0	0	0	3	25
Kilauea Military Camp CAUTION!	25	16	20	28	16	0	4	16
Volcano House Hotel CAUTION!	22	45	41	9	0	5	0	0
Namakani Paio Campground CAUTION!	12	33	25	33	8	0	0	0
Backcountry site (outside park) CAUTION!	5	0	60	20	20	0	0	0
Backcountry site (inside park) CAUTION!	3	33	33	0	33	0	0	0
Kulanoahuaiki Campground CAUTION!	0	0	0	0	0	0	0	0
Other	44	16	25	11	9	2	11	25

*total percentages do not equal 100 due to rounding

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

Places stayed on night prior to visit

Question 9a

Where did you and your group stay on the night prior to visiting Hawai'i Volcanoes NP?

Table 15: Places stayed on night prior to visiting Hawai'i Volcanoes NP
N=641 visitor groups

	City/Town and State/Country	Number of times mentioned
Results	Kona, HI	159
• As shown in Table 15, the most common cities/towns that visitor groups spent the night prior to their visit were:	Hilo, HI	82
25% in Kona, HI	Honolulu, HI	56
13% in Hilo, HI	Cruise ship, HI	46
9% in Honolulu, HI	Waikoloa Village, HI	39
	Kailua, HI	31
	Volcano, HI	23
	Kohala, HI	19
	Captain Cook, HI	11
	Waikiki, HI	11
	Keauhou Bay, HI	10
	Pahoa, HI	9
	Kuai'i, HI	6
	Mililani, HI	5
	Oahu, HI	4
	Pahala, HI	4
	Punalu'u, HI	4
	San Francisco, CA	4
	Kihei, HI	3
	Mauna Lani, HI	3
	Mountain View, HI	3
	Ocean View, HI	3
	Waimea, HI	3
	Honoka'a, HI	2
	Kahana, HI	2
	Kahului, HI	2
	Kanagawa, Japan	2
	Kapoho, HI	2
	Keaau, HI	2
	Kurtistown, HI	2
	Maui, HI	2
	Minneapolis, MN	2
	Naalehu, HI	2
	Tokyo, Japan	2
	Wailea, HI	2
	Alameda, CA	1
	Baldwyn, MS	1
	Black Sand Beach, HI	1
	Baltimore, MD	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 15: Places stayed on night prior to visiting
Hawai'i Volcanoes NP**
(continued)

City/Town and State/Country	Number of times mentioned
Baytown, TX	1
Broken Arrow, OK	1
Bryan, OH	1
Dahoa, HI	1
Dansville, MI	1
Eau Claire, WI	1
Forest Hills, NY	1
Griffin, GA	1
Haleiwa, HI	1
Hanalei, HI	1
Hapuna Beach, HI	1
Hawaiian Acres, HI	1
Hickam AFB, HI	1
Higashimurayama, Japan	1
Holcomb, MO	1
Hookena Beach, HI	1
Humboldt, TN	1
Kaanapali, HI	1
Kainaliu, HI	1
Kaneohe, HI	1
Kapaau, HI	1
Kapalana, HI	1
Kapalua, HI	1
Kapiolani, HI	1
Katy, TX	1
Kealahou, HI	1
Kehena, HI	1
Kilauea, HI	1
Ko'olina, HI	1
Lahaina, HI	1
Laramie, WY	1
Las Vegas, NV	1
Lihue, HI	1
Lorton, VA	1
Los Angeles, CA	1
Maikaloa, HI	1
Makaha, HI	1
Maywood, NJ	1
McKinney, TX	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 15: Places stayed on night prior to visiting
Hawai'i Volcanoes NP**
(continued)

City/Town and State/Country	Number of times mentioned
Milford, NH	1
Milolii, HI	1
Miltona, MN	1
Murrieta, CA	1
Nawiliwili, HI	1
New York, NY	1
Ninole, HI	1
North Kohala, HI	1
Opihikao, HI	1
Orange, CA	1
Phoenix, AZ	1
Pine Grove, CA	1
Piqua, OH	1
Portland, OR	1
Princeville, HI	1
Puako, HI	1
Reno, NV	1
Saitama, Japan	1
San Dimas, CA	1
Sandwich, MA	1
Sandy, UT	1
Santiago, Chile	1
Seattle, WA	1
South Point, HI	1
Tampa, FL	1
Tokushima-ken, Japan	1
Two Harbors, MN	1
Valparaiso, IN	1
Wailuku, HI	1
Waipahu, HI	1
Waukesha, WI	1
Weston, FL	1
Wiapio Valley, HI	1
Unknown town in HI	3

*total percentages do not equal 100 due to rounding

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

Places stayed on night after visit

Question 9b

Where did you and your group stay on the night after leaving Hawai'i Volcanoes NP?

Table 16: Places stayed on night after visiting Hawai'i Volcanoes NP

N=632 visitor groups

	City/Town and State/Country	Number of times mentioned
Results	Kona, HI	164
• As shown in Table 16, the most common cities/towns that visitor groups spent the night after visiting were:	Hilo, HI	82
	Cruise ship, HI	48
	Waikoloa Village, HI	40
	Honolulu, HI	36
26% in Kona, HI	Kailua, HI	30
13% in Hilo, HI	Volcano, HI	21
8% on a cruise ship	Kohala, HI	15
	Captain Cook, HI	11
	Keauhou Bay, HI	11
	Kuai'i, HI	8
	Oahu, HI	8
	Pahoa, HI	8
	Waikiki, HI	8
	Maui, HI	7
	Lahaina, HI	5
	Waimea, HI	5
	Kahului, HI	4
	Keaau, HI	4
	Mauna Lani, HI	4
	Ocean View, HI	4
	Punalu'u, HI	4
	Honoka'a, HI	3
	Lihue, HI	3
	Los Angeles, CA	3
	Mililani, HI	3
	Mountain View, HI	3
	Pahala, HI	3
	Phoenix, AZ	3
	San Francisco, CA	3
	Hoboken, NJ	2
	Kihei, HI	2
	Naalehu, HI	2
	New York, NY	2
	Overnight flight	2
	Aiea, HI	1
	Alameda, CA	1
	Austin, TX	1
	Baldwyn, MS	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 16: Places stayed on night after visiting Hawai'i
Volcanoes NP**
(continued)

City/Town and State/Country	Number of times mentioned
Becker, MN	1
Big Pine Key, FL	1
Bloomington, IN	1
Chico, CA	1
Danbury, CT	1
Dansville, MI	1
Denver, CO	1
Fuchu, Japan	1
Griffin, GA	1
Hapuna Beach, HI	1
Hawaii, HI	1
Hawi, HI	1
Hickam AFB, HI	1
Higashimurayama, Japan	1
Holualoa, HI	1
Honomu, HI	1
Hookena Beach, HI	1
Humboldt, TN	1
Juneau, AK	1
Kainaliu, HI	1
Kapaau, HI	1
Kapalana, HI	1
Kapiolani, HI	1
Kapoho, HI	1
Katy, TX	1
Kealakekua, HI	1
Kehena, HI	1
Kilauea, HI	1
Ko'olina, HI	1
Kurtistown, HI	1
Lake Ridge, VA	1
Lansing, MI	1
Laramie, WY	1
Loma Linda, CA	1
Lorton, VA	1
Lubbock, TX	1
Lyons, NE	1
Maikaloa, HI	1
McKinney, TX	1
Miltona, MN	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 16: Places stayed on night after visiting Hawai'i
Volcanoes NP**
(continued)

City/Town and State/Country	Number of times mentioned
Molokai, HI	1
Moscow, Russia	1
Murrieta, CA	1
Ninole, HI	1
North Kohala, HI	1
Oberlin, OH	1
Opihikao, HI	1
Pearland, TX	1
Peoria, IL	1
Pine Grove, CA	1
Port St. Lucie, FL	1
Portland, OR	1
Puako, HI	1
Reno, NV	1
Salt Lake City, UT	1
South Kona, HI	1
South Orange, NJ	1
St. Cloud, MN	1
Tokyo, Japan	1
Toronto, Ontario, Canada	1
Two Harbors, MN	1
Wadena, MN	1
Wailea, HI	1
Wiapio Valley, HI	1
Unknown town in HI	3

*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 park entries

Question 19c

On this visit, how many times did you and your group enter Hawai'i Volcanoes NP during your stay in the area?

Results

- 68% of visitor groups entered the park once (see Figure 29).
- 25% entered two or three times.
- 8% entered four or more times.

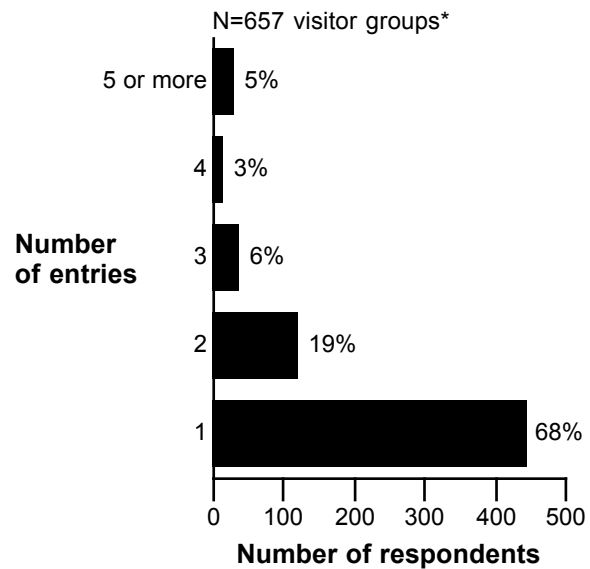


Figure 29: Number of times entered the park

Number of vehicles

Question 19b

On this visit, how many vehicles did you and your group use to enter the park?

Results

- 93% of visitor groups used one vehicle to enter the park (see Figure 30).

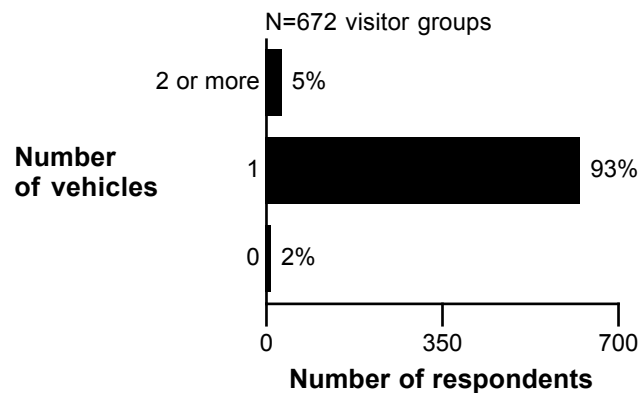


Figure 30: Number of vehicles used to travel to park

*total percentages do not equal 100 due to rounding

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

Exploring the park

Question 7a

On this visit, how did you and your group explore Hawai'i Volcanoes NP?

Results

- 62% of visitor groups explored the park on their own, in a rental vehicle (see Figure 31).
- 22% explored the park on their own, in a private vehicle.
- 17% used a commercial tour to explore the park.
- Methods of exploring the park on a commercial tour included:

Helicopter
Bus
Van
Mini-bus
Polynesian Adventure
Polynesian Tours
Cruise excursion
Roberts Hawaii
Bicycle

- "Other" methods of exploring (4%) included:

Walk/hike
Ranger-guided
Elderhostel tour
Self-guided
Bicycle
With docent
Private car
Rental vehicle

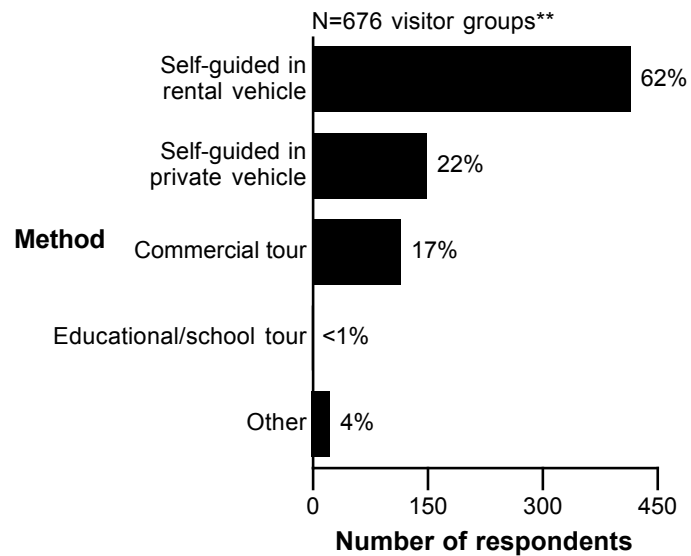


Figure 31: Method visitors used to explore park

*total percentages do not equal 100 due to rounding

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

Question 7b

Did the above method(s) of exploring the park meet you and your group's expectations?

Results

- 93% of visitor groups reported that their methods of exploration met their expectations (see Figure 31).

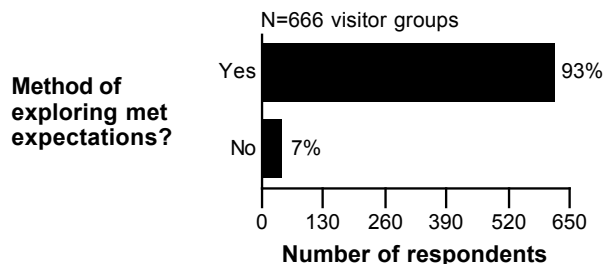


Figure 32: Visitor groups whose methods of exploring park met their expectations

Question 7c

If you answered Yes or No, please explain.

Results:

- Tables 17-21 show visitor explanations of how each particular method of exploring the park met or did not meet their expectations.

