

National Park Service
Canyon de Chelly
National Monument

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Canyon de Chelly National Monument Visitor Survey
Final Technical Report
May 2007



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Executive Summary

The Canyon de Chelly National Monument (CACH) Visitor Study Final Technical Report presents findings from a cooperative social science research project examining: visitors' individual characteristics, trip/visit characteristics, individual activities and uses of park resources, individual evaluations of park services, individual perceptions of park experiences, and individual opinions on park management. Researchers at Arizona State University (ASU) designed the study in cooperation with the National Park Service (NPS) to inform routine management and planning. Visitor questionnaires were collected summer and fall 2006 from current adult park visitors to CACH through on-site self-administered survey questionnaire. A total of 386 park visitors were contacted on-site and the final response rate was 76%.

- Non-response bias analysis revealed no significant differences between survey respondents and non-respondents based on gender or personal group size. Visitors who refused to take the survey (i.e., non-respondents), were more likely to have more children present than those who participated in the survey, however.
- The average age of visitors was 52 years. Visitors were *very well educated*; 71.8% had attained a Bachelor's degree or higher level of education. The majority of respondents were White and most had traveled to CACH from within Arizona.
- For approximately two thirds of CACH visitors (64.2%), CACH was one of multiple destinations on their trip away from home. Most visitors traveled in groups of 2–3 people (64.8%) and 15.6% traveled with children below the age of 16.
- Approximately one third of respondents participated in a guided experience when visiting the park. Of those visitors that did use guide services, six in ten utilized a larger group tour experience. Just over half of park visitors (56.5%) stayed overnight in the area; the

average length of stay for these overnight visitors was 1.8 nights. Day users visited the park for an average of approximately 5 hours.

- A total of 86.5% of respondents were making their first visit to CACH when contacted to participate in the study. More than half of visitors claimed that they were unlikely to return in the next 12 months.
- The most common recreation activities included: taking photographs, horseback riding, hiking, and auto (jeep) touring. In contrast, less than 5% of visitors reported attending interpretive programs.
- Within the park, vast majority of visitors took the south rim drive and went to the visitor center. The most popular attractions, other than CACH, visited during this trip away from home were Monument Valley Tribal Park, Grand Canyon National Park, Hubbell Trading Post National Historic Site, and Petrified Forest National Park. The most commonly visited community was Chinle, AZ.
- The two highest ranked visitor motivations were a) to enjoy nature and b) to experience Navajo culture. Among the individual survey items, the most highly ranked were: a) to be close to nature, b) get away from the usual demands of life, and c) to have an authentic experience of Navajo culture.
- The vast majority of visitors (85.4%) at CACH were “not at all crowded.” The remaining visitors reported being slightly crowded (9%) moderately crowded (4%) and extremely crowded (4%).
- Twelve survey items measured the concept of place attachment. These items measured the two dimensions of place attachment: place identity place dependence. Results show that visitors felt *a strong emotional connection* to CACH (i.e., place identity) whereas

visitors *did not feel strongly* that CACH offered unique recreation opportunities that could not be obtained elsewhere (i.e., place dependence).

- The most highly rated items measuring visitor experience indicated that respondents felt a) impressed with how Navajo people have thrived in the canyon, b) felt proud to see the preservation of archaeological resources, c) learned about human history in Canyon de Chelly, d) had an “authentic experience” of Navajo culture, d) learned about how ancient cultures are related to modern tribes, e) felt nostalgic for a simpler way of live, and f) learned about biological diversity. Only one item was rated below the mid-point on the response scale, indicating that visitors did not feel that g) they learned about the National Park Service.
- Preservation of the archaeological resources was the most important contributor toward an authentic experience. However, attending interpretive programs was comparatively less important.
- Visitors were generally very satisfied with their park experience. The most highly ranked variables relating to the services at CACH were the quality of educational exhibits, and the cleanliness of both the visitor center and restrooms.

Introduction

The Canyon de Chelly National Monument (CACH) Visitor Study Final Technical Report presents findings from a cooperative social science research project designed to assist in planning, managing, and providing stewardship to the park. National Park Service staff cooperated with researchers from the Arizona State University (ASU) School of Community Resources & Development (SCRD). The objectives of this study were to understand visitors' experiences of natural and cultural resources at CACH and to assess visitors' evaluations of the park in summer and fall 2006. Instruments were approved by the NPS Social Science Program and the Office of Management and Budget (OMB Approval #1024-0224 [NPS #06-018]; Expiration Date 12/01/2006). The project was funded for the period 6/15/2005 – 12/31/2007. The Colorado Plateau Cooperative Ecosystem Studies Unit (CPCESU) facilitated the project through Cooperative Agreement H1200040002, Task Agreement Number J2030050010, as amended.

Research Team

Dave D. White, Ph.D., Assistant Professor in the ASU School of Community Resources & Development served as the Principal Investigator/Project Director for the study. ASU graduate student Jill Wodrich and undergraduate student Carena van Riper served as managing Research Assistants. The Research Technicians, who entered survey data and collected on-site questionnaires, were



Figure 1: ASU Research Assistant Jill Wodrich, ASU Project Director Dr. Dave White, and CACH Cultural Resource Specialist Marilyn James collaborate on the design of the visitor study.

Jessica Aquino and Chelsea McKinney. From the NPS, the research team included: Steve Whissen and Lynell Wright, Denver Service Center; and Scott Travis, Elaine Leslie, Wilson Hunter, William Yazzie, and Marilyn James, CACH. Thanks are due to James Gramann and Megan McBride, NPS Social Science Program; and Nancy Skinner, CPCESU for their assistance. Finally, we are extremely grateful to the park visitors who participated in the study.

Study Methods

Data were collected through a self-administered on-site questionnaire developed in cooperation by ASU and NPS. The goal of the sampling strategy was to accurately represent the visitor population without having to stop and survey every individual using the area within the period of interest. Through probability sampling, the individuals selected for inclusion in the study (the sample) were a modest number of visitors, and their collective responses were used to represent the whole of the population. Thus, the principal advantage of the probability sampling

utilized in the study was to provide reliable statistical estimates of the population parameters by contacting a random selection of visitors. Sample dates were randomly selected within the sample period, stratified by time of week (weekend vs. weekday), time of day (a.m. vs. p.m.), and proportional to visitation projections.

During the sample periods, each group encountered was approached, and a random visitor was asked to complete the questionnaire. Survey administrators were trained by the Principal Investigator in cooperation with CACH staff. If the visitor refused, the survey administrator completed the on-site log for the contact, noting reason for refusal if offered. Visitors who accepted were provided the on-site survey to complete and the survey administrator was available to answer questions. The survey administrator collected the completed questionnaire and assured the respondent that the information provided will be kept completely confidential. Individual respondents were selected at random by asking for the member of the group who was 18 years or older who has had the most recent birthday. Completed and usable questionnaires were coded and entered into a database and analyzed using Statistical Package for Social Sciences (SPSS) Version 14.0.

While the use of standardized questionnaires and probability sampling makes surveys especially well suited to describing the characteristics of a large population, survey research also has several limitations that should be noted and taken into account when interpreting the results. First, this study utilized a self-administered questionnaire and thus it is not possible to know if visitor responses reflect actual behavior. By administering the survey on-site during the actual park visit, this limitation is hopefully reduced. Second, although the sampling plan is designed to provide a reliable estimate of the visitor population, the study results are truly representative

only of the visitors during the sample periods and do not necessarily apply to visitors during other times of the year. Thus, the findings should be considered a “snapshot” in time.

On-site Survey Results

Results from the on-site survey are presented in this section through a series of tables and figures that present frequency distributions for each individual variable included in the questionnaire. Data presented are typically valid percentages in each response category (i.e., percentages excluding missing values). Descriptive statistics, such as mean and standard deviation are also included for the appropriate variables (i.e., variables treated as interval-level measurement).

Response Rate

A total of 500 randomly selected visitor groups were contacted on site and a random individual from each group was requested to participate in the study. A total of 379 complete and usable surveys were obtained, resulting in an overall on-site response rate of 76%. Based on NPS Public Use Statistics Office 2005 estimate of CACH annual visitation (830,253), the margin of sampling error for the survey is +/- 5% at the 95% confidence interval. Non-response bias analyses demonstrated that there were no significant differences between survey respondents and non-respondents based on gender ($\chi^2 = 3.10$, $df = 1$, $p = .078$) or personal group size ($F = .449$, $df = 1$, $p = .50$). There was a significant difference between respondents and non-respondents based on number of children present ($F = 7.83$, $df = 1$, $p = .005$). Those visitors who refused to take the survey were more likely to have more children present than those who participated in the survey. This difference, although small, should be taken into account when interpreting the results.

Visitor Characteristics

Overall, respondents included slightly more men than women and the average age was 52 years. On the whole, respondents were very well educated; 71.8% had attained a Bachelor's degree or higher level of education.

Table 1: Gender distribution

		Percent
Gender	Female	47.4
	Male	52.6
Total		100

Table 2: Age distribution

	Years
Mean	52
Median	55
Min	16
Max	88

Figure 2: Age distribution

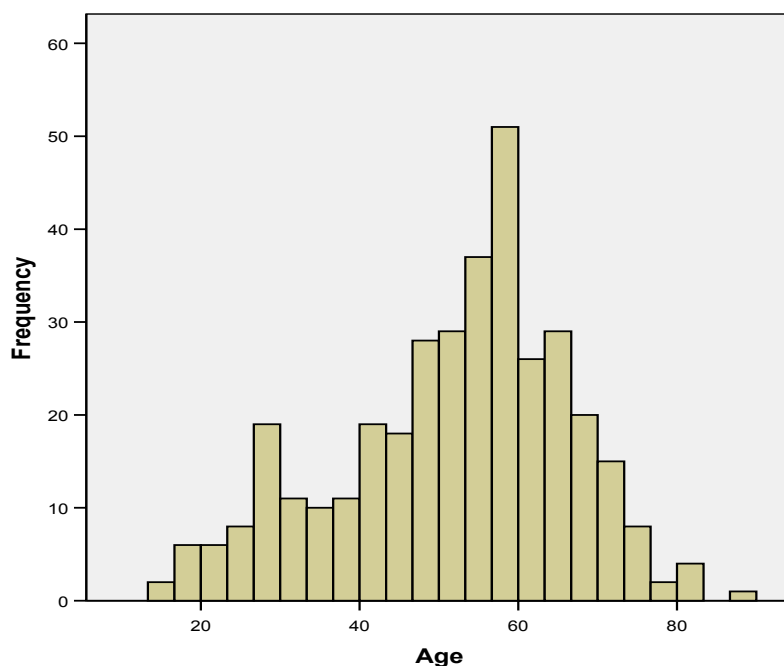
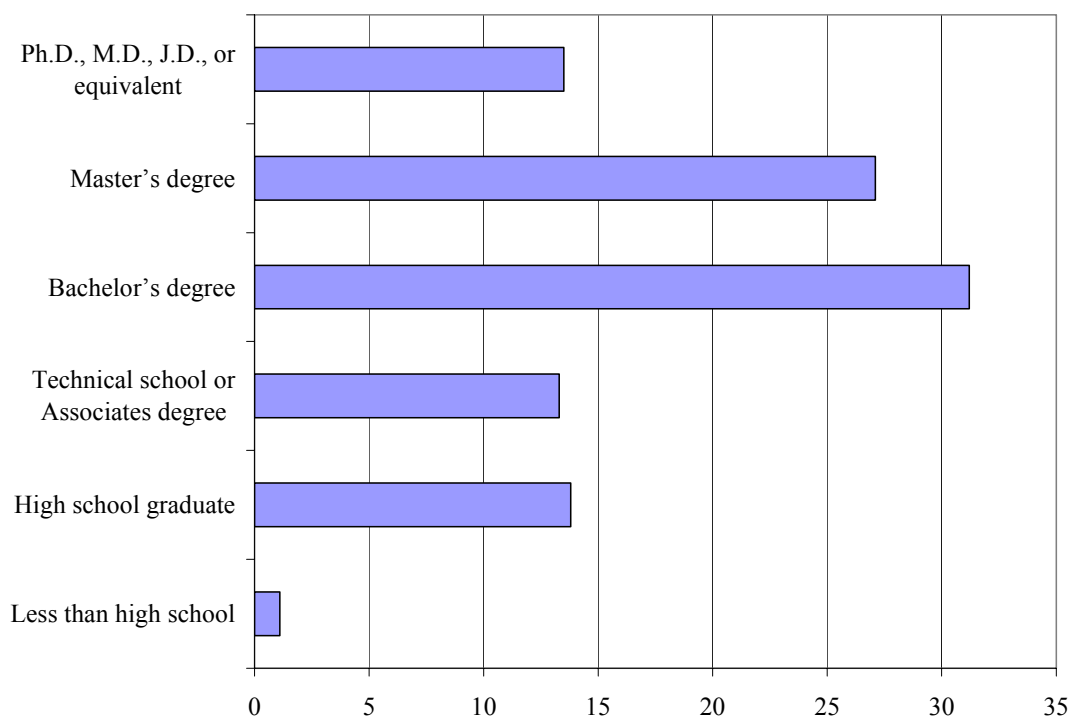