Table 17: Self-guided in private vehicle

Met expectations?	Explanation	Number of times mentioned
Yes	Freedom/flexibility to explore at own pace	28
Yes	Access by car is easy/convenient	7
Yes	Used knowledge/experience from previous visits	4
Yes	Did not need any explanations	1
Yes	Difficulty hiking	1
Yes	Excellent drive	1
Yes	Helpful information from Visitor Center	1
Yes	Limited time	1
Yes	Only way to explore the whole park	1
Yes	Wanted to see lava flow	1
Yes	Well-marked sites	1
Yes	Wish there were more to see	1
Yes	No comment	65
No	Bad weather	2
No	Guided tour would have been interesting	1
No	Guided tour too expensive	1
No	Missed things – did not have all the information	1
No	Limited hiking due to sulfur concern for infant	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 18: Self-guided in rental vehicle

Met expectations?	Explanation	Number of times mentioned
Yes	Freedom/flexibility to explore at own pace	94
Yes	Did/saw all we planned/wanted to	11
Yes	Good signage (roads, trails)	8
Yes	Access by car is convenient/easy	7
Yes	Good/helpful maps	6
Yes	Had limited time	6
Yes	Used knowledge from previous visits	5
Yes	Easy to explore	2
Yes	Good information from park staff	2
Yes	Informative presentation	1
Yes	Enjoyed ranger hike	1
Yes	Great exhibits	1
Yes	Good weather	1
Yes	Long hike	1
Yes	Saw a lot	1
Yes	Saw active lava flow	1
Yes	Unprepared for lava	1
Yes	No problems driving	1
Yes	Trails were too short	1
Yes	Park very accessible	1
Yes	No comment	234
No	Clouds obscured view	3
No	Unable to drive to lava	2
No	Needed more time	2
No	Commercial tour would be better	1
No	Could have used audio tour	1
No	Desired more information at sites	1
No	Lava flow too far	1
No	Parking made access difficult	1
No	Wanted to hike	1
No	Did not notice ranger-led hikes	1
No	No comment	2

*total percentages do not equal 100 due to rounding

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

Table 19: Commercial tour

Met expectations?	Explanation	Number of times mentioned
Yes	Guide/driver was knowledgeable/helpful	17
Yes	Provided general overview	5
Yes	Helicopter tour provided great views	4
Yes	Saw more than expected	2
Yes	Saw everything we expected	2
Yes	Enjoyed the views	2
Yes	Needed more time	2
Yes	Saw as time allowed	2
Yes	First visit	2
Yes	Enjoyed touring without driving	2
Yes	Enjoyed touring without wasting time	2
Yes	Enjoyed touring without crowds	1
Yes	Enjoyed touring without walking	1
Yes	Accessibility for wheelchair	1
Yes	Easy	1
Yes	Nice pace	1
Yes	Nice-sized group	1
Yes	No comment	32
No	Not enough time/too rushed	7
No	Expected to see more/lava flows	4
No	Bad weather	2
No	Wanted better lava views	1
No	Helicopter ride unsatisfactory	1
No	Car sickness	1
No	Wanted more information	1
No	Wanted more hiking opportunities	1
No	Too structured	1
No	No comment	1

Table 20: Educational/school tour

CAUTION! - Only one visitor group indicated that they used an educational/school tour to explore the park

Met expectations?	Explanation	Number of times mentioned
Yes	For most students, this was their first time seeing an active volcano	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 21: “Other” methods of exploration
CAUTION!**

Method of exploration	Met expectations?	Explanation	Number of times mentioned
Elderhostel tour	Yes	Better than previous tour	2
On foot	Yes	No problems	2
Ranger-led hikes	Yes	Wonderful ranger-guided hikes	2
Guided in rental vehicle	Yes	Former park volunteer guided us	1
Walking/hiking	Yes	Took our time to enjoy	1
Just cruised	Yes	Very nice	1
Hiked/walked	Yes	Unprepared for hiking on lava	1
Experience from previous visits	No	Lava not flowing as before	1
Backpacked/hitchhiked	No	Some places too far to hike	1

*total percentages do not equal 100 due to rounding

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

Willingness to ride shuttle

Question 16a

On a future visit, would you and your group be willing to ride a shuttle bus to major park viewpoints?

Results

- 40% of visitor groups responded that they would be willing to ride a shuttle bus (see Figure 33).
- 36% would not be willing to ride a shuttle bus.
- 24% were not sure.

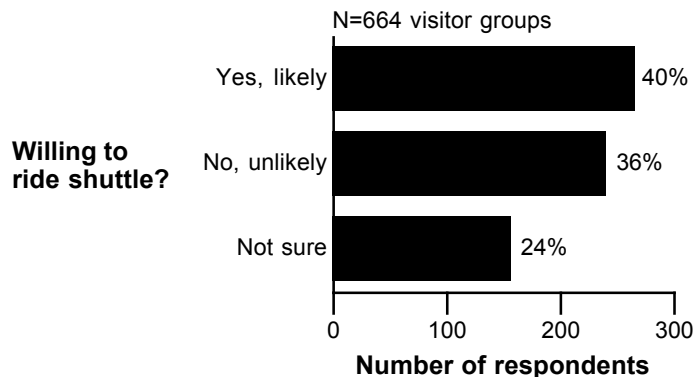


Figure 33: Visitor groups' willingness to ride shuttle

Importance of shuttle services

Question 16b

On a future visit, how important would the following services on a shuttle bus be?

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

Results:

- The highest "very important" or "extremely important" ratings were for the following shuttle characteristics (see Figure 34):
 - 80% Frequency of service
 - 67% On board orientation by employee
 - 39% Alternative fuel shuttle
- Figures 35–40 show the importance ratings for each shuttle characteristic.

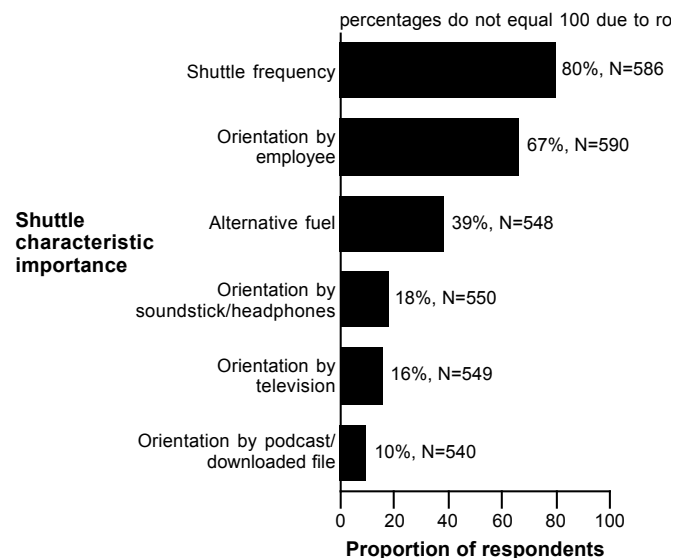


Figure 34: Combined ratings of "extremely important" and "very important" for shuttle characteristics

*total percentages do not equal 100 due to rounding

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

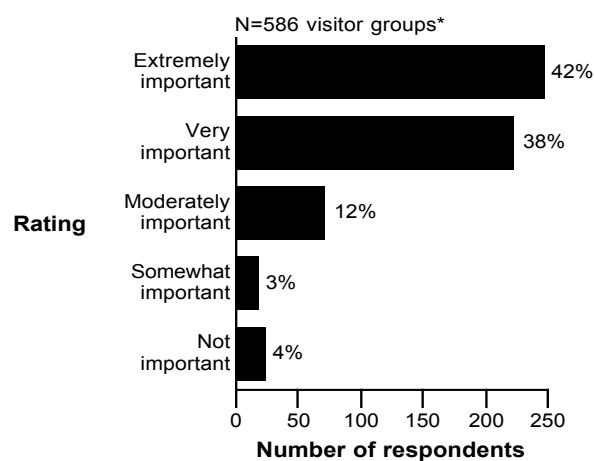


Figure 35: Importance of shuttle frequency

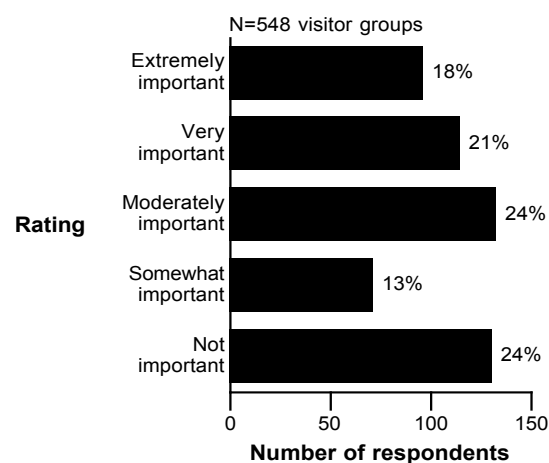


Figure 36: Importance using alternative fuel

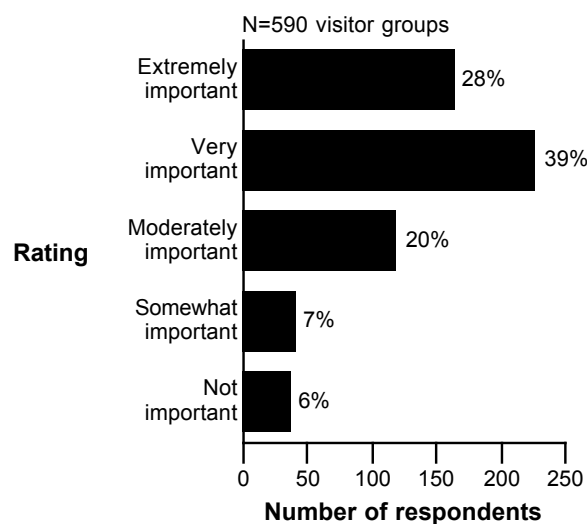


Figure 37: Importance of orientation by employee

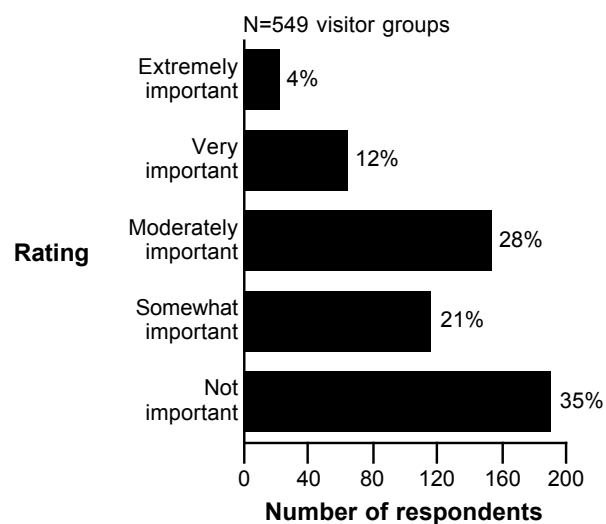


Figure 38: Importance of orientation by television

*total percentages do not equal 100 due to rounding

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

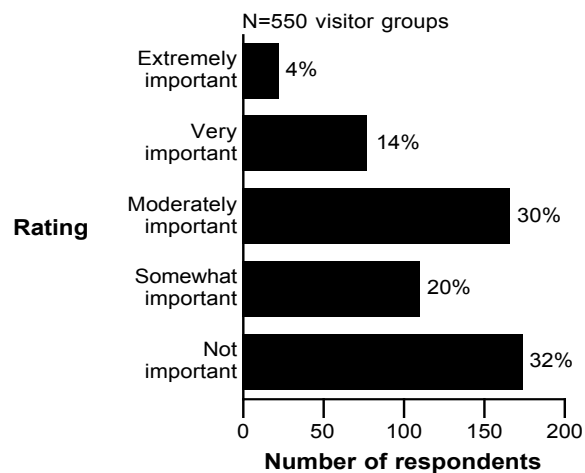


Figure 39: Importance of orientation by soundstick/headphones

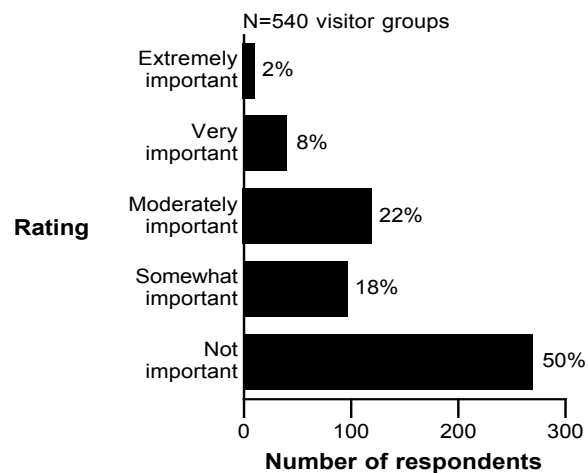


Figure 40: Importance of orientation by podcast, downloaded file, etc.

*total percentages do not equal 100 due to rounding

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

Activities

Question 2a

As you were planning your trip, what activities did you and your group **expect** to include on this visit to Hawai'i Volcanoes NP?

Results

- As shown in Figure 41, the most common activities that visitor groups expected to include were:

80% Viewing active lava flow sites
75% Driving Crater Rim Drive
65% Visiting Kilauea Visitor Center
61% Driving Chain of Craters Road

- "Other" expected activities (14%) are shown in Table 22.

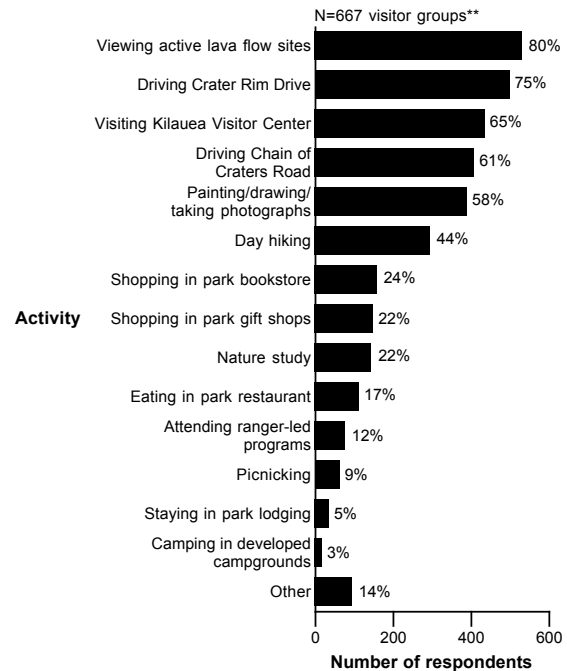


Figure 41: Expected activities

Table 22: "Other" expected activities
N=96 comments

Activity	Number of times mentioned	Activity	Number of times mentioned
Helicopter tour	19	Enjoy nature	1
See lava tube	11	Attend luau	1
Military Camp KMC	9	Obtain plant-gathering permit	1
See active volcano	6	Ocean activities	1
Bicycle	4	Research	1
See craters	7	Ride motorcycle	1
Walk/hike	4	See film at visitor center	1
Visit art gallery	3	See rain forest	1
Aerial view	2	See something unique	1
Drive around sites	2	See volcano landscape	1
See steam vents	2	Ship tour	1
View petroglyphs	2	Sightsee	1
Visit Jaggar Museum	2	Stay in Volcano, HI	1
Camp in backcountry	2	Visit Jaggar Observatory	1
No plans	2	Visit Pele	1
Learning	2		
Visit friends	2		

*total percentages do not equal 100 due to rounding

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

Question 2b

On this visit, what activities did you and your group participate in while at Hawai'i Volcanoes NP?

Results

- As shown in Figure 42, the most common activities visitor groups participated in were:

83% Driving Crater Rim Drive
76% Visiting Kilauea Visitor Center
66% Driving Chain of Craters Road
63% Painting/drawing/taking photographs

- The least common activity was camping in developed campgrounds (3%).
- "Other" activities (11%) are shown in Table 23.

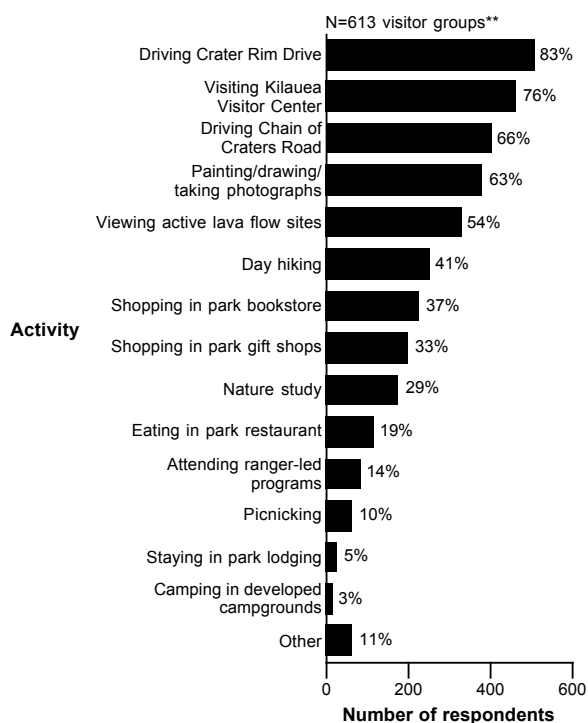


Figure 42: Activities in which visitors participated

Table 23: "Other" visitor activities on this visit
N=56 comments

Activity	Number of times mentioned	Activity	Number of times mentioned
Helicopter tour	10	Enjoy nature	1
See lava tube	6	Get gas for car	1
See volcano	6	Hilo marathon	1
Visit Jaggar Museum	4	Night hike	1
Visit Military Camp KMC	3	Night program	1
See craters	3	See steam vents	1
Airplane tour	2	See a cool place	1
See petroglyphs	2	Tour Volcano House	1
Visit Art Center	2	Visit gift shop	1
Walk/hike	2	Visit Jaggar Observatory	1
Bicycle	1	Visit Pele	1
Cultural events	1	Visit friend	1
Drive	1	Walk on lava flow	1

*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 visiting

Question 2c

Which one of the above activities was the primary reason you and your group visited Hawai'i Volcanoes NP on this visit?

Results

- As shown in Figure 43, the most common reasons for visiting the Hawai'i Volcanoes NP were:

58% Viewing active lava flow sites
17% Driving Crater Rim Drive
6% Day hiking

- No visitor groups cited camping in developed campgrounds as their primary reason for visiting.
- "Other" primary reasons (10%) included:

See volcano
Helicopter tour
See crater
Visit lava tube
Evening hike
Kilauea Military Recreation Camp
Biking around crater
Driving
Enjoy nature
Get gas for car
Gift shop
Hiking
Hilo Marathon
See a cool place
Viewing Kilauea
Visit Art Center
Visit friend
Visit Jaggar Museum
Visit Jaggar Observatory
Visit Pele
Walk on lava

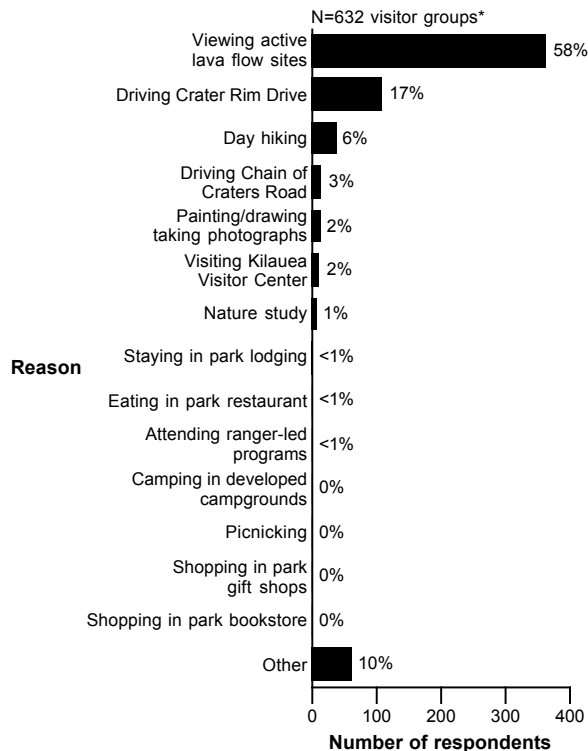


Figure 43: Primary reason for visiting Hawai'i Volcanoes NP

*total percentages do not equal 100 due to rounding

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

Sites and trails visited

Question 6

On this visit, which of the following sites and trails in Hawai'i Volcanoes NP did you and your group visit?

Results

- As shown in Figure 44, the most commonly visited sites and trails were:

84% Kilauea Visitor Center
75% Steam Vents
68% Nahuku (Thurston Lava Tube)
66% Kilauea Overlook
59% Jaggar Museum

- The least visited site was Pu'u Huluhulu Trail (4%).

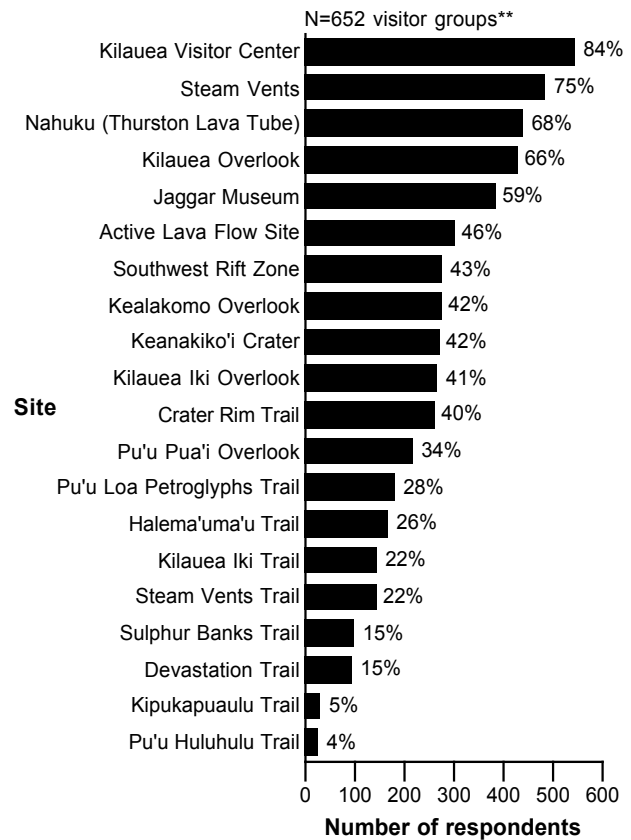


Figure 44: Sites and trails visited in Hawai'i Volcanoes NP

*total percentages do not equal 100 due to rounding

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

Sources used to learn about park topics

Question 13a

During this visit to Hawai'i Volcanoes NP, did you and your group use any of the following sources to learn about the topics listed?

Results:

- Figures 45-49 show how visitors learned about each park topic.
- To learn about park rules and regulations, visitor groups most often used:

70% Park brochure
64% Park bulletin boards

- "Other" sources (26%) included:

Park movie/video
Friends/family
Park website
Tour guides

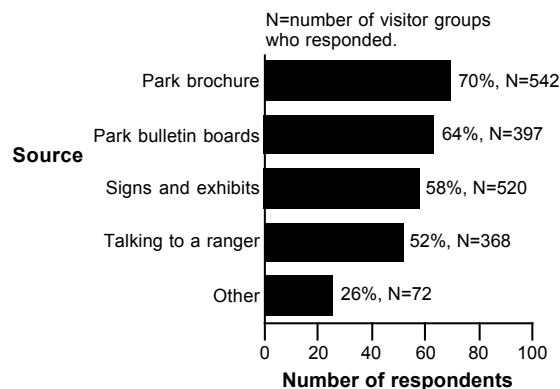


Figure 45: Sources used to learn about park rules and regulations

- To learn about geology, visitor groups most often used the following:

79% Signs and exhibits
73% Park brochure

- "Other" sources (82%) included:

Park movie/video
Tour guides
Books

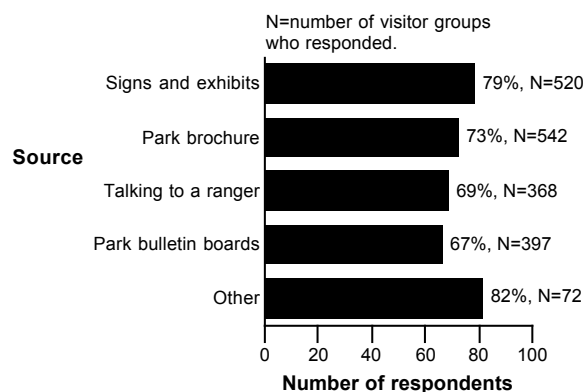


Figure 46: Sources used to learn about geology

*total percentages do not equal 100 due to rounding

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

- To learn about biology, visitor groups most often used the following:

61% Signs and exhibits
50% Park brochure

- “Other” sources included (67%):

Park movie/video
Tour guides
Books

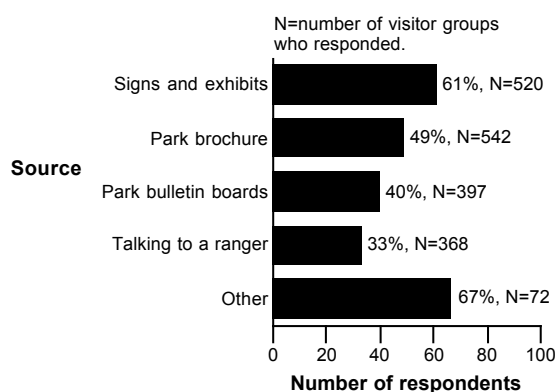


Figure 47: Sources used to learn about biology

- To learn about Hawai'ian culture visitor groups used the following:

53% Signs and exhibits
41% Park brochure

- “Other” sources (68%) included:

Park movie/video
Tour guides
Books
Friends/family

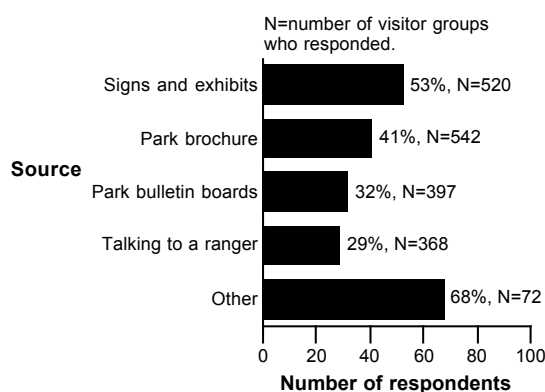


Figure 48: Sources used to learn about Hawai'ian culture

- To learn about the National Park System visitor groups most often used the following:

35% Park brochure
25% Signs and exhibits

- “Other” sources (25%) included:

Park movie/film
Tour

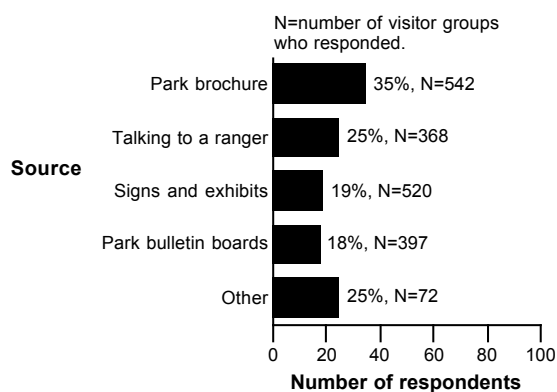


Figure 49: Sources used to learn the National Park System

*total percentages do not equal 100 due to rounding

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

Question 13b

Please list any additional park topics that you and your group are interested in learning about on a future visit.

Results

- Visitors listed the following topics (in order of frequency):

Geology – more in-depth/recent information
 More native history/culture/folklore
 Future eruptions
 Biology – more on plants/animals/exotics
 Lava flow access
 Cultural events
 Earthquake activity
 Geothermal power
 Hot spot information

Results (continued)

Seismography
 Astronomy
 Backcountry/hiking – safety, weather, services
 Children's programs
 Differences between the islands
 Ecosystems
 Management issues/human impacts
 Petroglyphs

Preference for future learning about park topics

Question 14

On a future visit, how would you and your group prefer to learn about the geology, biology, and culture of Hawai'i Volcanoes NP?

Results

- As shown in Figure 50, the most preferred methods for learning about park topics were:

66% Self-guided tours
 65% Printed materials
 61% Outdoor exhibits
 60% Indoor exhibits
 52% Ranger-led programs

- "Other" sources (3%) included:

Ranger-led walks to active flow
 Audio tours
 Brochures in Japanese
 Improved maps
 Information at airport
 Meeting with scientists
 More indoor exhibits

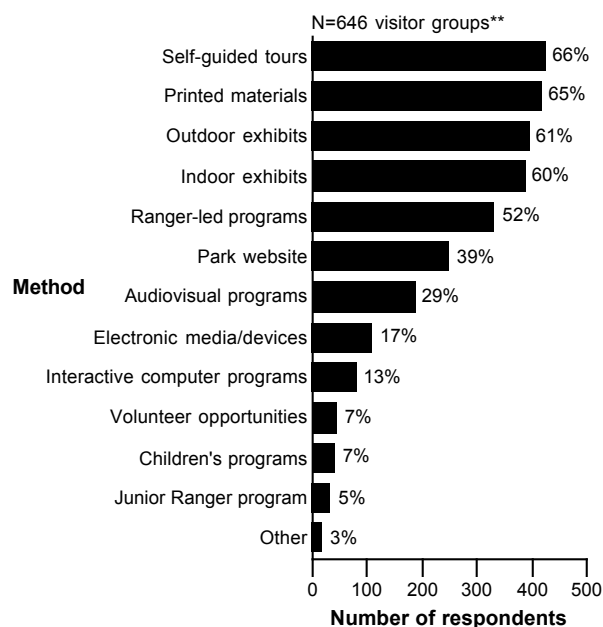


Figure 50: Sources preferred for future learning about park

*total percentages do not equal 100 due to rounding

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

Effect of human-caused sounds on park experience

Question 11

During this visit to Hawai'i Volcanoes NP, please indicate how the following human-caused sounds affected your park experience.