Table 3: Level of educational attainment

Level of Education	Percent
Less than high school	1.1
High school graduate	13.8
Technical school or Associates degree	13.3
Bachelor's degree	31.2
Master's degree	27.1
Ph.D., M.D., J.D., or equivalent	13.5
Total	100.0

Figure 3: Level of educational attainment



Regarding ethnic identification, 88% of visitors identified themselves as White; 10% as American Indian or Alaska Native; 5.4% as of Hispanic descent; 1.6% as Black or African American; and 1.1% as Native Hawaiian or other Pacific Islander. For comparison purposes, the ethnic breakdown for the state of Arizona as of the 2000 census was as follows: White (76.2%), American Indian or Alaska Native (4.7%); Hispanic (28.6%); Black or African American (3.1%); and Native Hawaiian or other Pacific Islander (0.01%).

Table 4: Ethnic identification

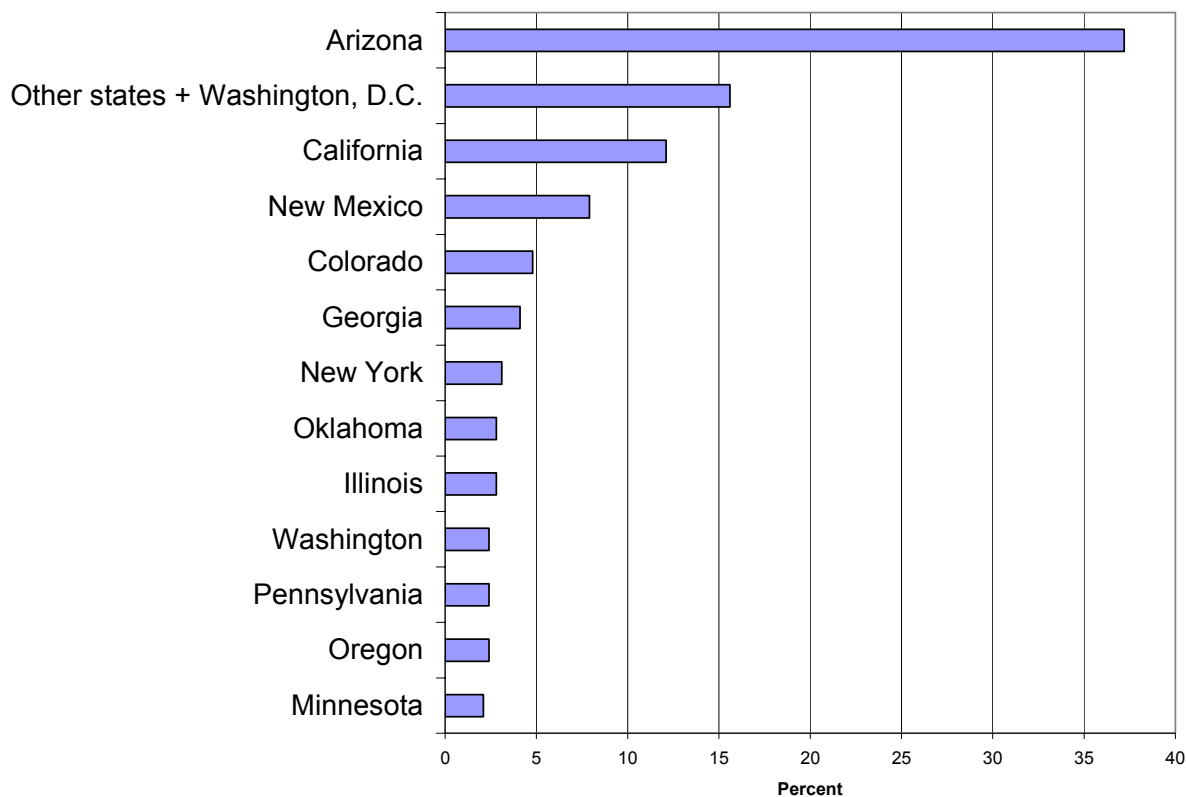
		<i>Percent</i>
Ethnic Identification	American Indian or Alaska Native	10.0
	Asian	1.8
	Black or African American	1.6
	Native Hawaiian or other Pacific Islander	1.1
	White	88.1
	Hispanic	5.4

For domestic visitors, the three most common states of residence were Arizona, California, and New Mexico. More than one-third of domestic respondents were from Arizona.

Table 5: State of residence for domestic visitors

State	Percent
Arizona	37.2
California	12.1
New Mexico	7.9
Colorado	4.8
Georgia	4.1
New York	3.1
Illinois	2.8
Oklahoma	2.8
Oregon	2.4
Pennsylvania	2.4
Washington	2.4
Minnesota	2.1
Other states + Washington, D.C.	15.6

Figure 4: State of residence for domestic visitors



Trip/Visit Characteristics

For more than six out of ten visitors, CACH was one of multiple destinations on their trip away from home when contacted for this study. About two thirds of visitors were traveling in groups of two to three people; groups of more than five were less common, and 15.6% respondents were traveling with children under 16.

Table 6: Role of CACH in trip away from home

		Percent
Role of CACH	Main destination	26.8
	Multiple other destinations	64.1
	Not a planned destination	9.2
Total		100.0

Table 7: Group size

		Percent
Size of Personal Group	Alone	8.8
	2-3 People	64.8
	4-5 People	13.9
	6-10 People	4.8
	11-15 People	2.9
	More than 15 People	4.8
Total		100.0

Table 8: Number in group under 16 years

		Percent
Number in Party Under 16	None	85.4
	1-2	10.5
	3-4	2.7
	5-6	0.5
	More than 6	0.8
Total		100.0

Approximately one third of respondents participated in a guided experience when visiting the park. Of those visitors that did use guide services, six in ten utilized a larger group tour experience. Just over half of respondents stayed overnight, and these visitors stayed in the area for an average of 1.8 nights with a median of 2 nights and a maximum of 8 nights. One third was day use only and the average length of stay was just over 5 hours. A total of 86.5% of respondents were making their first visit to CACH when contacted to participate in the study. More than half of visitors claimed that they were unlikely to return and one third was likely to return in the next 12 months.

Table 9: Visiting with a guide

		Percent
Visit with a guide	No	65.4
	Yes	34.6
Total		100

Table 10: Type of guided experience

		Percent
Type of guided experience	Larger guided group	69.4
	Individual experience with personal guide	30.6
Total		100

Table 11: Day or overnight visit

		Percent
Type of Visit	Day use only	34.6
	Overnight use	56.5
Total		100

Table 12: Length of stay for daytime and overnight

Length of Stay	Day use only	5.0 hours
	Overnight use	1.8 nights

Table 13: Likelihood of return within the next 12 Months

		Percent
Likelihood	Very Unlikely	32.3
	Unlikely	20.3
	Neither likely or unlikely	8.0
	Likely	15.7
	Very Likely	17.3
	Not sure / Don't know	6.4
Total		100

Table 14: Number of times visited in prior 12 months (including the current visit)

Mean	1.28
Median	1.00
Max	32

Activity participation

The most common recreation activities were taking photographs, horseback riding, hiking, and auto/jeep touring. In contrast, very few visitors reported attending interpretive programs.

Table 15: Activity participation

		Percent
Activity	Taking photographs	68.1
	Horseback riding	44.5
	Hiking	44.1
	Auto (jeep) touring	40.4
	Nature walks	21.1
	Camping	18.2
	Wildlife viewing	16.0
	Picnicking	13.7
	Birding	6.1
	Attending interpretive programs	4.5

Note. Respondents could check all that applied so column totals may not equal 100%.

Visitation to areas within and nearby the park

Within the park, just over eight in ten visitors went to the visitor center and the South Rim Drive. Less than half of the respondents took the North Rim Drive or went to Thunderbird Lodge. Two out of ten visited Cottonwood Campground. The most visited attractions outside of CACH included Monument Valley Tribal Park, Grand Canyon National Park, Hubbell Trading Post, and Petrified Forest National Park. The most common communities in the region visited outside of CACH included Chinle, Flagstaff, Kayenta, Phoenix, and Albuquerque.

Table 16: Sites visited within the park

		Percent
Areas Visited	South Rim Drive	85.8
	Visitor Center	81.8
	North Rim Drive	46.7
	Thunderbird Lodge	44.6
	Cottonwood Campground	20.3

Note. Respondents could check all that applied so column totals may not equal 100%.

Table 17: Other sites visited on this trip away from home

		Percent
Sites Visited	Monument Valley Tribal Park	38.8
	Grand Canyon National Park	36.4
	Hubbell Trading Post National Historic Site	35.9
	Petrified Forest National Park	32.7
	Other	17.9
	Navajo National Monument	16.9
	Glen Canyon National Recreation Area	13.2
	Montezuma Castle National Monument	10.0
	Sunset Crater National Monument	9.2
	Chaco Culture National Historic Park	9.0
	Wupatki National Monument	7.9
	Walnut Canyon National Monument	7.1
	Tuzigoot National Monument	5.5
	Rainbow Bridge National Monument	5.3
	El Morro National Monument	5.0
	Aztec Ruins National Monument	5.0
	Bandelier National Monument	5.0
	Petroglyph National Monument	4.5

Note. Respondents could check all that applied so column totals may not equal 100%.

Table 18: Visitation to nearby communities or destinations on this trip away from home

		Percent
Community Visited	Chinle	67.0
	Flagstaff	37.7
	Kayenta	24.8
	Phoenix	21.9
	Albuquerque	21.1
	Other	17.9
	Prescott	8.2
Total		100.0

Note. Respondents could check all that applied so column totals may not equal 100%.

Perceptions of Park Experiences

Motives for visiting CACH

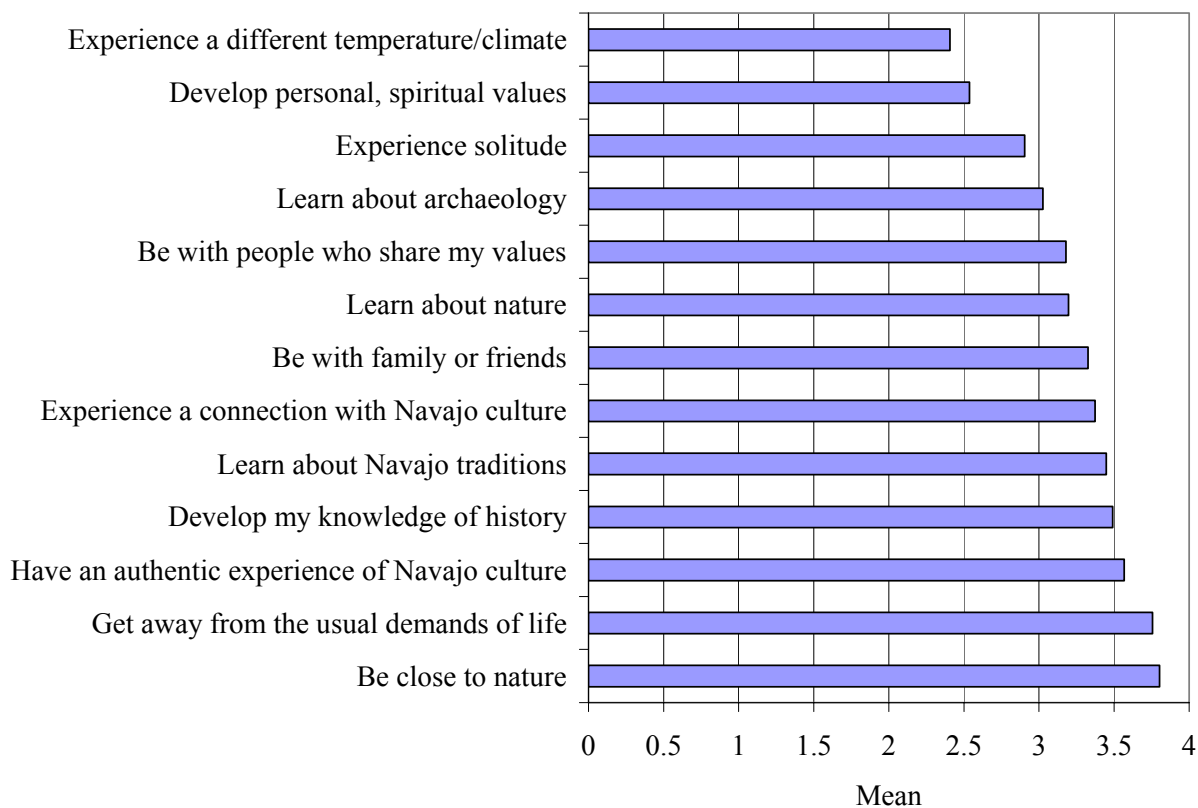
Motives for visiting the park were measured by 13 items assessing the importance of desired experiences. The items were drawn from the recreation experience preference (REP) scales. The specific items used in this study were chosen after preliminary interviews with users and park managers to tap the most significant motive domains. Multiple item scales were used to measure: enjoying nature (two items); learning (two items); family togetherness / being with similar people (two items); escape (two items); introspection (two items) and experiencing Navajo culture (three items). Respondents were asked to rate the importance of the items on a five-point scale ranging from 1 (Not at all important) to 5 (Extremely important). Based upon mean scores, the most highly rated individual items were: to be close to nature, to get away from the usual demands of life, and to have an authentic experience of Navajo culture.

Table 19: Ratings of the importance of motives

	Percent			Mean	SD
<i>Subscale Items</i>	Not Important	Important	Very Important		
<i>To enjoy nature</i>					
Be close to nature	17.5	22.8	53.8	3.80	1.15
Learn about nature	33.0	33.5	33.5	3.20	1.17
<i>Learning</i>					
Learn about archaeology	36.7	30.2	33.2	3.03	1.19
Develop my knowledge of history	10.4	32.9	46.3	3.49	1.11
<i>Family togetherness</i>					
Be with family or friends	27.6	20.0	48.2	3.33	1.45
Be with people who share my values	36.7	20.1	43.2	3.18	1.41
<i>Escape</i>					
Get away from the usual demands of life	18.8	18.8	62.5	3.76	1.26
Experience a different temperature/climate	55.6	17.0	27.5	2.41	1.39
<i>Introspection</i>					
Develop personal, spiritual values	60.4	19.2	20.4	2.54	1.35
Experience solitude	41.9%	22.0	36.1	2.90	1.35
<i>Navajo culture</i>					
Have an authentic experience of Navajo culture	20.4	29.8	49.7	3.57	1.15
Learn about Navajo traditions	21.6	32.2	40.0	3.45	1.13
Experience a connection with Navajo culture	28.0	32.6	39.5	3.37	1.22

Note. Values are mean scores on a five point scale ranging from 1 (Not at all important) to 5 (Extremely important).

Figure 5 : Motives



Crowding

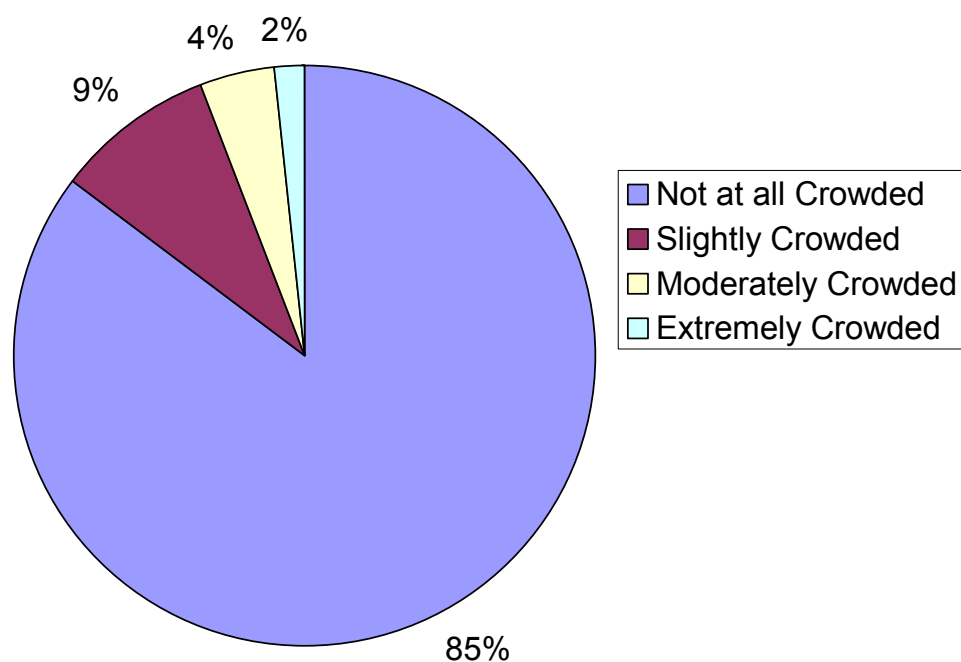
Overall, respondents were “not at all crowded” at the park.

Table 20: Crowding perceptions

		Percent
Crowding	Not at all Crowded	85.2
	Slightly Crowded	9.1
	Moderately Crowded	4.0
	Extremely Crowded	1.7
Total		100
Mean		1.80
SD		1.28

Note. Values are mean scores on a nine-point scale ranging from 1 (Not at all crowded) to 9 (Extremely crowded).

Figure 6: Crowding perceptions



Place attachment

Another section of the survey assessed visitors' level of place attachment to CACH. Multiple-item scales were used to measure the two dimensions of place attachment: place identity (five items) and place dependence (five items). Place identity is how the visitor's sense of self, or personal identity, is defined in relation to the park. An individual may see a place as a resource for satisfying goals and at the same time see the place as a part of his or herself. The result can be a strong emotional attachment to the place. Place identity includes not only a physical setting but also a social element. That is, physical settings serve as backdrops to social and cultural experience. Place dependence refers to the degree to which the park affords visitors specific and irreplaceable features necessary to achieve their goals. That is, visitors develop place dependence when there is no substitute for the types of activities and experiences afforded by a particular park.

Mean scores (on a five-point scale) suggest that, on the whole, CACH visitors have a strong sense of place identity but a weak sense of place dependence. For place identity, the results indicate that visitors feel that Canyon de Chelly "means a lot" to them, they will have "a lot of fond memories," they feel "very attached," "identify strongly," and "have a special connection" to the canyon, its residents, and visitors. The mean value for each of the place identity items was higher than the midpoint on the scale (3.0), indicating that most visitors agreed or strongly agreed with these statements. For place dependence, however, the mean score for four of the five items was less than 3.0, indicating that most visitors did not feel that their activities and experiences were specifically dependent on the canyon. That is to say, visitors consider other places to be potential substitutes for the activities and experiences provided by the canyon.

Table 21: Level of agreement or disagreement with statements about place attachment

Subscale Items	Percent			Mean	SD
	Disagree	Neutral	Agree		
<i>Place Identity</i>					
Canyon de Chelly means a lot to me	2.2	21.8	76.0	4.08	0.81
I have a lot of fond memories about Canyon de Chelly	7.9	19.1	73.0	3.91	0.88
I am very attached to Canyon de Chelly	7.7	41.7	50.5	3.62	0.92
I identify strongly with Canyon de Chelly	11.7	49.4	38.9	3.42	0.94
I have a special connection to Canyon de Chelly and the people who live and visit here	22.9	48.6	28.6	3.20	0.97
<i>Place Dependence</i>					
I will (do) bring my children to this place	15.2	38.5	56.4	3.62	1.10
I enjoy recreating in Canyon de Chelly more than any other area	30.8	51.7	17.4	2.95	0.90
I get more satisfaction out of visiting Canyon de Chelly than from visiting any other National Monument	19.5	42.8	17.8	2.87	0.98
I wouldn't substitute any place for the type of recreation I do here	40.2	46.9	12.8	2.77	0.99
Recreating here is more important than recreating in any other place	45.2	46.9	7.9	2.70	0.92

Note. Values are mean scores on a scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Figure 7: Place identity

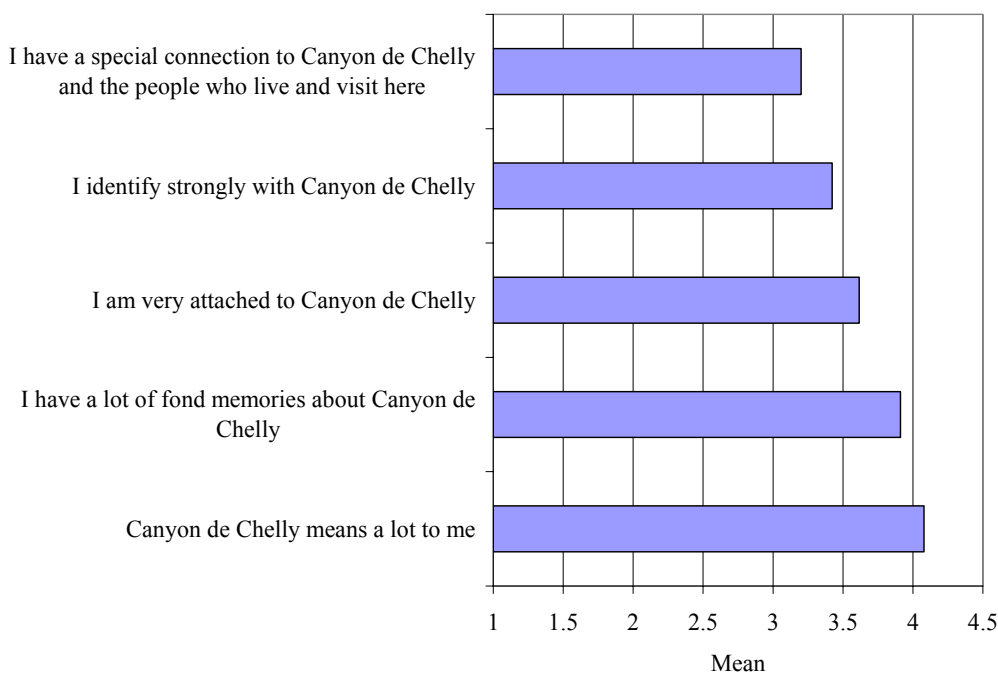
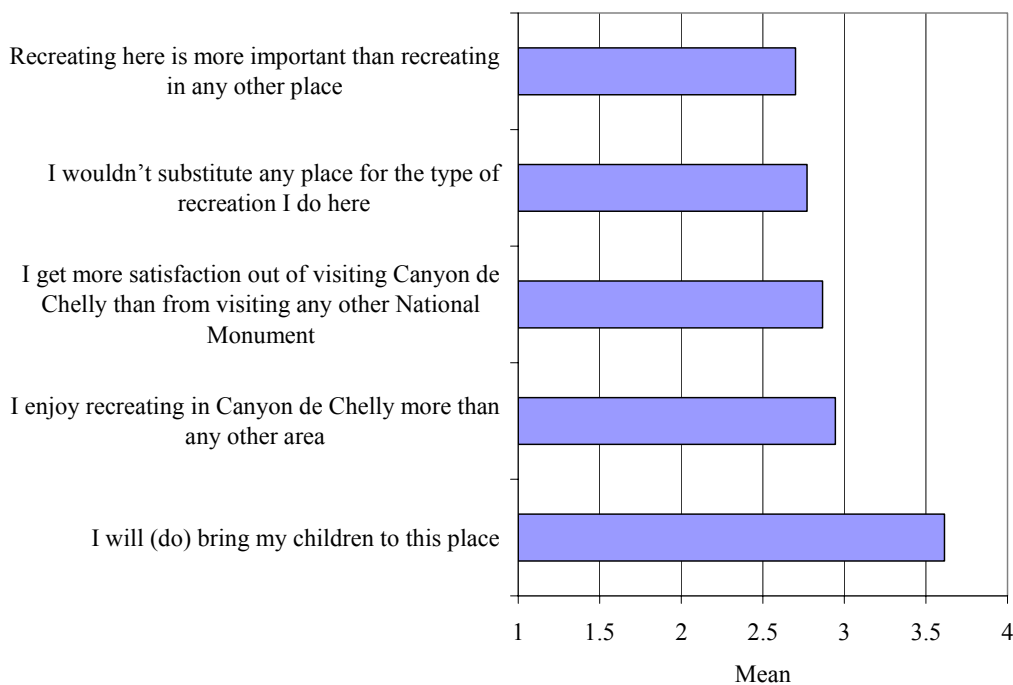