Visitors were asked to rate the following sounds:

Motor vehicle (cars, buses, etc.)
Helicopter tour
Other visitors' activities
Equipment (mowers, blowers, etc.)
Other (open-ended)

Results:

Figures 51-55 show the effect of four different human-caused sounds on visitors' park experiences.

- For all four types of sounds, most visitor groups said that these had "no effect" on their experience.
- The highest "detracted from" ratings concerned motor vehicles (11%) and other visitors' activities (9%).
- Table 24 provides a summary of the effects of human-caused sounds on visitors' experiences.

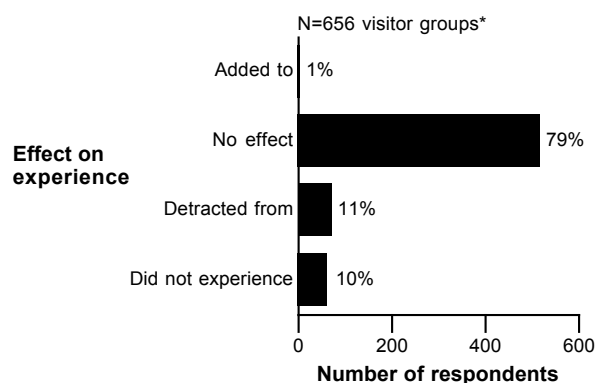


Figure 51: Effect of motor vehicle (cars, buses, etc.) sounds

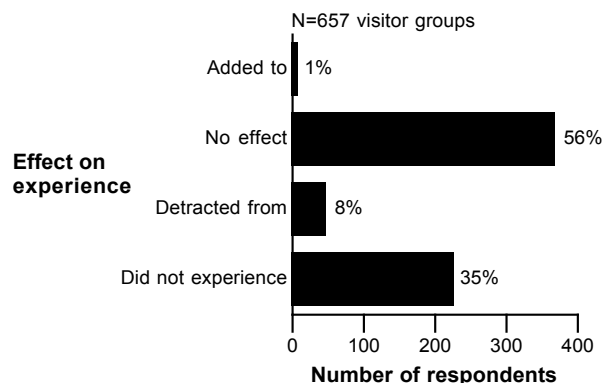


Figure 52: Effect of helicopter tour sounds

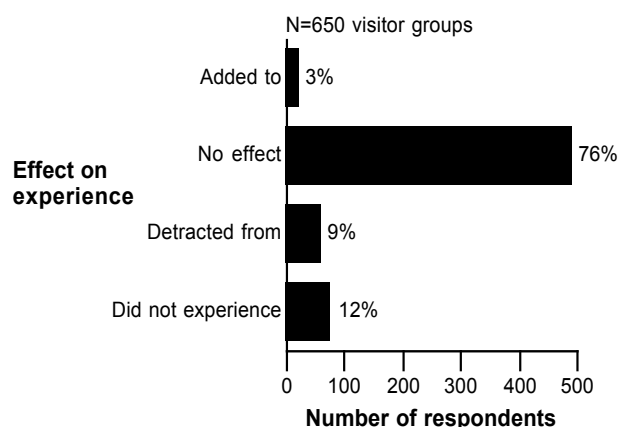


Figure 53: Effect of other visitors' activities

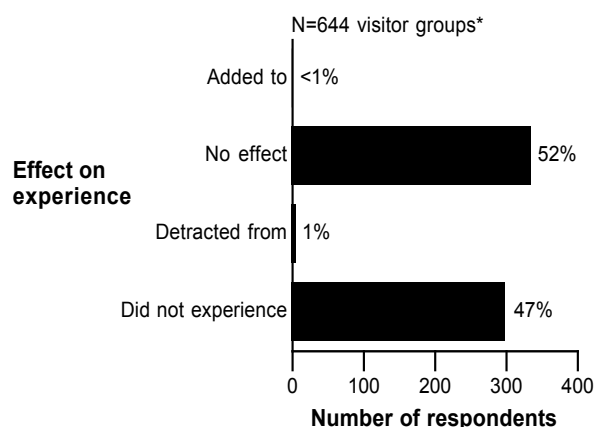


Figure 54: Effect of equipment (mowers, blowers, etc.) sounds

*total percentages do not equal 100 due to rounding

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

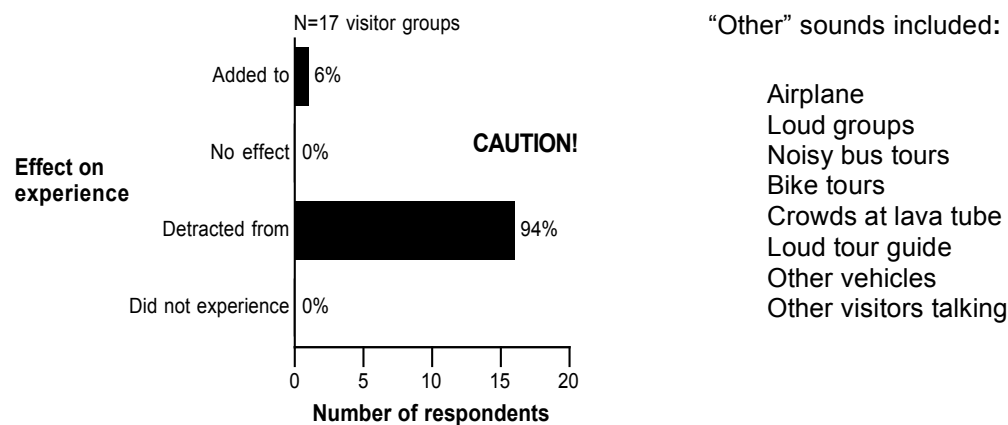


Figure 55: Effect of “other” sounds

Table 24: Effect of human-caused sounds on visitor experience

N=number of visitor groups who rated each element

Human-caused sound	N	Rating (%)			
		Added to	No effect	Detracted from	Did not experience
Motor vehicles (cars, buses, etc.)	656	1	79	11	10
Helicopter tours	657	1	56	8	35
Other visitors' activities	650	3	76	9	12
Equipment (mowers, blowers, etc.)	644	<1	52	1	47
Other - CAUTION!	17	6	0	94	0

*total percentages do not equal 100 due to rounding

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

Visitors' sense of safety

Question 12a

Please indicate how safe you and your group felt from crime, accidents, and natural hazards during this visit to Hawai'i Volcanoes NP.

- 1=Very unsafe
- 2=Somewhat unsafe
- 3=Somewhat safe
- 4=Very safe

Results

- Figures 56-59 show how visitors rated their sense of safety in the park.

80% felt "very safe" from crime
 65% felt "very safe" from theft/damage to personal property
 56% felt "very safe" in their personal safety from accidents
 12% felt "somewhat unsafe" or "very unsafe" from natural hazards

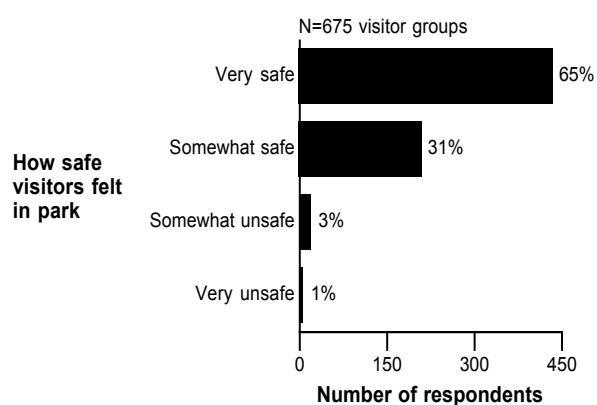


Figure 56: Sense of safety from theft/damage to personal property

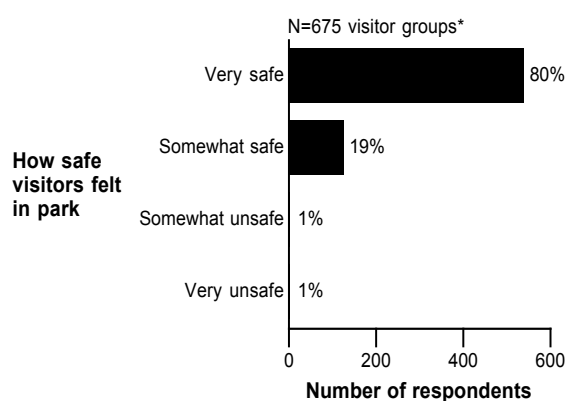


Figure 57: Sense of personal safety from crime

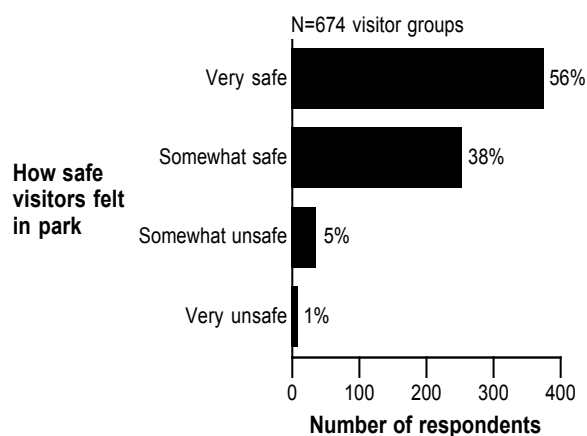


Figure 58: Sense of personal safety from accidents

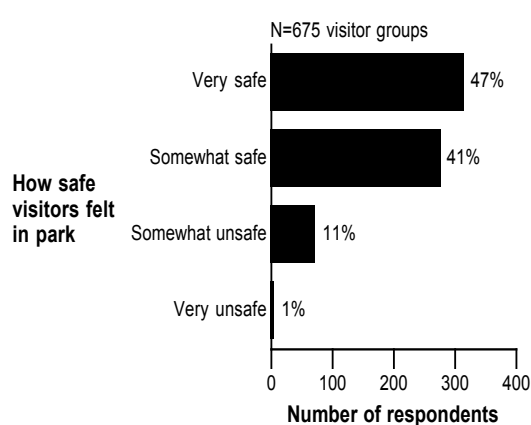


Figure 59: Sense of personal safety from natural hazards

*total percentages do not equal 100 due to rounding

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

Question 12b

If you circled 1 ("very unsafe") or 2 ("somewhat unsafe") on any of the above items, please explain why.

Results

- Visitors who felt "somewhat unsafe" or "very unsafe" listed the following explanations:

Difficulty of terrain
Volcanic activity
Breathing difficulties
Car theft
Volcanic activity/hot flowing lava
Difficulty of terrain at night
Sulfur/gas/steam concerns
Accidents
Narrow/winding/bumpy roads
Attempted theft
Unpredictability of nature
Weather/visibility
Trails – unsafe, poorly marked
Other drivers
Felt sick on Halema'uma'u Trail
Hauling suitcases on hotel stairs
Hawai'i's reputation
Hiking distances
Media warnings
Need for fencing
Parking was hazardous
Pregnant
Rodents
Visiting with young children

*total percentages do not equal 100 due to rounding

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

Traffic congestion

Question 5

On this visit, did you and your group experience traffic congestion or parking difficulties at any of the following places?

Results

- 72% of visitor groups did not experience traffic congestion (see Figure 60).
- 28% did experience traffic congestion.
- Of those visitors that experienced traffic congestion, 60% experienced it at the active lava flow site (see Figure 61).
- 31% reported traffic congestion at Nahuku (Thurston Lava Tube).

- Roads where visitors experienced traffic congestion included:

Chain of Craters Road
Chain of Craters Road parking
Highway
Devastation Trail Road
Pu'u Pua'i Overlook
Southwest Rift area

- Trails where visitors experienced traffic congestion included:

Thurston Lava Tube
Devastation Trail
Kilauea Iki Trail

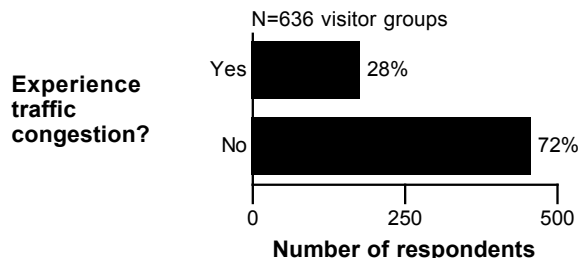


Figure 60: Visitors' experience with traffic congestion

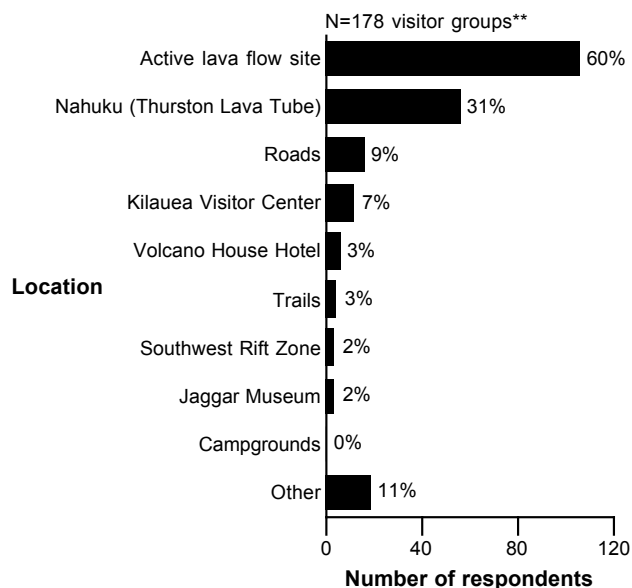


Figure 61: Park sites with traffic congestion

*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 and Facilities

Visitor services and facilities used

Question 15a

Please check all visitor services and facilities that you and your group used during this visit to Hawai'i Volcanoes NP.

Results

- As shown in Figure 62, visitor services and facilities that received the most use included:

76% Restrooms
66% Roadside/trailside exhibits/signs
64% Assistance from Kilauea Visitor Center information desk staff

- The least used services and facilities were:

3% Campgrounds
1% Junior Ranger program

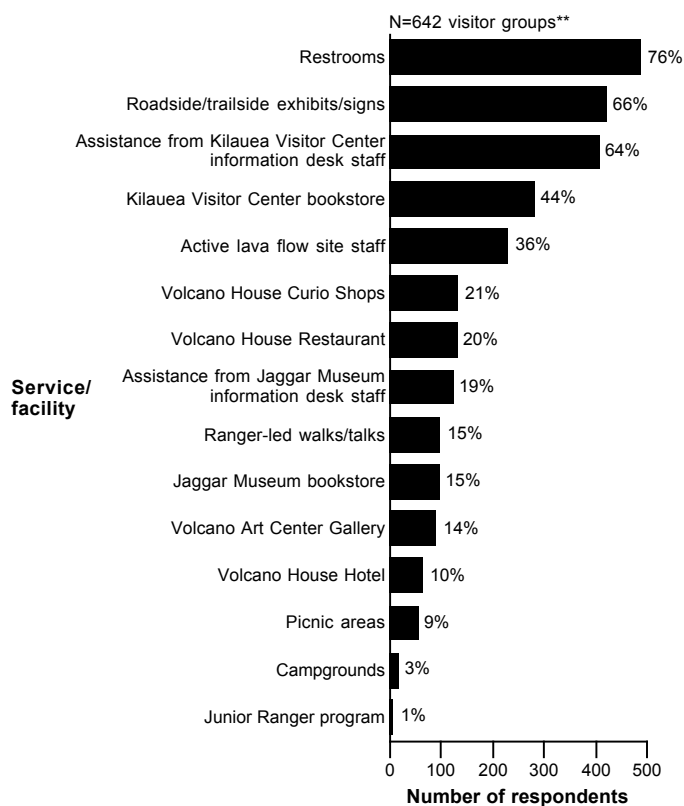


Figure 62: Visitor services and facilities used

*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 15b

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

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

Results

- Figure 63 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:

- 90% Restrooms
- 84% Ranger-led walks/hikes
- 84% Active lava flow site staff
- 76% Roadside/trailside exhibits/signs

- Figures 64 to 78 show the importance ratings for each service/facility.
- The service/facility receiving the highest “not important” rating was Volcano House Curio Shops – 16%.

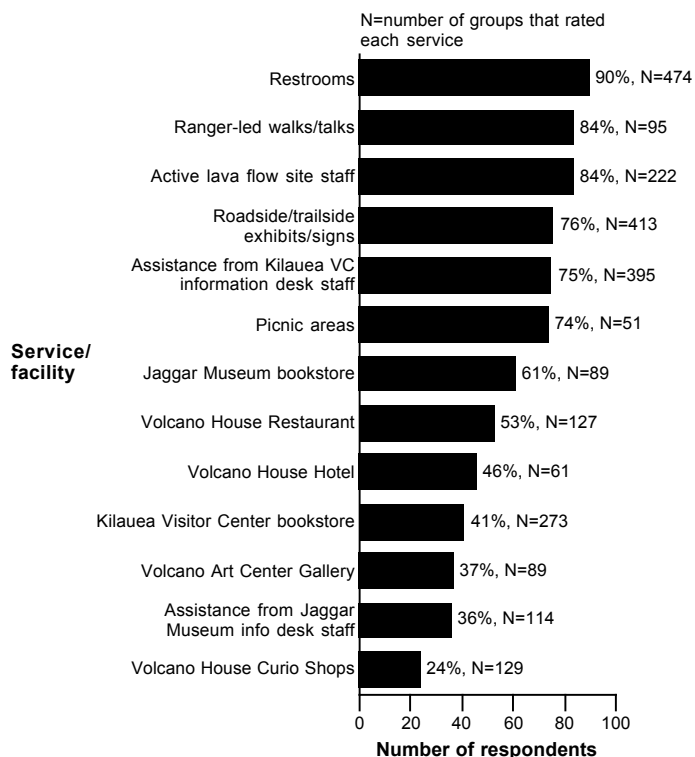


Figure 63: Combined proportions of “extremely important” and “very important” ratings for visitor services and facilities

*total percentages do not equal 100 due to rounding

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

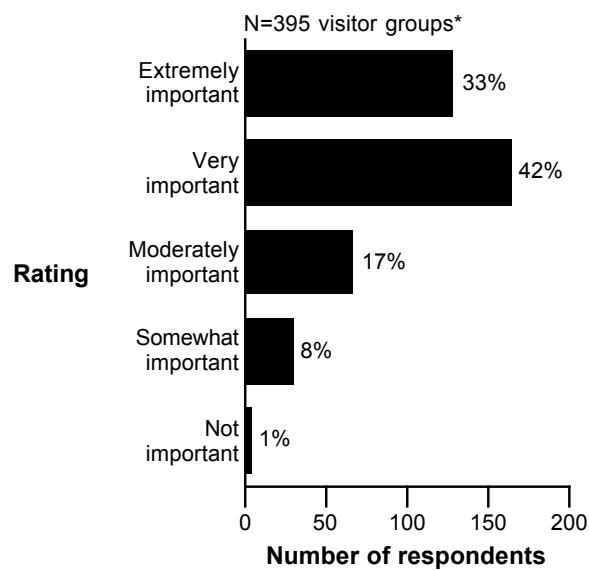


Figure 64: Importance of assistance from Kilauea Visitor Center information desk staff