Figure 8 Place dependence



Thoughts and emotions

To measure the cognitive and emotional dimensions of the beneficial experiences gained by visitors to the park, the survey included a series of ten statements describing thoughts and feelings associated with visiting heritage parks. The response scale ranged from 1 (Strongly disagree) to 5 (Strongly agree). The statements were developed based on prior research on visitor experiences in cultural sites. Based on mean scores, the most highly rated items indicate that respondents felt impressed with how Navajo people have thrived in the canyon, felt proud to see the preservation of archaeological resources, learned about human history in Canyon de Chelly, had an “authentic experience” of Navajo culture, learned about how ancient cultures are related to modern tribes, felt nostalgic for a simpler way of live, and learned about biological diversity. Only one item was rated below the mid-point on the scale, “I learned about the National Park Service.”

Table 22: Agreement or disagreement with statements about the visitor experience

Statement	Percent			Mean	SD
	Disagree	Neutral	Agree		
I was impressed with how Navajo people have thrived in the canyon	4.4	8.3	87.3	4.15	.79
It made me feel proud to see the preservation of archaeological resources	4.3	17.2	78.3	4.12	.83
I learned about human history in Canyon de Chelly	2.7	19.1	78.2	3.91	.76
Canyon de Chelly NM provided me with an authentic experience of Native American culture	10.9	18.1	70.9	3.82	.92
I was impressed by the cooperation between the National Park Service and the Navajo Nation	9.4	19.4	23.9	3.82	.93
I learned how ancient cultures are related to modern tribes in the area	33.8	48.6	60.0	3.67	.87
It made me nostalgic for a simpler way of life	20	37.8	42.2	3.42	1.09
I learned about the biological diversity of CACH	18.1	33.9	48.0	3.41	1.03
I learned about the scientific value of the area	22.3	40.0	13.7	3.20	1.03
I learned about the National Park Service	31.5	44.2	24.2	2.88	1.02

Note. Values are mean scores on a scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Perceptions of authenticity

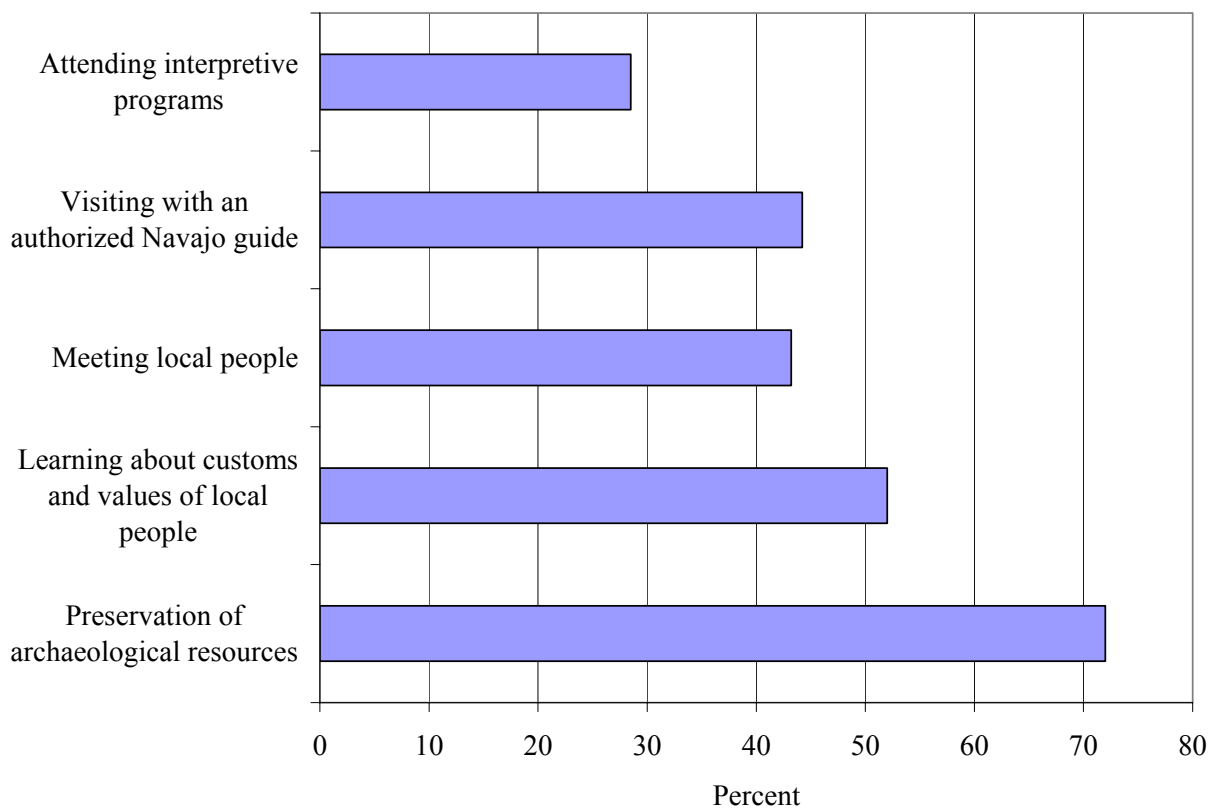
Increasingly, authenticity is being promoted as a guiding management principle, especially for cultural resource parks. It is therefore important to understand which factors are most important in contributing to visitors' sense of authenticity. Based on mean scores (on a five-point scale), preservation of the archaeological resources was the most important contributor toward an authentic experience, followed by learning about customs and values of local people, meeting local people, and visiting with an authorized Navajo guide. Less important by comparison was attending interpretive programs.

Table 23: Ratings of importance of contributors to authentic experience

Statement	Percent			Mean	SD
	Not Important	Important	Very Important		
Preservation of archaeological resources	6.6	21.4	72.0	4.11	.97
Learning about customs and values of local people	13.4	34.6	52.0	3.65	1.08
Meeting local people	28.4	28.4	43.2	3.39	1.19
Visiting with an authorized Navajo guide	33.7	20.9	44.2	3.11	1.43
Attending interpretive programs	46.7	24.8	28.5	2.83	1.25

Note. Values are mean scores on a scale ranging from 1 (Not at all important) to 5 (Extremely important).

Figure 9 Percent of visitors saying each item was very important to an authentic experience



Evaluation of Park Facilities, Programs, and Services

Respondents were asked to rate the importance of a variety of programs, facilities, and services and their level of satisfaction with current conditions. Visitors were generally very satisfied with their park experience. The most highly ranked variables relating to the services at CACH were the quality of educational exhibits, and the cleanliness of both the visitor center and restrooms. Visitors were also satisfied with the overall quality of the concession jeep tour.

Table 24: Overall satisfaction with recent visit

		Percent
Satisfaction	Very dissatisfied	10.5
	Dissatisfied	0.5
	Neither satisfied nor dissatisfied	2.7
	Satisfied	25.5
	Very Satisfied	60.9
Total		100

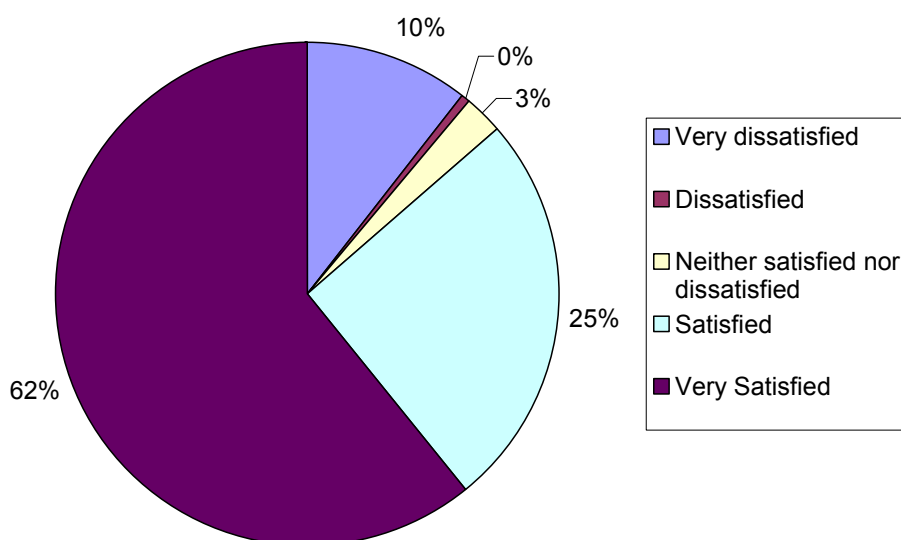
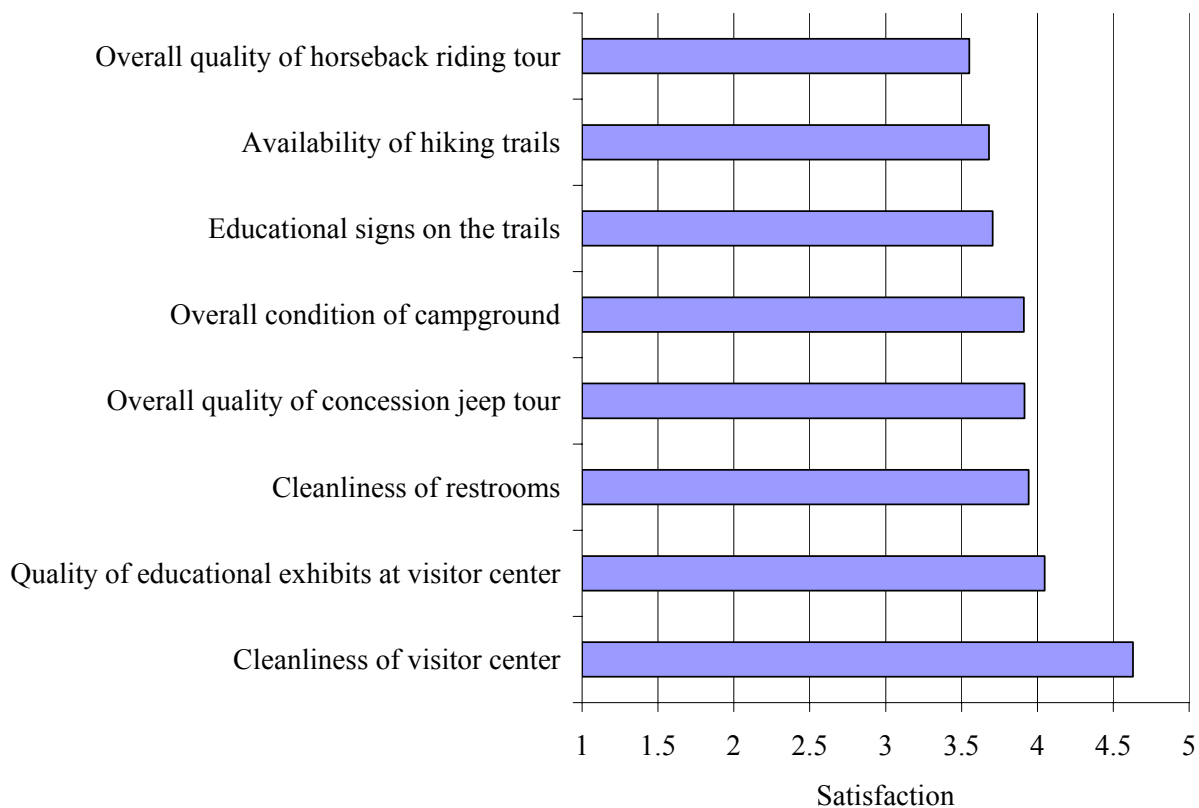
Figure 10: Overall satisfaction

Table 25: Level of satisfaction with facilities, programs, and services

Facilities, Programs, or Services					Mean	SD
	Dissatisfied	Neutral	Satisfied	Don't Know		
Cleanliness of visitor center	0.5	7.1	78.0	14.3	4.63	.86
Quality of educational exhibits at visitor center	3.3	12.8	62.1	21.8	4.05	.89
Cleanliness of restrooms	7.9	10.1	64.0	18.0	3.94	.98
Overall quality of concession jeep tour	1.7	12.1	28.7	57.5	3.92	.96
Overall condition of campground	2.8	12.6	37.1	47.4	3.91	.98
Educational signs on the trails	7.9	20.5	45.5	26.1	3.71	.91
Availability of hiking trails	14.7	13.6	48.6	23.2	3.68	1.16
Overall quality of horseback riding tour	0.6	12.7	10.2	76.5	3.55	.91

Note. Values are mean scores on a scale ranging from 1 (Very Dissatisfied) to 5 (Very Satisfied).

Figure 11 Level of satisfaction with facilities, programs, and services



Summary and Conclusions

The results of the 2007 Canyon de Chelly National Monument Visitor Study reveal that, although there is some diversity, most visitors to the monument are traveling in small groups of two to three, they are typically middle-aged, very well educated, White, and from Arizona. Visitors are typically traveling in the “four corners” area to see Canyon de Chelly along with other natural and cultural resource attractions such as Monument Valley Navajo Tribal Park, Petrified Forest National Park, and Grand Canyon National Park. Visitors are motivated to come to Canyon de Chelly by strong desires to enjoy nature and to experience Navajo and ancient tribal cultures. About half of visitors stay overnight on their trip away from home, typically spending two nights in the area; the remainder of visitors are on a day trip from home and spend about five hours in the park. Most visitors are “first-timers” and most are unlikely to return within the next year. During their visit, people enjoy taking photographs, horseback riding, hiking, and jeep touring. A very small number of visitors take part in organized interpretive programs. Inside the monument, visitors are most likely to travel the North and South Rim drives and stop by the visitor center. About one third participate in a guided experience, and most of these visitors take the “shake and bake” larger guided tours. The results also show that visitors do not feel crowded at all in the park. The mean value on a standard nine-point crowding scale was 1.28. This compares very favorably with results from other studies conducted by ASU. For instance, the mean value on the same scale was 2.46 at Montezuma Castle NM, 1.76 at Montezuma Well, 1.51 at Tuzigoot NM.

Comparison of the Visitors report feeling a strong emotional connection to the park, but they do not feel that the park offers a unique recreational experience that cannot be obtained anywhere else. The visitor experience is characterized by feelings of pride in the preservation of

the archaeological resources, learning about the timeline of human history in the Canyon, learning about Navajo culture, and learning how ancient cultures are related to contemporary cultures.

Overall, visitors feel that Canyon de Chelly provides an “authentic experience.” Additional analysis conducted for a presentation to the 2007 George Wright Society conference in St. Paul Minnesota (see Appendix) shows place identity was the strongest predictor of perceptions of authenticity, suggesting that a strong emotional bond is an important factor in visitors’ perceptions of authenticity. Also, as motivation for learning about Navajo culture increased so did perceptions of authenticity. This may relate to the visitors’ expectations and the perception that the site fulfilled those expectations. Higher age lead to increased perceptions of authenticity. However, as respondents education level increased their perceptions of authenticity decreased. More educated visitors may be more critical of the historical accuracy of the site.

As noted earlier, Canyon de Chelly is unique within the National Park System for several reasons. Most notably, the monument is located on Navajo Tribal Trust land and is home to a living community of residents. The study results suggest that, while visitors are impressed about the cooperation between the NPS and the Navajo Nation, visitors are not learning about the NPS. Although it is understood that the relationship between the NPS and the tribal community is complex and evolving, it is suggested that the management team increase their efforts to educate visitors about the role of that the NPS plays in cooperative stewardship of this remarkable and significant area.

The notion of authenticity has received much discussion since it was introduced in the tourism literature. Like cultural heritage tourism, a major focus of this has been on the conceptual definition of the term; however a lack of consensus regarding its meaning still

remains. Visitors often seek the “real” or “authentic” (i.e., backstage) because everyday modern life is seen as artificial, fragmented and with little meaning. Based on this perspective, the visitors may look for places that are “untouched by modernity.” Thus the “staged” approach assumes that authenticity is an agreed upon absolute, and can be objectively defined, found and enjoyed. Others have argued that authenticity is socially constructed by the visitor who actively creates meaning in his/her experience based on points of view, needs, beliefs, and perspectives. Unlike the “staged” approach, authenticity may “negotiated” by the visitor and the host, rather than simply received by the visitor.

While few visitor studies have explored perceptions of authenticity in relation to other variables, some evidence suggests that authenticity is an important factor in satisfaction. Also, research suggests that as visitors get older and travel more, they become more skeptical of the authenticity of the site. The literature on authenticity indicates it is an important aspect of cultural heritage visitation and is gaining significance as a marketing and management strategy. Given the somewhat advanced average age of CACH visitors and their high level of education, it follows that some visitors may be critical of the authenticity of the Canyon de Chelly experience, a conclusion that was partially supported by supplemental analysis. Given the impact of authenticity perceptions on overall satisfaction and the increasing relevance of authenticity as a management goal, it is important for managers to consider how to maintain or increase visitors’ perceptions of authenticity. This may be accomplished through interpretive and educational programs, services, and exhibits that address explicitly the complex narrative of human history in the canyon and provide visitors, especially those who are highly educated and motivated by desire for cultural learning experiences, with opportunities to see “backstage” and to actively explore, question, and critically evaluate the site. Clearly, this may be uncomfortable for

managers and perhaps unwelcome by local residents. Thus, as with nearly every aspect of management at Canyon de Chelly, a careful and cooperative approach would be necessary.

Another notable finding in this study was the strength of the “nature enjoyment” motive for CACH visitors. Although the park may be conceptualized primarily as a “cultural resource” park, it is clear that visitors desire contact with natural environment as a component of their experience. This is consistent with findings from a visitor study at Montezuma Castle and Tuzigoot National Monuments in Arizona, also conducted by ASU. Managers are encouraged to focus efforts to promote visitor contact with and understanding of the natural environment in the Canyon. For instance, visitors may be recruited to volunteer in ecological restoration projects as a component of their visit. Also, roving park rangers should engage visitors in discussions about the natural history of the canyon and the current resource management issues. Furthermore, park marketing and promotional materials could highlight more the opportunities for backcountry travel.

Analysis of open-ended comments asking visitors what was most memorable or significant about their visit to CACH revealed the strong influence of: scenic beauty; experiencing Navajo culture, especially meeting canyon residents; recreation activities, especially hiking and horseback riding; and preservation of archaeological ruins, especially White House Ruins. Analysis of open-ended comments asking visitors what, if anything could be improved about the park showed that the most common comments related to: keep up the good work; picking up trash; providing more self-guided tours; more information signs; more hiking trails; and charging entrance fees to provide revenue to park improvements.

Finally, the results show that visitors were generally very satisfied with their park experience. Visitors were generally very satisfied with their park experience. However, 10% of

respondents were “very dissatisfied.” Additional analysis shows that “Not satisfied” visitors placed significantly higher importance on the nature enjoyment and Navajo culture motives. There were no differences between satisfied and not satisfied visitors based upon gender, other motives, place attachment, or perception of authenticity. The most highly ranked variables relating to the services at CACH were the quality of educational exhibits, and the cleanliness of both the visitor center and restrooms.

Appendix I: Summary of Visitor Comments

Most memorable or Significant Aspect of Visitors' Experiences

Table 26 Categories, number, and percentage of comments for visitors' most memorable or significant experiences

Comment category	Frequency	Valid Percent
Scenery	45	21.5
Ruins	40	19.1
Hiking	25	12.0
The Canyon	14	6.7
Truck tour	9	4.3
Nature	9	4.3
History	8	3.8
Park geology	8	3.8
Solitude	8	3.8
Other comments	7	3.3
Horseback tour	6	2.9
Spiritual atmosphere	6	2.9
Navajo Culture	5	2.4
Overlooks	5	2.4
Tour of the canyon	4	1.9
Ranger-guided activities	3	1.4
Petroglyph	2	1.0
Visit educational	1	.5
Visitor Center	1	.5
Thunderbird Lodge	1	.5
Spider Rock	1	.5
Wildlife	1	.5
Total	209	100.0

Table 27 Detailed comments for visitors' most memorable or significant experiences

Navajo life in the canyon
"White House" ruin, closeness to canyon
Absorbing the beauty and quiet of the canyon. This is my 2nd visit . It was cold! (We did the all day group tour to Mummy Ruins)
Aesthetic experience, moving muscles.
All
All the color
All the overlooks and scenic views.
all-day jeep tour - seeing ruins and rock formations
Amazing Cliff Dwellings
Another usually impressive canyon.
Awesome views and sense of history.
Background hopefully for an oil painting - I have an MEA in painting Pratt, ASL NYC
Beautiful surroundings, Friendly but not intrusive welcome, Natural wonders, Historic sites
Beauty
Beauty of canyons ruins
Beauty of nature unspoiled nature.
Beauty of surroundings, Extensive Knowledge of our tour guide.
Beauty of the Canyon
Being able to view at the overlooks because husband was not able to do long hikes or climbs, but we wanted to view the grandeur of Gods creation and the Navajo culture. The overlooks did so with much ease.
Being away and enjoying what i do.
Being here all the time as a home.
Being with family.
Being with friends
Breathtaking views and peaceful solitude.
Canyon walls & color +
Clean air - Meet (see) people.
Drive along the bottom of the canyon.
Driving on the canyon floor-seeing ruins and petroglyphs up close
Everything really. Possibly the golden color of the cottonwood trees in the jeep tour. The colors, views, hike, ruins, all was great.
everything-we loved our Navajo guide
Experiencing spiritual growth with my church family.
Extreme beauty solitude
Familiarization and awareness with Navajo culture.
Getting back up the canyon trail!
Great views
Guided tour thru Valley - 8hrs!
Hearing the Ranger talk and seeing Mummy Cave from the overlook.
Hike at White House Ruins