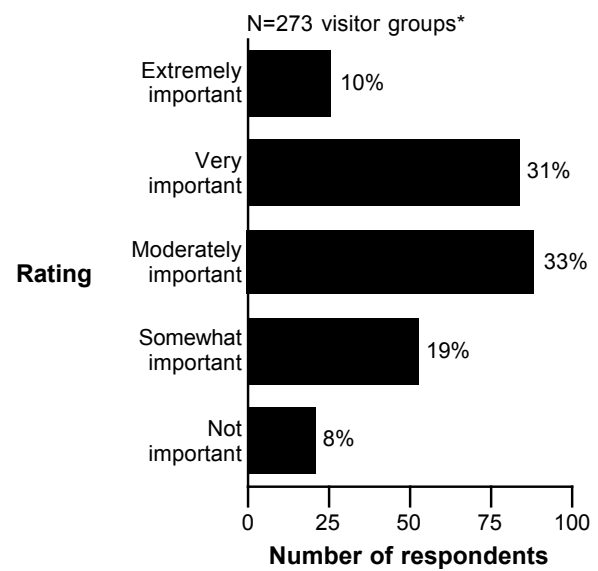


Figure 65: Importance of Kilauea Visitor Center bookstore

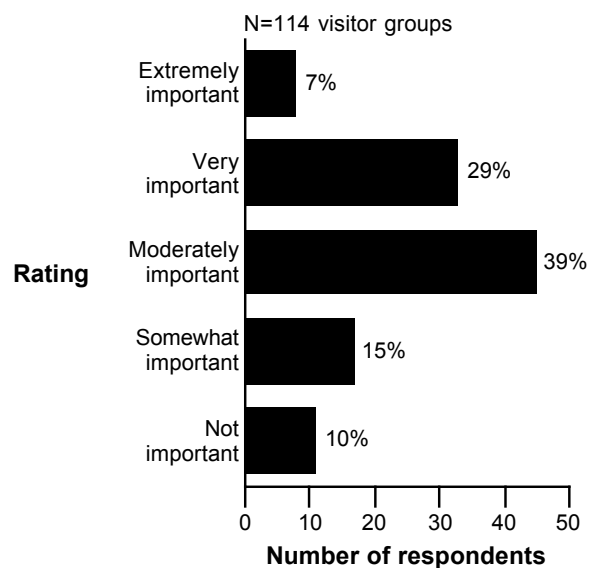


Figure 66: Importance of assistance from Jaggar Museum information desk staff

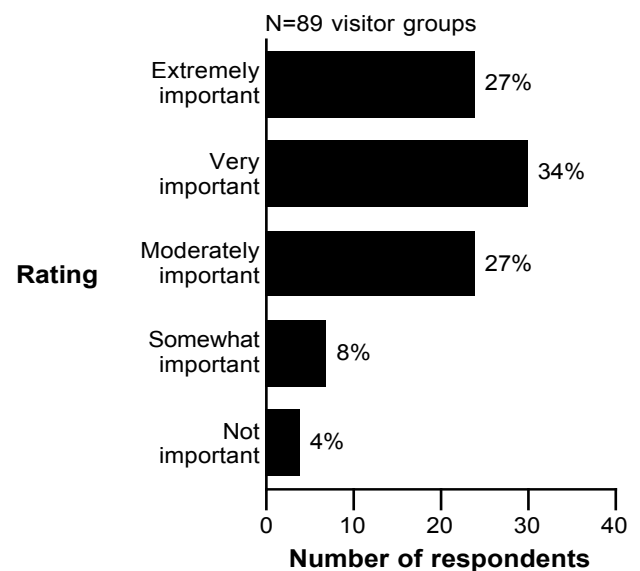


Figure 67: Importance of Jaggar Museum bookstore

*total percentages do not equal 100 due to rounding

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

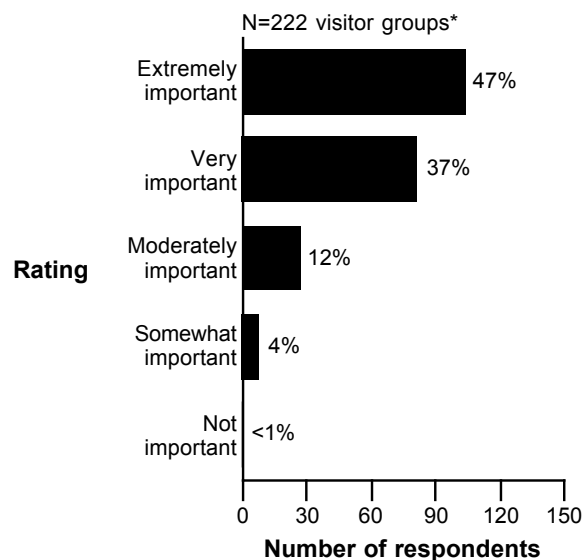


Figure 68: Importance of active lava flow site staff

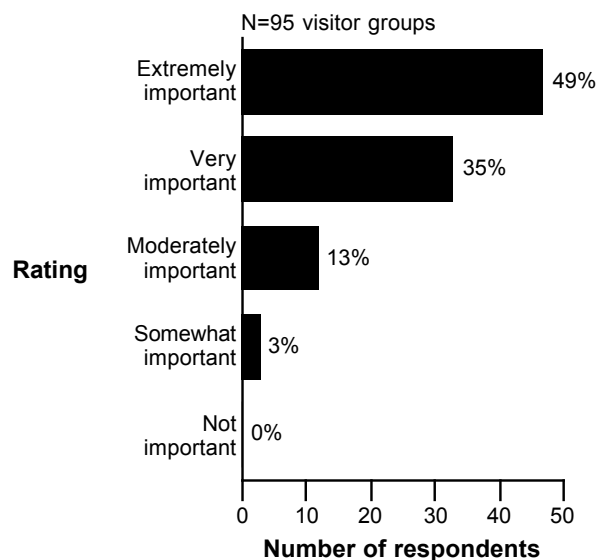


Figure 69: Importance of ranger-led walks/talks

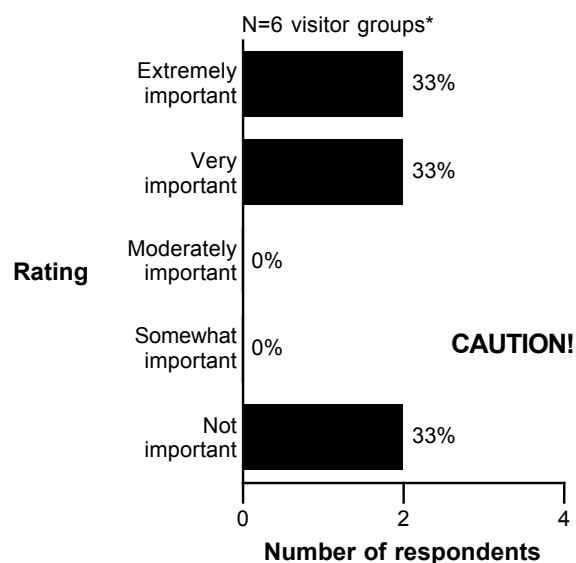


Figure 70: Importance Junior Ranger program

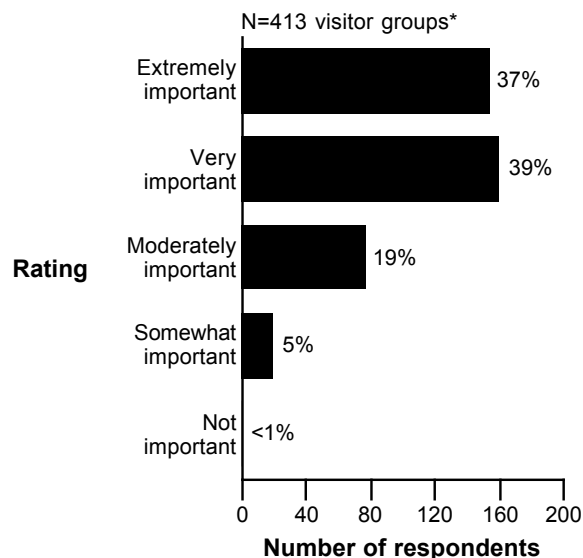


Figure 71: Importance of roadside/trailside exhibits/signs

*total percentages do not equal 100 due to rounding

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

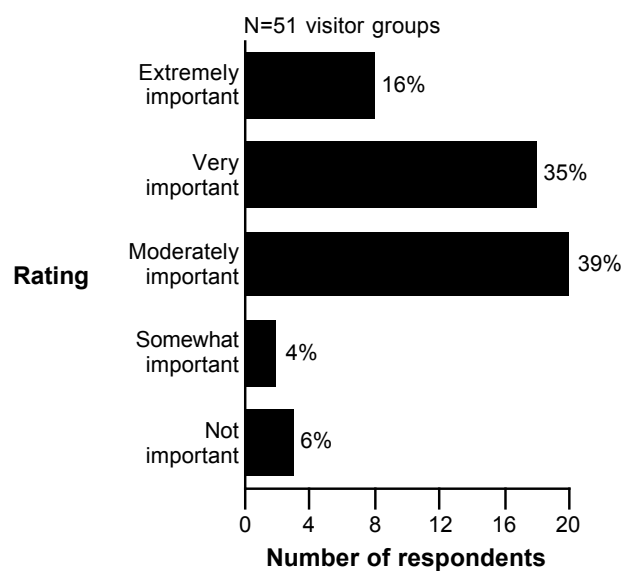


Figure 72: Importance of picnic areas

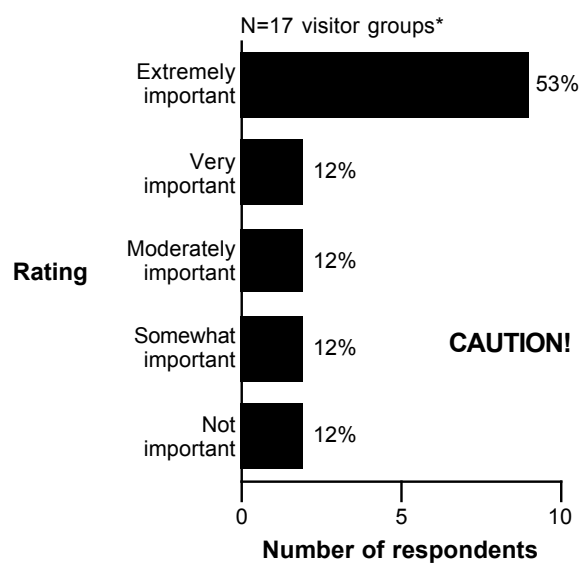


Figure 73: Importance of campgrounds

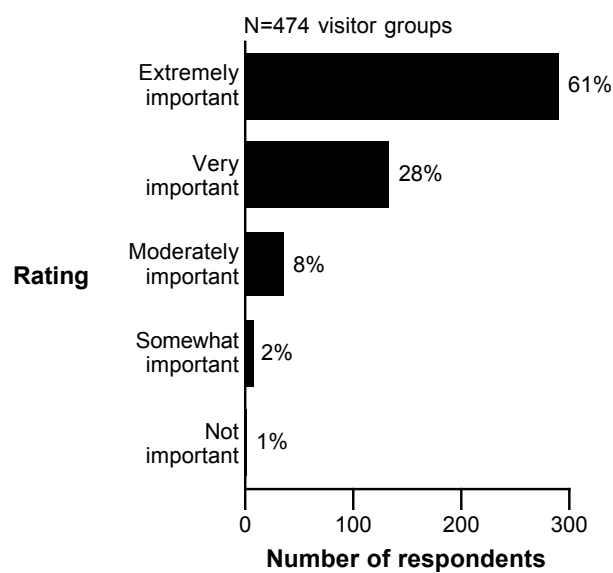


Figure 74: Importance of restrooms

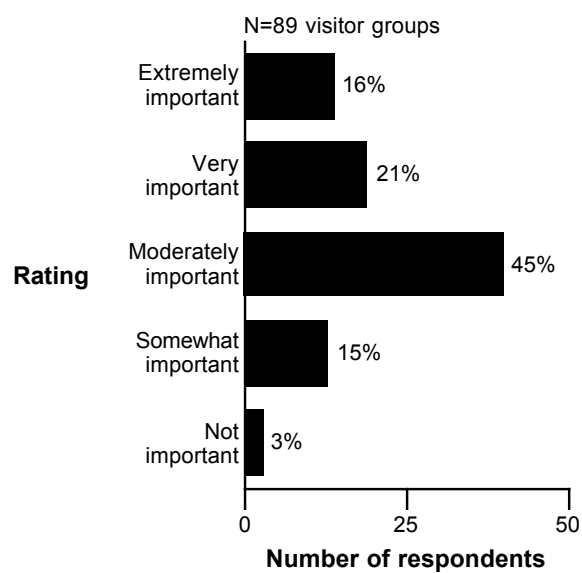


Figure 75: Importance of Volcano Art Center Gallery

*total percentages do not equal 100 due to rounding

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

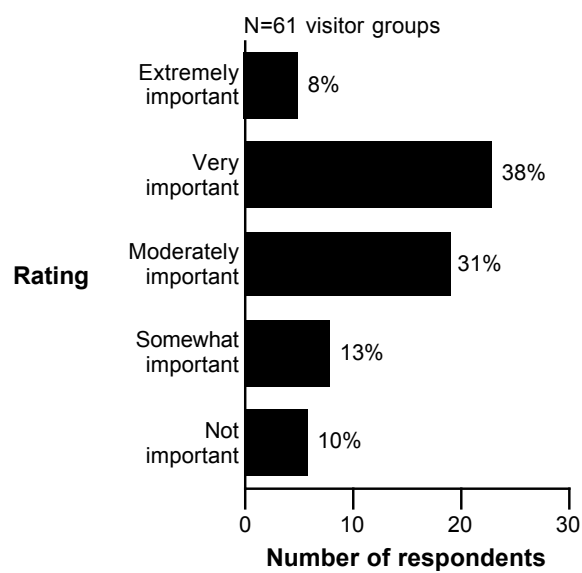


Figure 76: Importance of Volcano House Hotel

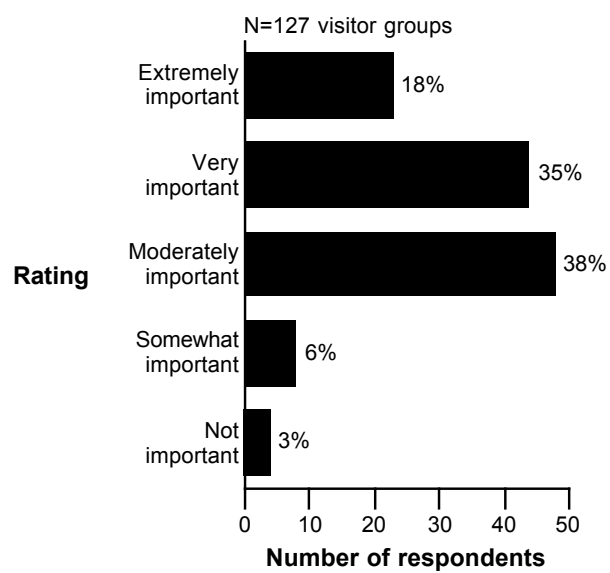


Figure 77: Importance of Volcano House Restaurant

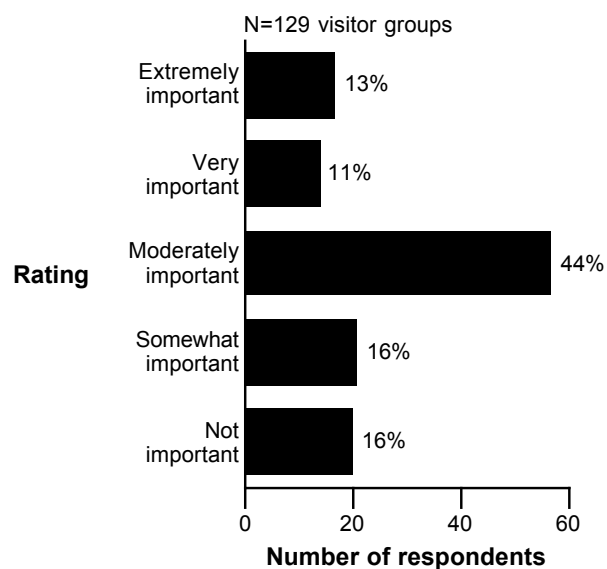


Figure 78: Importance of Volcano House Curio Shops

*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 15c

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 79 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:
 - 93% Ranger-led walks/talks
 - 88% Volcano Art Center Gallery
 - 87% Assistance from Kilauea Visitor Center information desk staff
 - 83% Active lava flow site staff
- Figures 80 to 94 show the quality ratings for each service/facility.
- The service/facility receiving the highest “very poor” quality rating was:
 - 3% Volcano House Restaurant

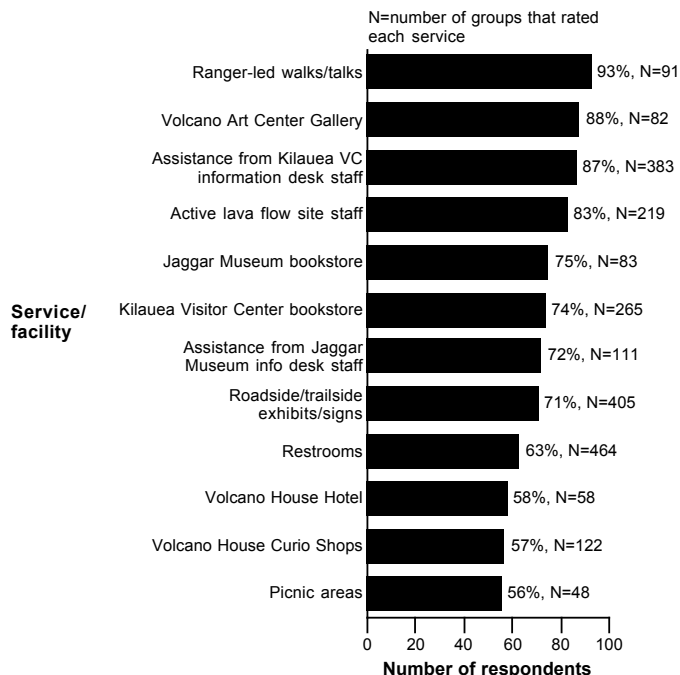


Figure 79: Combined proportions of “very good” and “good” quality ratings for visitor services and facilities

*total percentages do not equal 100 due to rounding

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

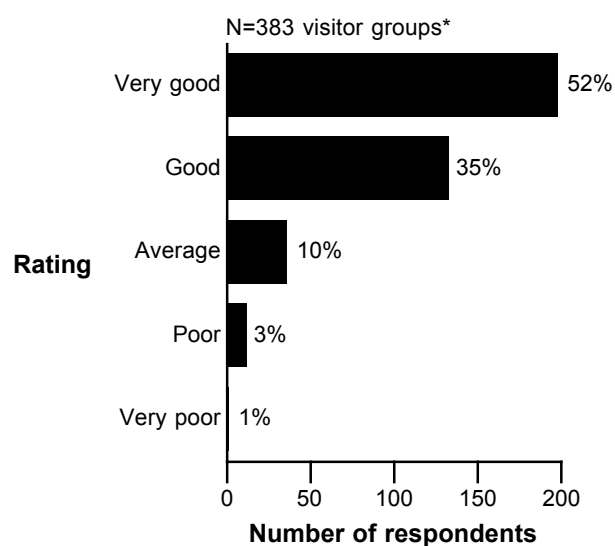


Figure 80: Quality of assistance from Kilauea Visitor Center information desk staff

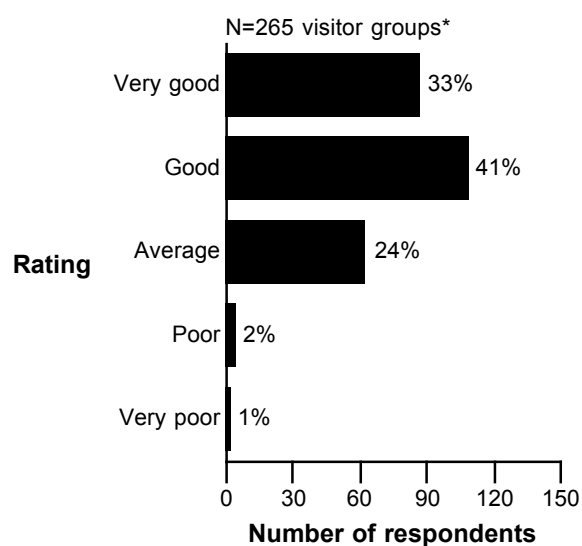


Figure 81: Quality of Kilauea Visitor Center bookstore

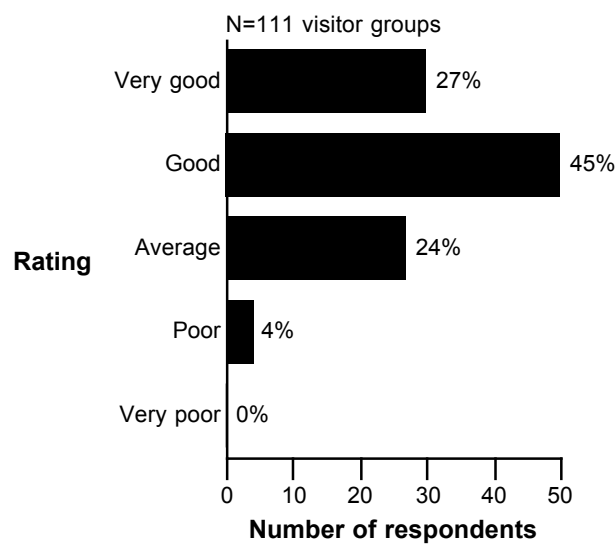


Figure 82: Quality of assistance from Jaggar Museum information desk staff

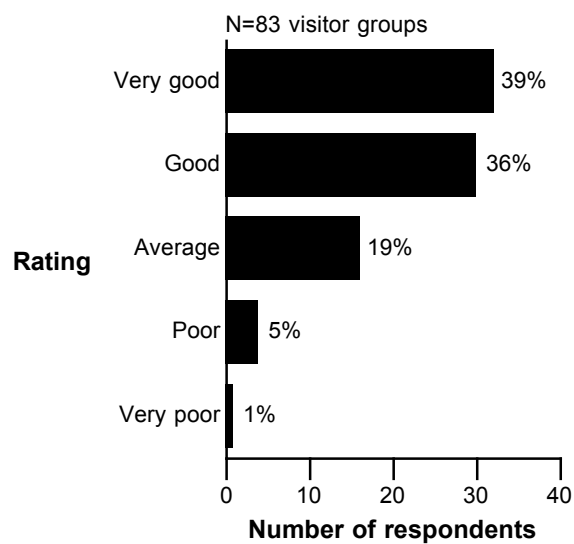


Figure 83: Quality of Jaggar Museum bookstore

*total percentages do not equal 100 due to rounding

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

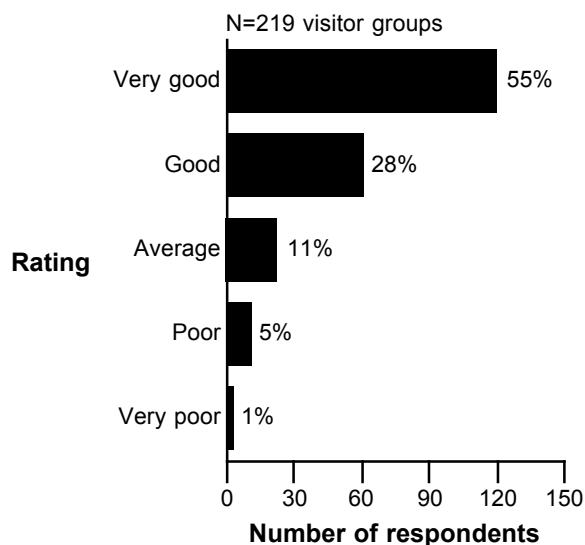


Figure 84: Quality of active lava flow site staff

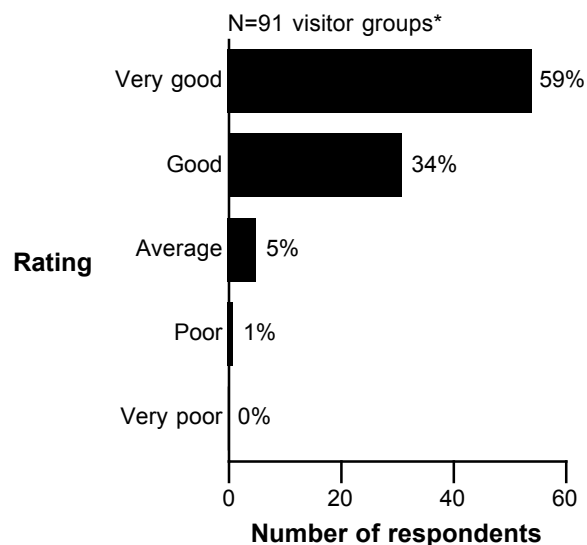


Figure 85: Quality of ranger-led walks/talks

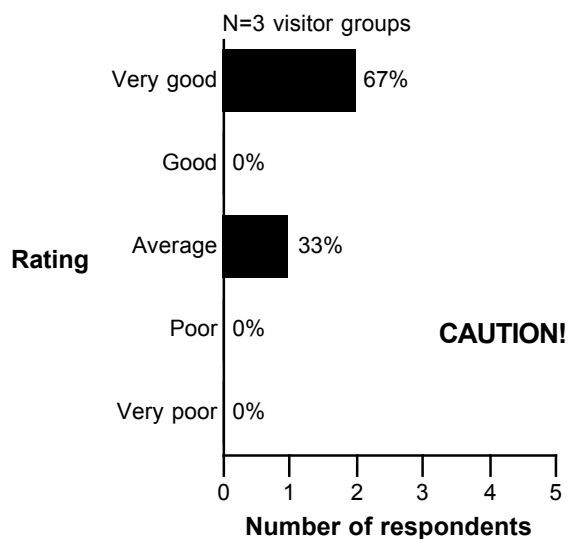


Figure 86: Quality of Junior Ranger program

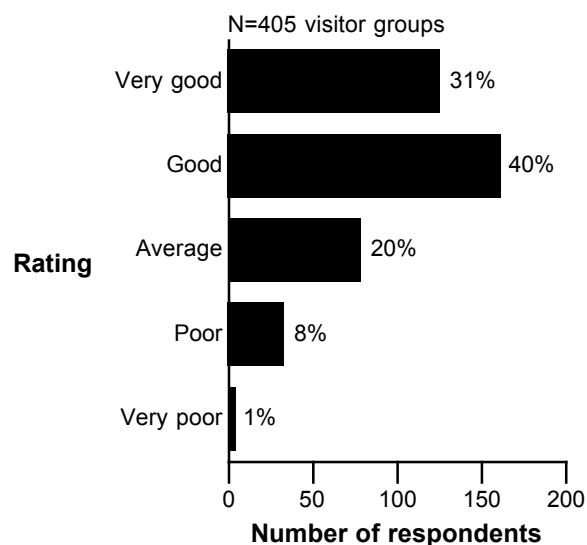


Figure 87: Quality of roadside/trailside exhibits/signs

*total percentages do not equal 100 due to rounding

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

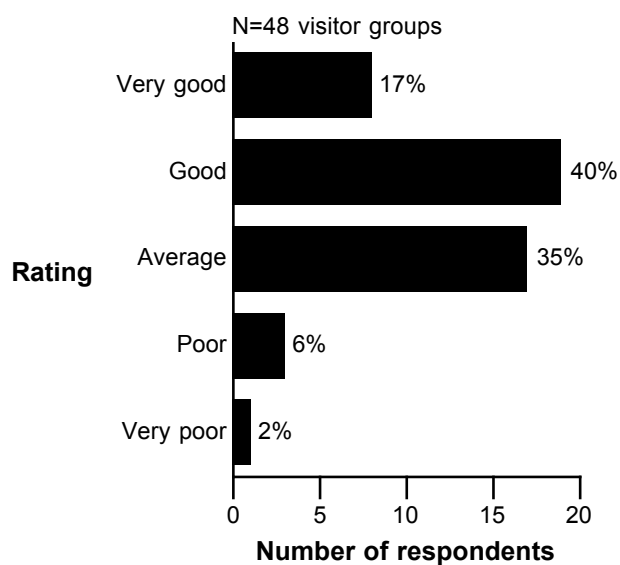


Figure 88: Picnic areas

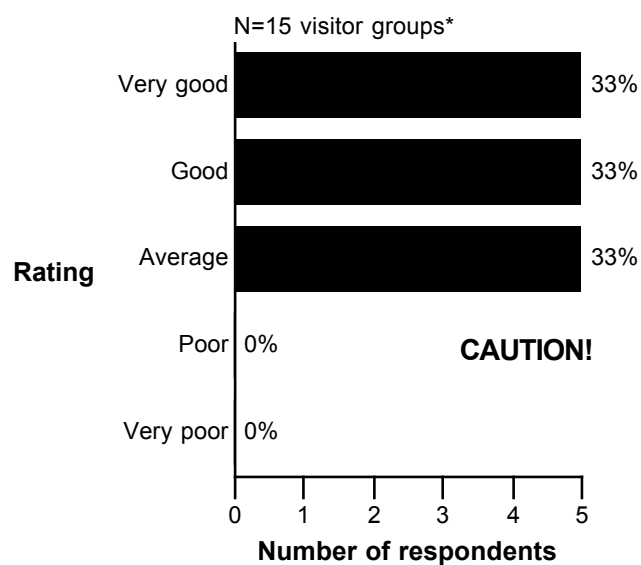


Figure 89: Quality of campgrounds

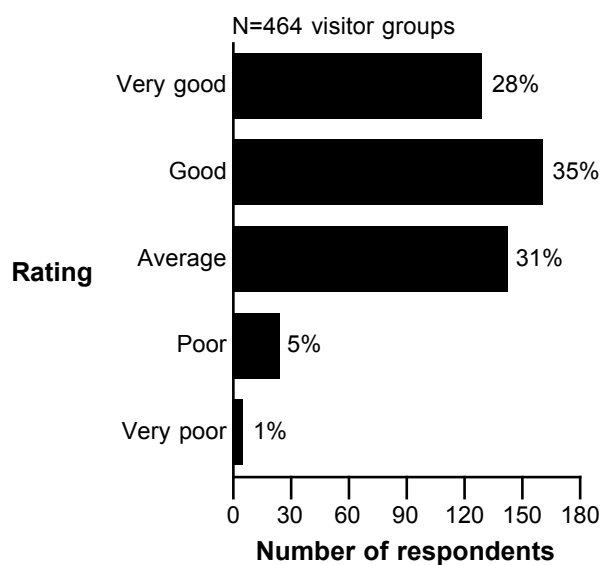


Figure 90: Quality of restrooms

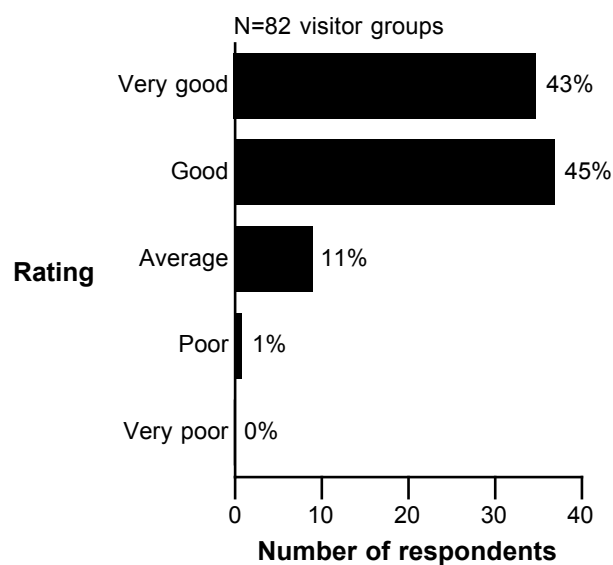


Figure 91: Quality of Volcano Art Center Gallery

*total percentages do not equal 100 due to rounding

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

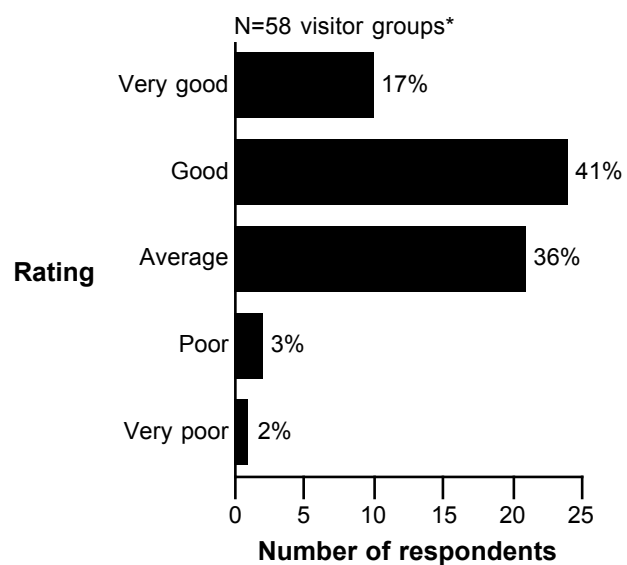


Figure 92: Quality of Volcano House Hotel

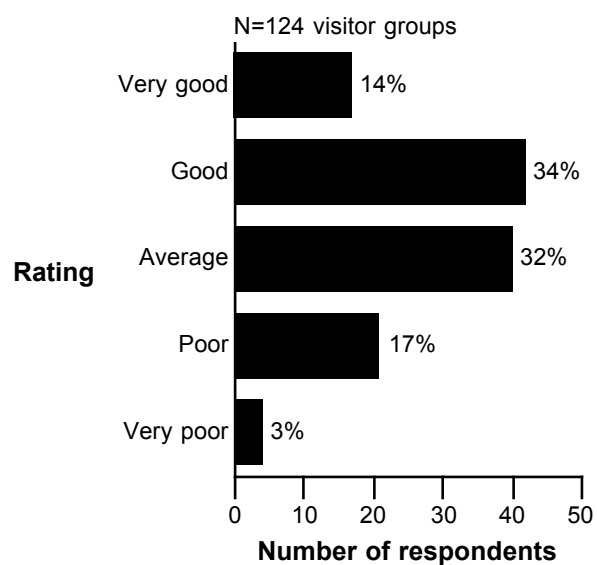


Figure 93: Quality of Volcano House Restaurant

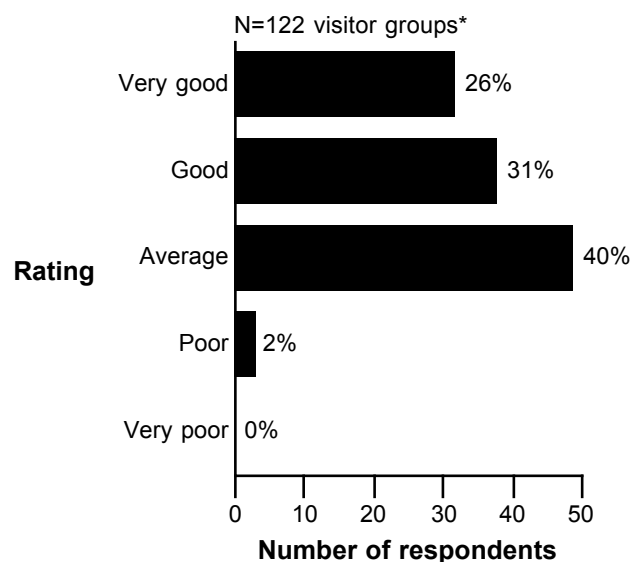


Figure 94: Quality of Volcano House Curio Shops

*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 95 and 96 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 but one of the visitor service and facilities were rated above average in importance and quality. Volcano House Curio Shops was rated below average in importance.

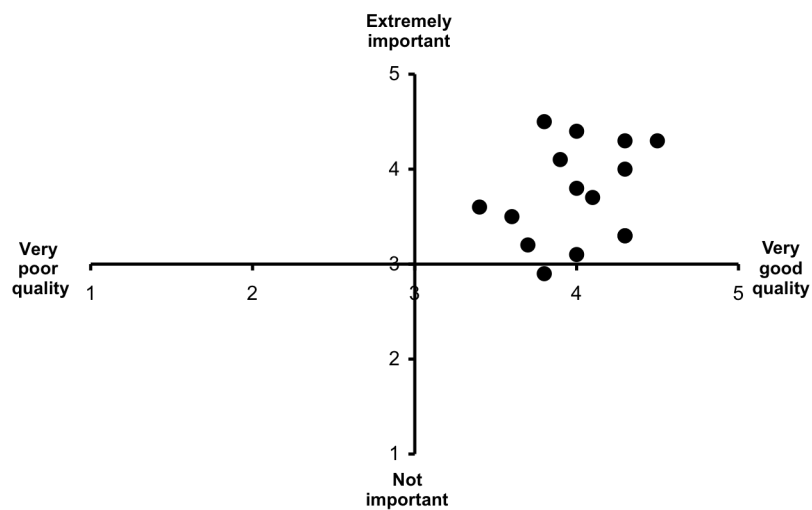


Figure 95: Mean scores of importance and quality ratings for visitor services and facilities

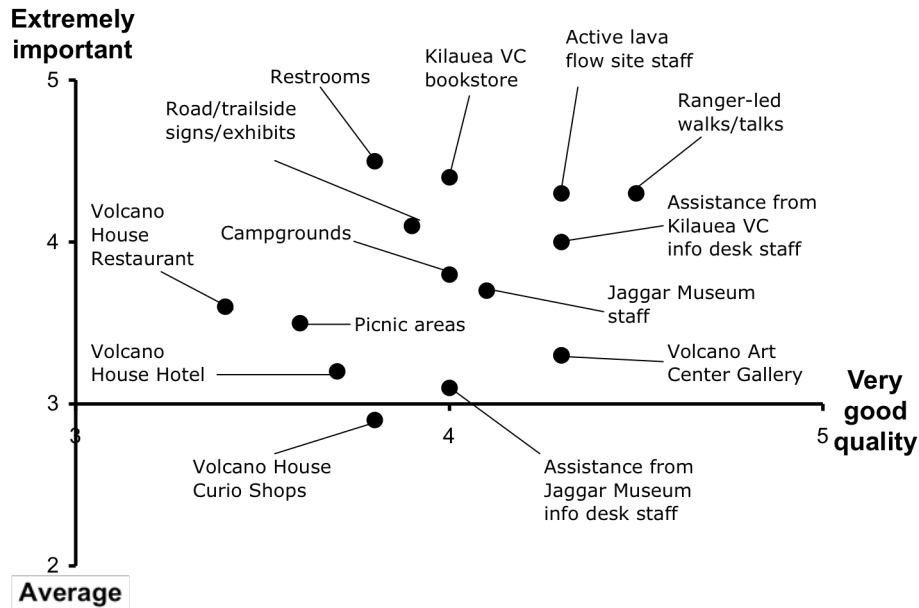


Figure 96: Detail of Figure 95

*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 28**

Overall, how would you rate the quality of the visitor facilities, services, and recreational opportunities provided to you and your group at Hawai'i Volcanoes National Park during this visit?