Hike down to White House
Hike down to White House – Beautiful
Hike to White House, that is not developed, which I LOVE!!!
Hiking
Hiking around rim
Hiking in the canyon
Hiking with someone whose company greatly enjoy in such a beautiful place.
History/ cliff dwelling
Horseback ride w/ Navajo guide
Horseback riding in the canyon - educational and fun
I was impressed how much nice the White House Ruins looked with the Russian Olive Removed.
Impressive Nature
Indian ruins and monuments
it is a tie between talking with the Navajo and seeing the Canyon at sunset
Just arrived here
Just being here - all of the above.
Just the beauty
Just the sheer magnitude of the canyon.
Just to see mommy cave.
Learn about the different values that were important (signifigant) in the past and see what we value today.
Learning about it. We had never heard of it before. This history and geology are most interesting.
Meeting people of different
Mineral nature
My friedns are fasinated by the canyon. So watching them is great satisfaction for me.
Native Beauty
Natural Colors
Natural scenery - hiking trail
Nature and learn about the people
Photography
Reading about Navajo/Anasazi culture/history @Visitor Center.
Ruins
Ruins
Scenery
Scenery – Solitude
Scenery-Historical Ruins
See comment on back!
Seeing all the ruins and the history of them.
Seeing people living in this ancient landscape, enjoying the quiet, powerful beauty
Seeing ruins, hiking out of the canyon.
Seeing something from history and realizing I'm not to smart about it.
Seeing something very different from Rhode Island.
Seeing the trantula;seeing the ruins the rock climbing - crawling ; the weather.

Share an experience with a loved one. I wanted to show a love the beauty of the area.
South rim drive.
Spectacular dramatic beauty with ancient human dwellings interspread.
Spider Rock (Spider Woman)
Spider Rock and Face Rock were spectacular. The ruins were most interesting in their locations.
Talking to Pete about the history of Kokopeli and Fredrick Henry and his art.
Talking with a local young man about his culture
That I was allowed to hike to the ruins
The ability to see a history and beautiful area so surreal and untouched by man that it took my breath away. And this survey of course.
The ability to take the all-day tour from the thuderbird lodge.
The amazing scenery
The beauty -the ruins - the guided tour - the brick structures
The canyon and the Navajo
The canyon itself. The evidence of our great God.
The climb up the White House Canyon.
The coyotes at Spiderman Rock
The fact this canyon is a living canyon with people using it to live!
The gorgeous color of Rock formations - Native @ work!
The guy with the survey
The high prices of guided tours for 3.5miles to spider rock.
The hike from the White House overlook to the bottom of the canyon and back again.
The hike to white house ruins
The history and natural beauty
The history of the area and the ruins.
The life at the bottom, sheercomes, how hidden the canyon is.
The most memorable was meeting the people who farm in the canyon.
The natural beauty
The natural untouched beauty and the Navajo people which are the most valuble resources we have.
The nature from a different angle. The trees changing.
The overall beauty and majesty of God's creations.
The ruin and nature walk spending time with grandpa.
The ruins
The ruins at the bottom of canyons.
The scenary beautiful
The Scenery
The scenery
The scenic surrounding of the canyon. The quietness of the nature.
The spirituality of the canyon and the dignity of the people.
The starving (pregnant dogs) I am going to try and do something when I get back. Canyon do Chelly was not marked when weve in on HWY 12 N last night
The trail to White House
The White House

The White House Ruin trail hike was great.
Thunderstorm at canyon in Navajo Nation (Kayenta)
Tomorrow
Very pretty, peaceful
Views. Colors. Coyote
Visit to Memory Cave
Visiting my friends that work/live up here.
Visiting the bottom of the canyon - it felt ancient and spiritual
Walking thru canyon.
We road in back of bus to see Spider Rock at sunset. My husband is in remission from stage 4 cancer and this is one place we had to go to.
White House
White House
White House (ruins).
White House and Spider Rock
White House overlook , Red Rocks
White house rim
White House ruin hike
White House ruins/
White House trail-(view of landscape) - Jeep tour with a Navajo guide (showing culture)
White House walk

*Management Recommendations**Table 28 Categories, number, and percentage of comments for visitors' management recommendations*

Comment category	Frequency	Valid Percent
Keep up good work / Nothing	73	46.2
Pick up trash	12	7.6
Provide more self-guided tours	8	5.1
Need more informative signs	7	4.4
Provide more hiking trails	7	4.4
Charge entrance fee	7	4.4
Improve campgrounds	6	3.8
Need more rangers available	4	2.5
Provide less expensive tours	4	2.5
Protect Indian Culture	4	2.5
Upgrade restrooms	4	2.5
Publicize park more	3	1.9
Provide more park information	3	1.9
Improve access around park	3	1.9
Emphasize culture and history of natives	2	1.3
Provide audio at overlooks	2	1.3
Sign specific overlooks for photo opportunities	2	1.3
Prevent theft	2	1.3
Provide living history reenactments	1	.6
More films at visitor center	1	.6
More information on region's geology	1	.6
Provide tours every two hours	1	.6
Repair roads	1	.6
Total	158	100.0

Table 29 Detailed comments for visitors' management recommendations

A car wash at exit of canyon trip. Very fun :)
A real program for visiting the NPS
A trail along the rim.
A way to get very isolated backpacking permits that is difficult so its not done a lot.
Add geological interpretation to guided visit
Advertise to make money, Keep park clean
All is ok
Allow 4 more hike up park rangers - really enjoyed our hike down tunnel canyon with NPS guide.
Allow more trails available without a guide.
Allow Navajo Nation total control of canyon
Audio tour. Head phone guides
Ban smoking or have areas to toss butts. More litter control
Bathrooms at the overlooks
Better working relationship with Navajos
Can't think of anything.
Carry on doing what you are doing!
Change to get in and give the fees to the Navajo people.
Charge a fee.
Charge for camping
Clean Litter.
Collect a fee-why not
Collect fee from local park management people
Constant reminder of park regulations and enforcement
Continue to work cooperative with Navajo people whose land this is. Work to the point with eventually the Navajo gain complete control and ownership of all the "natl Monument" and all of the money derived from others enjoying it.
dlocumenvalliam (in French)
Doing a great job!
Doing well here
Don't know.
Don't need to change the management of the park.
Don't take anymore Navajo land
Drinking fountains
Elevator
Enjoyed it all. We didn't get to the Visitor Center - wish we'd have had time. No suggestions.
Figure on a way to get more money out of the Bush Administration to keep up and improve infrastructures.
For me, a French woman it was unfortunately difficult to understand all that the guide (Indian) was saying, although I certainly appreciated his kindness
French guides or amenities for foreigners.
Get rid of sellers of junk

Great Place!
Groom the trail.
Had a great time -> 2 nevisit
Have a banner and handout info to visitors as they come in. Really don't even have a map of the canyon. At least leave some at one of the viewing sites.
Have a full service campground. Make it less costly to tour the canyon.
Have guided tours be more affordable, or have additional open trails (like on the rim?). Don't burn brush piles and close only trail in park on a holiday weekend.
I am left with the feeling that the Navajo are not happy with the Park Service. Hopefully this can be changed. I am on the side of the Navajo.
I believe the work here is very well managed and improvement would only be asset if any but I cannot voice any of my own.
I don't know
I liked it the way it is .
I long to hike and backpack but also care deeply about the preservation of th park.
I speak French. I would wish documentation in French.
I suggest an entrance fee-pass proceeds to Navajos or maybe the dogs. Markings on road.
I suggest that a change for the campground and the fees given to the tribe or to a foundation for education for the younger natives.
I think it is done well. I have visited 25 times during the past 10 years and am happy with little change. It would be nice to have a second access point to hike down into the canyon unguided, but realize this may not be feasible.
I think you do a great job.
I think you're doing great.
I wish the tours were more accessible money - wise as well as 4-wheel vehicle requirements.
I wish there were birding tours in the canyon.
I would like hiking inside the Canyon.
If NPS is responsible for roads inside the canyon keep them more open after floods.
If tours of the canyon are over at 5:00pm why would the gift shop be closed at the same time.
Increase security and litter removal, and maintenance of Cttowood campground
It appears to be well run and well worked making the sights easy to find and use.
Keep as is.
Keep it clean
Keep it pure.
Keep it simple
Keep the overlook clean.
Keep up good work
Keep up the good work
Keep up the good work on keeping the national monument clean and beautiful.
Keep up the great work. Very well kept and accessible.
Keep visitor center open until 6pm
Lower prices for the jeep tours
Make more trails.
Maybe better murals in visitor center, and overlooks.

Minimal fees to help range of mountain.
Monitor the 2 coal burning plants in NM at Four Corners, to monitor mercury emission (? high readouts at Mesa Verde) and concerns relative to uranium flex coming in via Chinle creek and uranium (flex) used for Navajo concentrate.
More
More available guides, local people. More Hogans.
More free hiking trails.
More hikes w/o guides
More hiking trails open to the public without a guide.
More hiking-trails without having a guide
More information at overlooks
More interpretive programs, literature etc.
More Publicity
More self - guided hiking trails.
More trails for hiking accessible without a park guid or ranger.
Move self-guided brochured signs
N/A
N/A
No suggestions
None
None
Nothing
Nothing
Nothing
Nothing
Nothing
Nothing
Nothing
Nothing
Nothing
Nothing - the beauty of Canyon de Chelly speaks for itself
Nothing - wish they were better funding - Keep fighting privatization
Nothing at all
Nothing I can think of.
Nothing more or less
NPS is doing a fine job.
Offer more specific walk-hiking possibilites.
Open more trails to hiking that don't require a guide.
Open up more sites.
Pick up trash along road.
Picking up trash along roadways
-promote natural wildlife as much as possible -preserve ruins and petroglyphs as much as possible
Protect and perserve natural formations and structures, and waste management.
Protect the wildlife, litter control in AND around the canyon
Provide electric hookups in campground.

Provide oppurtunities to explore current Navajo culture, how it has changed from recent past! (with new business, roads, etc.) and to learn about a vision for the future that Navajos have for themselves in the context of increasing assimilation to western
Provide turtles alternatives to visit CCNM, but just at a day visit. (at affordable prices) The visit gets too close to a "museum" visit.
Providing access into the canyon. (ie;trails)
Ranger at White House
Replace the missing signs. The ones that talk about the info on what your looking at, not very attractive without them.
Restrooms at Spider Rock/more trails
See comment on back!
Seems a very good service to me.
Selling wars-seems commercial in such a natural area.
Signage at times hard to read
Sponsored tours or more
Thank you, please continue!
They care for the history and what it means to be Navajo.
They don't share traditions. Teach what are the traditions of the Navajo's, their believes in Gods, nature, history and family values.
This was my first experience with the NPS. I would say that overall, it was a very good experience.
Trash cans along trail
Update the interp. Waysides to modern times/look.
Visitor Center, roads, and campground need to be updated! More federal Money needs to be put into the National Parks!
Visitors Center was closed at 3pm on a Saturday. We were concerned about posters saying thefts were high at lookouts.
Water @ campground would be nice.
Water fountains
We appreciate the beauty and culture of the Navajo land and people and are appalled that NP believe you own it opposed to the Navajo Nation sho. . .
We would not change anything
You are doing a great job!
You've done great - roads, trails, view point. Perhaps a portable toilet @ the end of line would be appreciated.