Results

- 92% of visitor groups rated the overall quality as "very good" or "good" (see Figure 97).
- Less than 2% rated the overall quality as "very poor" or "poor."

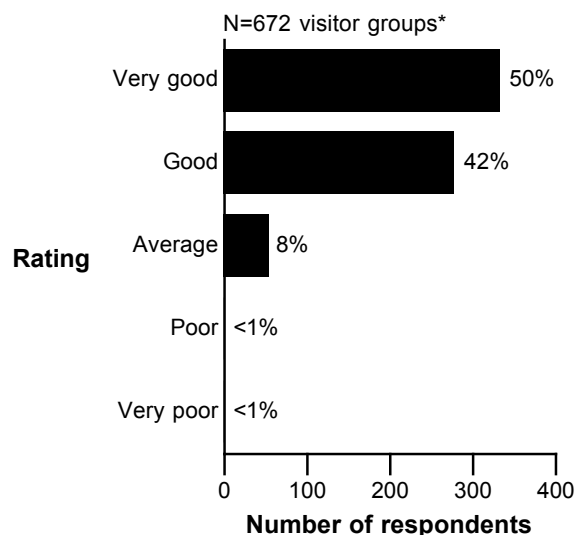


Figure 97: Overall quality of visitor facilities, services, and recreational opportunities

*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

Advice to friends and relatives

Question 24

What advice about Hawai'i Volcanoes NP would you give to friends or relatives who might visit?

Results

- 88% of visitor groups (N=607) responded to this question.
- Table 25 shows a summary of visitor comments. A complete copy of hand-written comments is included in the Visitor Comments Appendix.

Table 25: Advice to friends and relatives

N=840 comments;
some visitor groups made more than one comment.

Comment	Number of times mentioned
Plan for more time/enough time	98
Bring proper clothing - warm clothing/rain gear	66
Bring proper foot gear	51
Must see/go visit	50
Plan to spend two to three days	38
Bring water	37
Be prepared for hike to lava - food, water, warm clothes, boots	36
Hike to active lava flow is long/difficult	25
Get information from guide books/brochure/website/park staff	24
Get information ahead of time	22
Go hiking/walking	20
Hike to lava	20
See lava flows at night	20
Bring flashlight	19
Get an early start	17
Bring food	16
Take helicopter tour	16
Check the weather forecast	15
Enjoyable experience	11
Prepare for variable weather	11
Spend a night in the park	11
Plan for more/enough time to see lava	10
Be cautious of fumes, gases	8
Take a tour	8
Plan ahead	8
See as much as possible	8
Beautiful/great/incredible place	8
Visit lava tube	7
Attend ranger-led programs	7
Go early to avoid crowds	7
None	6
Plan for more/enough time - for hiking	6
Stay at Volcano House	6
Drive Crater Rim Drive	6

Table 25: Advice to friends and relatives
(continued)

Comment	Number of times mentioned
Get information on lava flow ahead of time	5
Bring binoculars	5
Listen to advice on preparedness	5
Start lava hike before dark	5
Find lodging close by	5
Worthwhile	5
Hike Kilauea Iki Trail	5
Not ideal for young children	5
Rent a car	4
Take pictures	4
Don't expect to see any lava	4
Get out of the car - hike	3
Bring a compass/GPS	3
Visit the visitor center	3
Weather may obstruct views	3
See interpretive exhibits	3
Be cautious if you have asthma	2
Be patient	2
Beware of lava	2
Bring film	2
Educational experience	2
Get maps	2
Hike to lava before dark	2
Hike to lava too difficult	2
Plan on more than one visit	2
Plan to see lava from a distance	2
Visit Jaggar Museum	2
Visit the visitor center first	2
Be careful	2
Bicycle	2
Learn about plants/animals	2
See the volcano	2
Stay in Hilo	2
Other comments	21

Planning for the future

Question 25

If you were a manager planning for the future of Hawai'i Volcanoes NP, what would you propose?

Results

- 64% of visitor groups (N=438) responded to this question.
- Table 26 shows a summary of visitor comments. A complete copy of hand-written comments is included in the Visitor Comments Appendix.

Table 26: Planning for the future
N=615 comments;
some visitor groups made more than one comment.

Comment	Number of times mentioned
INTERPRETIVE SERVICES	
More information on preparedness	28
More info on Hawaiian culture/history/language	27
More rangers at view sites/trails	25
More guided tours	24
Guided walks/tours to lava flows	22
More educational activities	14
More information/signs at sites	14
Guided walks to lava flows	9
More interactive stations/exhibits	8
More scientific interpretive programs	8
More educational activities for children	7
More ranger talks	7
Signs/interpretive services in other languages	7
Better written information	4
Detailed maps	4
More videos	4
Eruption/lava flow information updates	3
Interpret plants/trees	3
Interpretation about endemic species	3
Update museum exhibits	3
Webcam of lava	3
Self-guided interpretive services	3
Update/improve visitor center	2
Other comments	21
FACILITIES/MAINTENANCE	
Better parking at lava flow	12
Update signs	7
Free water	5
Better parking	4
Better road access to lava	4
Improve trails	4
More restrooms	4
Better road signs	3

**Table 26: Planning for the future
(continued)**

Comment	Number of times mentioned
FACILITIES/MAINTENANCE (continued)	
Better roads	3
More trails, overlooks	3
More picnic places	3
Update visitor center	3
Better information/signs at sites	2
Better parking at lava flow/along road	2
Better parking at lava tube	2
Better trailhead signs	2
More facilities at active lava flow site	2
Remodel museum	2
Update signs/exhibits	2
POLICIES/MANAGEMENT	
Provide shuttles to park sites	27
Keep it natural	24
Balance development with preservation	10
Reduce traffic	9
Ensure adequate funding to continue services	4
Increase accessibility	3
Limit number of visitors/day	2
No shuttles	2
Other comments	10
RESOURCE MANAGEMENT	
Control exotic species	6
Protect native species	3
Other comments	1
CONCESSIONS	
More restaurants/food services	14
Better food services/more choices	8
Remodel hotel	5
Provide rental gear (boots, flashlights, raingear)	4
More/bigger gift shops	3
Provide boat tours	2
Provide helicopter tours	2
More accommodations in park	2
More affordable accommodations in park	2
Other comments	9

Table 26: Planning for the future
(continued)

Comment	Number of times mentioned
ACCESS TO LAVA	
Easier/safer access to lava	33
Provide shuttle to active lava flow	17
Increase accessibility to lava flows	16
Better directional signs to lava flow	13
Lighted trails to lava flow	7
Build boardwalks to lava flow	4
GENERAL COMMENTS	
Keep up the good work	17
Not sure	4
Build a hot spring	3
Keep in natural - less development	3
Keep in natural - no ORV's	3
Advertise the park	2
Be well prepared	2
Free binocular/telescope sites	2
Medical services information	2
More accommodations nearby	2
Need two to three days to see it all	2
Recycle	2
Other comments	25

Proposals for new site

Question 26

Hawai'i Volcanoes NP has a new addition, Kahuku, which encompasses 115,000 acres. The majority of this area is lava flows and archeological resources with small pockets of significant native forests. What types of activities, if any, would you propose for this site?

Results

- 55% of visitor groups (N=375) responded to this question.
- Table 27 shows a summary of visitor comments. A complete copy of hand-written comments is included in the Visitor Comments Appendix.

Table 27: Proposals for new site
N=391 comments;
some visitor groups made more than one comment.

Comment	Number of times mentioned
Hiking/walking trails	82
Ranger-led walks	42
Access to lava	19
Guided tours	18
Interpretive programs	15
Hiking/walking trails with interpretive signs	14
Campgrounds	13
Preserve it	13
Archeology interpretation	8
None	8
Keep it natural	7
Picnic areas	7
Viewpoints	6
Conservation education	5
Research - geological/biological	5
Road access	5
Food services	5
Geology interpretation	4
Interpretive center	4
Limit traffic	4
Limit visitation	4
More of the same	4
Self-guided services - trail	4
Shuttle services	4
Eco-tours	3
Hawaiian culture demonstrations	3
Hiking/walking trails only - no vehicles	3
Limit roads	3
Lodging/hotel	3
Nature interpretation signs	3
Parking areas	3
Restrooms	3
Self-guided services	3
ATV tour	2

Table 27: Proposals for new site
(continued)

Comment	Number of times mentioned
Backcountry hiking/camping	2
Children's interpretive programs	2
Exhibits	2
Guided bus tours	2
Helicopter tours	2
Hunting	2
Informational signs	2
Interpretive center/museum	2
Limit to small groups	2
Living history programs	2
Other comments	42

Additional comments

Question 27

Is there anything else you and your group would like to tell us about your visit to Hawai'i Volcanoes NP?

Results

- 56% of visitor groups (N=381) responded to this question.
- Table 28 shows a summary of visitor comments. A complete copy of hand-written comments is included in the Visitor Comments Appendix.

Table 28: Additional comments
N=448 comments;
some visitor groups made more than one comment.

Comment	Number of times mentioned
PERSONNEL	
Rangers were helpful, friendly	15
Rangers were knowledgeable	6
Staff is good	3
Other comments	2
INTERPRETIVE SERVICES	
Educational experience	18
More information on access to lava	8
More rangers (interpretation/information) needed	7
Movie was good – more variety/frequent	7
More programs about eruptions/volcano	4
More information on access to lava	3
Detailed exhibits and explanations	2
Map should be more clear	2
More in-depth interpretive talks	2
Need more information on trails	2
More languages available	2
Website not helpful	2
Other comments	13
FACILITIES/MAINTENANCE	
Improve signs	6
Parking is problematic	6
Good roads	3
Trails are well-marked	3
Very clean/well maintained	4
Better trail to lava	2
Keep facilities clean	2
Love new visitor center	2
Need more restrooms	2
Need cleaner restrooms	2
Other comments	10

Table 28: Additional comments
(continued)

Comment	Number of times mentioned
POLICIES/MANAGEMENT	
Do not over-develop	12
Shuttle bus would be good	6
No shuttle	4
Preserve it	3
Visitors drive too fast	2
Other comments	10
CONCESSIONS	
Need higher quality food	6
Bus driver was great/knowledgeable	2
Helicopter tour helpful	2
Limited food choices	2
More restaurants	2
Other comments	6
GENERAL COMMENTS	
Enjoyable experience	104
Needed more time	23
Wanted closer/easier access to lava	23
Good job	17
Plan to return/ spend more time	18
Thanks	10
Interesting	5
Beautiful place	4
Explored at own pace	4
Had a great time	4
Poor weather	3
Enjoyed nature	2
Great scenery	2
Lighted trails to lava	2
Liked the petroglyphs	2
Other comments	28

APPENDICES

Appendix 1: The Questionnaire

English

and

Japanese

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.

- | | | |
|--|--|---|
| • Sources of information used prior to visit | • Where did group stay? | • Visitor gender |
| • Sources of information preferred for future visits | • How many nights spent in each location? | • Visitor age |
| • Received needed information? | • Number of hours spent in park | • U.S. zip code |
| • Obtain information about accessibility? | • Number of days spent in park | • Country of residence |
| • Activities expected to include in this visit | • Effect of human-caused sounds on park experience | • Number of visits in past 12 months |
| • Activities participated in during this visit | • Feeling of safety during visit | • Number of visits in lifetime |
| • Primary reason for visiting the park | • Sources used to learn about park topics | • Highest level of education |
| • Timing of decision to visit park | • Preferred sources of learning on future visit | • Group members with disabilities/impairments? |
| • On a fixed schedule? | • Services/facilities used | • Activities/services unable to participate in due to physical condition |
| • Comparison of time spent to time planned | • Importance of services/facilities | • Type of physical condition(s) |
| • Reason for change of plans | • Quality of services/facilities | • Overall quality of visitor facilities, services, and recreational opportunities |
| • Experience traffic congestion? | • Willingness to ride shuttle | |
| • Places where traffic congestion was experienced | • Importance of shuttle characteristics | |
| • Sites/trails visited | • With commercial guided tour group? | |
| • Methods of exploring the park | • With school/educational group? | |
| • Did methods of exploring the park meet expectations? | • With other organized group? | |
| • Group stay overnight on big island? | • Group type | |
| • How many nights did group stay on big island? | • Group size | |
| | • Number of vehicles used to enter park | |
| | • Number of entries into park | |

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
 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 1 shows no significant difference in group type.

As shown in Table 2, 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, Fillion 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.

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Appendix 4: Visitor Services Project Publications

Reports are available from the University of Idaho Park Studies Unit website:

www.psu.uidaho.edu/vsp.reports.htm. 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 Mount 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
24. Lincoln Home National Historic Site

1989 (continued)

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)
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1993

- 54. Belle Haven Park/Dyke Marsh Wildlife Park (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 (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 & Park (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)

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

Visitor Services Project Publications (continued)**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 (spring)
- 132. Dry Tortugas National Park (spring)
- 133. Pinnacles National Monument (spring)
- 134. Great Sand Dunes National Park & 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 (fall)

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
- 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

2004 (continued)

- 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 (spring)
- 164. San Francisco Maritime National Historical Park (spring)
- 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 (spring)
- 175. John Fitzgerald Kennedy National Historic Site
- 176. Devils Postpile National Monument
- 177. Mammoth Cave National Park
- 178. Yellowstone National Park
- 179. Monocacy National Battlefield
- 180. Denali National Park & Preserve
- 181. Golden Spike National Historic Site
- 182. Katmai National Park and Park
- 183. Zion National Park (spring and fall)

2007

- 184.1. Big Cypress National Preserve (spring)
- 184.2. Big Cypress National Preserve (ORV Permit Holder/Camp Owner)
- 185. Hawaii Volcanoes National Park (spring)

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

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