Appendix II: Visitor Survey Questionnaire

National Park Service
Canyon de Chelly
National Monument

National Park Service
U.S. Department of the
Interior



Visitor Survey
Summer 2006

Canyon de Chelly NM Visitor Survey

We are conducting this survey to learn more about visitors to Canyon de Chelly National Monument (NM) so that we can improve our service to you. You are one of a small number of people randomly chosen for this survey, so your opinions are important to us. All the information will be kept strictly confidential. Please read each question carefully and save any additional comments for the final page.

1. Overall, how satisfied were you with your visit to Canyon de Chelly NM? *(please ✓ one box)*
 - ☐ Very dissatisfied
 - ☐ Dissatisfied
 - ☐ Neither satisfied nor dissatisfied
 - ☐ Satisfied
 - ☐ Very Satisfied
2. How likely are you to make a return visit to Canyon de Chelly NM in the next 12 months? *(please ✓ one)*
 - ☐ Very unlikely
 - ☐ Unlikely
 - ☐ Neither likely nor unlikely
 - ☐ Likely
 - ☐ Very likely
 - ☐ Not sure / Don't Know
3. Which of the following statements best describes your visit to Canyon de Chelly NM? *(please ✓ one)*
 - ☐ Canyon de Chelly NM is the main destination on this trip away from home.
 - ☐ Canyon de Chelly NM is one of multiple other destinations on this trip away from home.
 - ☐ Canyon de Chelly NM was not a planned destination on this trip away from home.
4. Including yourself, how many people are in your personal group during this visit? *(please ✓ one)*
 - ☐ I am visiting alone
 - ☐ 2 – 3 people
 - ☐ 4 – 5 people
 - ☐ 6 – 10 people
 - ☐ 11 – 15 people
 - ☐ more than 15 people
5. How many people in your personal group are under the age of 16? *(please ✓ one)*
 - ☐ None
 - ☐ 1 – 2
 - ☐ 3 – 4
 - ☐ 5 – 6
 - ☐ More than 6
6. Did you visit Canyon de Chelly with a guide? *(please ✓ one)*
 - ☐ No ➡ *please skip to question 7*
 - ☐ Yes
 - 7. If so, what type of guided experience?
 - ☐ Larger guided group
 - ☐ Individual experience with personal guide

8. How long are you staying in the Canyon de Chelly area (including Canyon de Chelly NM, Monument Valley Navajo Tribal Park, and towns of Chinle and Kayenta) during this visit? (*please ✓ one box and fill in blank*)
- ☐ Day use only: _____ → How many hours **today?** _____ hours
- ☐ Overnight use: _____ → How many **nights** are you staying in the area? _____ nights
9. Including this visit, how many times have you visited Canyon de Chelly NM in the last 12 months? _____ *times*
10. In addition to Canyon de Chelly NM, which of the following sites did you visit or do you plan to visit during this trip away from home? (*please ✓ all that apply*)
- ☐ Monument Valley Tribal Park
 - ☐ Petrified Forest National Park
 - ☐ Hubbell Trading Post National Historic Site
 - ☐ Navajo National Monument
 - ☐ Grand Canyon National Park
 - ☐ Glen Canyon National Recreation Area
 - ☐ Montezuma Castle National Monument
 - ☐ Tuzigoot National Monument
 - ☐ El Morro National Monument
 - ☐ Aztec Ruins National Monument
 - ☐ Chaco Culture National Historic Park
 - ☐ Bandelier National Monument
 - ☐ Petroglyph National Monument
 - ☐ Sunset Crater National Monument
 - ☐ Walnut Canyon National Monument
 - ☐ Wupatki National Monument
11. Which of the following communities did you visit or do you plan to visit on this trip away from home? (*please ✓ all that apply*)
- ☐ Chinle
 - ☐ Kayenta
 - ☐ Phoenix
 - ☐ Flagstaff
 - ☐ Prescott
 - ☐ Albuquerque
 - ☐ Other (*please specify* _____)
12. Which of the following areas did you visit within Canyon de Chelly NM?
- ☐ Visitor Center
 - ☐ North Rim Drive (Overlooks at Ledge Ruin, Antelope House, Mummy Cave, Massacre Cave)
 - ☐ South Rim Drive (Overlooks at Tunnel, Tsegi, Junction, White House, Sliding Rock, Face Rock, Spider Rock)
 - ☐ Cottonwood Campground
 - ☐ Thunderbird Lodge

13. Which of the following recreation activities have you participated in or do you plan to participate in during your visit to Canyon de Chelly NM? (please ✓ all that apply)

- ☐ Auto (jeep) touring
- ☐ Camping
- ☐ Hiking
- ☐ Horseback riding
- ☐ Attending interpretive programs
- ☐ Nature walks
- ☐ Picnicking
- ☐ Wildlife viewing
- ☐ Taking photographs
- ☐ Birding
- ☐ Backpacking
- ☐ Going to the Visitor Center
- ☐ Other (please specify _____)

14. Overall, how crowded did you feel during your recent visit? (please circle one number)

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

15. How important to you was each of the following reasons for visiting Canyon de Chelly NM? (please circle one response for each item).

I visited Canyon de Chelly National Monument to:	Not at all important	Somewhat important	Important	Very Important	Extremely Important
Be close to nature	1	2	3	4	5
Have an authentic experience of Navajo culture	1	2	3	4	5
Develop personal, spiritual values	1	2	3	4	5
Experience solitude	1	2	3	4	5
Be with family or friends	1	2	3	4	5
Experience a different temperature/climate	1	2	3	4	5
Learn about Navajo traditions	1	2	3	4	5
Learn about nature	1	2	3	4	5
Develop my knowledge of history	1	2	3	4	5
Experience a connection with Navajo culture	1	2	3	4	5
Learn about archaeology	1	2	3	4	5
Get away from the usual demands of life	1	2	3	4	5
Be with people who share my values	1	2	3	4	5
Other (please specify _____)	1	2	3	4	5

Canyon de Chelly NM Visitor Survey

16. What was most memorable or significant about your trip to Canyon de Chelly NM? *(please describe)*

17. Please indicate the extent to which you agree or disagree with the following statements as a result of your recent trip. *(please circle one response for each statement)*

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I learned about human history in Canyon de Chelly	-2	-1	0	1	2
I was impressed with how Navajo people have thrived in the canyon	-2	-1	0	1	2
It made me feel proud to see the preservation of archaeological resources	-2	-1	0	1	2
It made me nostalgic for a simpler way of life	-2	-1	0	1	2
I learned how ancient cultures are related to modern tribes in the area	-2	-1	0	1	2
I was impressed by the cooperation between the National Park Service and the Navajo Nation	-2	-1	0	1	2
I learned about the biological diversity of Canyon de Chelly	-2	-1	0	1	2
I learned about the scientific value of the area	-2	-1	0	1	2
I learned about the National Park Service	-2	-1	0	1	2
Canyon de Chelly NM provides an authentic experience of Native American culture	-2	-1	0	1	2

18. What, if anything, would you suggest the NPS do differently in managing the national monument?

19. Please indicate the extent to which you agree or disagree with the following statements about Canyon de Chelly NM. *(please circle one number for each)*

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Canyon de Chelly means a lot to me	-2	-1	0	1	2
I am very attached to Canyon de Chelly	-2	-1	0	1	2
I identify strongly with Canyon de Chelly	-2	-1	0	1	2
I feel no commitment to Canyon de Chelly	-2	-1	0	1	2
I enjoy recreating in Canyon de Chelly more than any other area	-2	-1	0	1	2
I get more satisfaction out of visiting Canyon de Chelly than from visiting any other National Monument	-2	-1	0	1	2
Recreating here is more important than recreating in any other place	-2	-1	0	1	2
I wouldn't substitute any place for the type of recreation I do here	-2	-1	0	1	2
I have a lot of fond memories about Canyon de Chelly	-2	-1	0	1	2
I have a special connection to Canyon de Chelly and the people who live and visit here	-2	-1	0	1	2
I don't tell many people about Canyon de Chelly	-2	-1	0	1	2
I will (do) bring my children to this place	-2	-1	0	1	2

20. Please indicate your level of satisfaction with the following programs, facilities, and services.

Facilities, Programs, or Services	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very Satisfied
Cleanliness of visitor center	1	2	3	4	5
Availability of hiking trails	1	2	3	4	5
Educational exhibits at visitor center	1	2	3	4	5
Overall condition of campground	1	2	3	4	5
Educational signs along the trails	1	2	3	4	5
Cleanliness of restrooms	1	2	3	4	5
Overall quality of horseback riding tour	1	2	3	4	5
Overall quality of concession jeep tour	1	2	3	4	5

Your response to the following background questions is greatly appreciated. As always your response is voluntary and confidential. The information is used to make sure we accurately represent visitors to Canyon de Chelly NM.

21. Are you ...?
- ☐ Male
 - ☐ Female
22. What is your age? _____
23. What is your home zip code? _____
24. Please indicate the highest level of education that you have attained. (*please ✓ one*)
- ☐ Less than high school
 - ☐ High school graduate
 - ☐ Technical school or Associates degree
 - ☐ Bachelor's degree
 - ☐ Master's Degree
 - ☐ Ph.D., M.D., J.D., or equivalent
25. What was your employment status during the past year (*please ✓ all that apply*)
- ☐ Full-time student
 - ☐ Part-time student
 - ☐ Employed part-time
 - ☐ Employed full-time
 - ☐ Unemployed
 - ☐ Homemaker or caregiver
 - ☐ Retired
 - ☐ Other (*please specify* _____)
26. Do you consider yourself to be Hispanic, Latino or Latina (*please ✓ one*)
- ☐ Yes
 - ☐ No
27. With which racial group(s) do you identify? (*please ✓ all that apply*)
- ☐ American Indian or Alaska Native
 - ☐ Asian
 - ☐ Black or African American
 - ☐ Native Hawaiian or other Pacific Islander
 - ☐ White
28. Which of the following broad categories best describes your total annual household income for the last calendar year (*please ✓ one*)
- ☐ \$25,000 or less
 - ☐ \$25,001 – \$50,000
 - ☐ \$50,001 – \$75,000
 - ☐ \$75,001 – \$100,000
 - ☐ \$100,001 – \$125,000
 - ☐ \$125,001 – \$150,000
 - ☐ More than \$150,000

Thank you for helping us with this important study. If there is anything else you would like to tell us, please do so in the space below.

OMB Approval number:	(Not yet assigned)
Expiration Date:	(Not yet assigned)
Person Collecting and Analyzing Information:	Dave D. White
	P.O. Box 874703
	Tempe, AZ 85287-4703
	Tel: (480) 965-8429
	Email: CACH@asu.edu

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. No personal data will be recorded.

You may direct comments on the number of minutes required to respond, or on any other aspect of this survey to:

Information Collection Clearance Officer,
WASO Administrative Program Center
National Park Service
1849 C Street, NW
Washington, D.C. 20240

Appendix III: Final Report Presentation

Visitor Study Technical Report Presentation

Canyon de Chelly National Monument, Arizona



Presentation Roadmap

- Introduction
- Survey methods
- Survey results
 - Visitor characteristics
 - Trip/Visit characteristics
 - Visitors' perceptions of their park experiences
 - Visitors' evaluation of park facilities, programs, and services
- Conclusions and Discussion

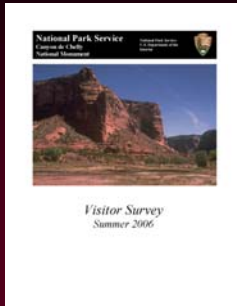


Visitor Study Research Partners

- Canyon de Chelly National Monument
- NPS Denver Service Center
- NPS Social Science Program
- Colorado Plateau Cooperative Ecosystem Studies Unit
- ASU School of Community Resources and Development



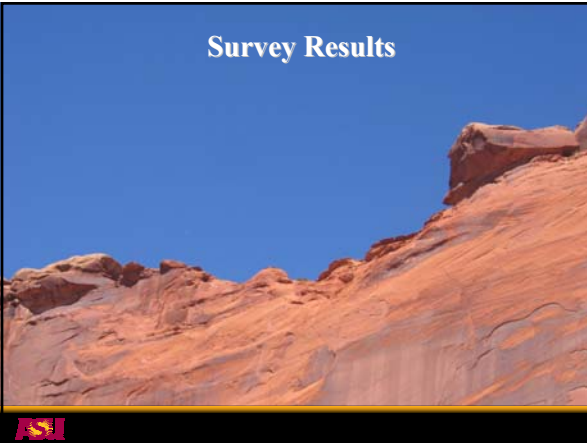
Survey Research Methods



- Data collected from current adult park visitors summer and fall 2006
- Sampling occurred at
 - Visitor Center
 - Thunderbird Lodge
 - White House Trailhead
 - White House Ruins
 - Amphitheater
- Randomly selected visitors completed self-administered 8 page questionnaire
 - Visitor characteristics
 - Trip/visit characteristics, perceptions of park experiences
 - Evaluations of park facilities, program, and services

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Survey Results



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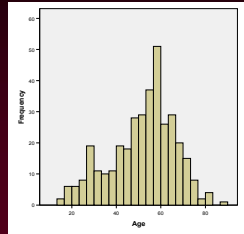
Response Rate, Sampling Error, and Non-response Bias Analysis

- A total of 500 randomly selected visitor groups were contacted on site and a random individual from each group was requested to participate in the study
- A total of 379 complete and usable surveys were obtained, resulting in an overall on-site response rate of 76%
 - Individual site response rates ranged from 93% (Thunderbird Lodge) to 51% (Visitor Center)
 - The margin of sampling error for the survey is +/- 5% at the 95% confidence interval
 - No significant differences between survey respondents and non-respondents based on gender or personal group size
 - Those visitors who refused to take the survey were more likely to have more children present than those who participated in the survey

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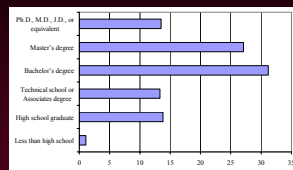
Visitor Characteristics

- Overall, respondents included slightly more men than women and the average age was 52 years



Visitor Characteristics

- On the whole, respondents are very well educated: 71.8% have attained a Bachelor's degree or higher level of education.



According to the NPS Comprehensive Survey of the American Public, 32% of general public in the Intermountain Region have attained a Bachelor's degree or higher level of education



Visitor Characteristics

- For domestic visitors, the three most common states of residence were Arizona, California, and New Mexico.
- More than one-third of all domestic respondents were from Arizona.
- Regarding ethnic identification
 - 88% of visitors identify themselves as White
 - 10% as American Indian or Alaska Native
 - 5.4% as of Hispanic descent
 - 1.6% as Black or African American
 - and 1.1% as Native Hawaiian or other Pacific Islander



State of Arizona as of the 2000 census: White (76.2%); American Indian or Alaska Native (4.7%); Hispanic (28.6%); Black or African American (3.1%); and Native Hawaiian or other Pacific Islander (0.01%).



Trip/Visit Characteristics



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Trip/Visit Characteristics

- For more than six out of ten visitors, CACH was one of multiple destinations on their trip away from home
- About two thirds of visitors were traveling in groups of two to three people; groups of more than five were less common
- 15.6% respondents were traveling with children under 16



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Trip/Visit Characteristics

- Approximately one third of respondents participated in a guided experience when visiting the park
- Of those visitors that did use guide services, six in ten utilized a larger group tour experience
- Just over half of respondents stayed overnight, and these visitors stayed in the area for an average of 1.8 nights with a median of 2 nights
- Less than half of respondents were day use only and the average length of stay was just over 5 hours
- 86.5% of respondents were making their first visit to CACH when contacted to participate in the study
- More than half of visitors claimed that they were unlikely to return in the next 12 months

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Trip/Visit Characteristics

- Within the park, just over eight in ten visitors went to the visitor center and the South Rim Drive
- Less than half of the respondents took the North Rim Drive or went to Thunderbird Lodge
- Two out of ten visited Cottonwood Campground



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Trip/Visit Characteristics

- The most visited attractions outside of CACH included Monument Valley Tribal Park, Grand Canyon National Park, Hubbell Trading Post, and Petrified Forest National Park
- The most common communities in the region visited outside of CACH included Chinle, Flagstaff, Kayenta, Phoenix, and Albuquerque



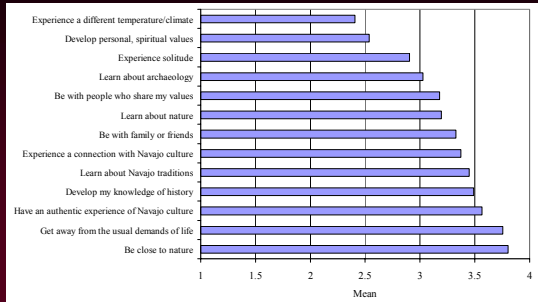
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Perceptions of Park Experiences

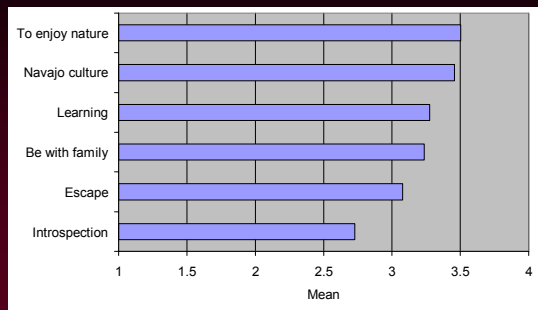


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Motives for Visiting Parks (Individual items)

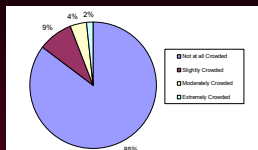


Motives for Visiting Parks (Subscales)



Perceptions of Park Experiences

- 85% of respondents were “not at all crowded” at the park
- Average value on a standard 9-point crowding scale is 1.28



For comparison, average crowding score on same scale in a 2003 visitor study was:

- 2.46 at Montezuma Castle NM
- 1.76 at Montezuma Well
- 1.51 at Tuzigoot NM



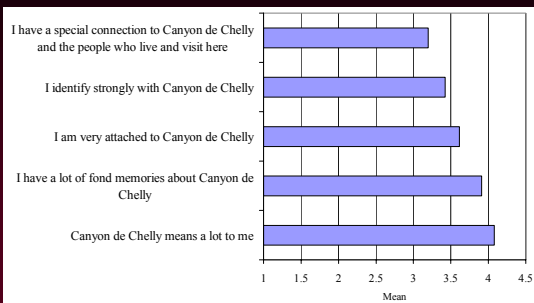
Place Attachment

- Place identity is how the visitor's sense of self, or personal identity, is defined in relation to the park.
- An individual may see a place as a resource for satisfying goals and at the same time see the place as a part of his or herself. The result can be a strong emotional attachment to the place.
- Place identity includes not only a physical setting but also a social element. That is physical settings serve as backdrops to social and cultural experience.
- Place dependence refers to the degree to which the park affords visitors specific and irreplaceable features necessary to achieve their goals.
- That is, visitors develop place dependence when there is no substitute for the types of activities and experiences afforded by a particular park.



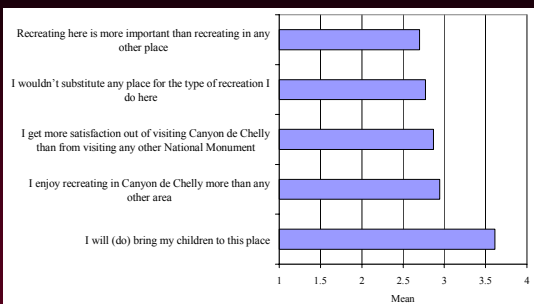
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Place Attachment: Place Identity



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Place Attachment: Place Dependence



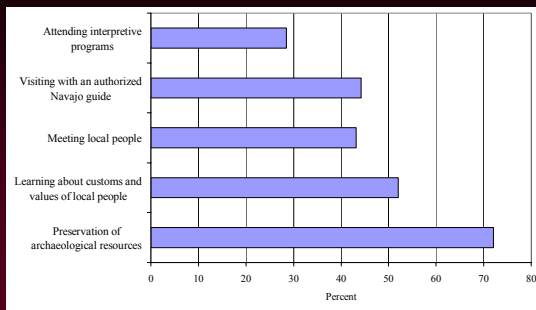
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Thoughts and Emotions

- **Impressed** with how Navajo people have thrived in the canyon
- **Proud** to see the preservation of archaeological resources
- **Learned** about human history in Canyon de Chelly
- Had an **"authentic experience"** of Navajo culture
- **Learned** about how ancient cultures are related to modern tribes
- **Felt nostalgic** for a simpler way of life
- **Learned** about biological diversity
- Only one item was rated below the mid-point on the scale, **"I learned about the National Park Service."**



Factors that Contribute to Visitors' Perceptions of Authenticity



Relationship Between Place Attachment and Visitors' Perceptions of Authenticity

- **Place Identity and Place Dependence** are both significantly and positively correlated with visitors' perceptions of authenticity
- That is, the more visitors felt their experience was authentic, the more they felt attached to Canyon de Chelly
- Authenticity was more strongly associated with the place identity dimension of place attachment



Relationship Between Motives and Visitors' Perceptions of Authenticity

- The **Navajo culture** motive was most strongly associated with visitors' perceptions of authenticity
 - That is, the more important Navajo culture was to visitors, the higher their perceptions of authenticity
- Introspection, learning, and nature enjoyment, and be with family motives were also positive related, but to a lesser extent
- The escape motive was unrelated to perceptions of authenticity



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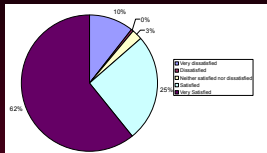
Visitor Evaluations of Park Programs, Facilities, and Services



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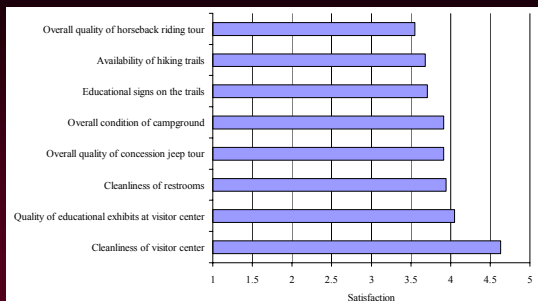
Overall Satisfaction

- Visitors were generally very satisfied with their park experience
 - However, 10% of respondents were “very dissatisfied”
- Additional analysis shows
 - “Not satisfied” visitors placed significantly higher importance on:
 - **Nature enjoyment** and
 - **Navajo culture** motives
 - No differences on gender, other motives, place attachment, or perception of authenticity



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Satisfaction with Facilities, Programs, and Services



Visitors' Significant and Meaningful Experiences

- Preliminary analysis of open-ended comments shows strong influence of
 - Scenic beauty
 - Navajo culture, especially meeting canyon residents
 - Recreation activities, especially hiking and horseback riding
 - Preservation of archaeological ruins, especially White House Ruins
- *“Seeing people living in this ancient landscape, enjoying the quiet, powerful beauty”*
- *“Being able to view at the overlooks because husband was not able to do long hikes or climbs, but we wanted to view the grandeur of God’s creation and the Navajo culture. The overlooks did so with much ease”*



Visitors' Recommendations for Management

- Preliminary analysis of open-ended comments
 - Recommend to collect entrance/camping fees to support park improvements and to stimulate local economy
 - Scheduled and informal ranger-led hikes
 - More trail-based recreation opportunities
 - Continue/enhance partnership between NPS and Navajo
- *“More hiking trails open to the public without a guide”*
- *“Visitor center, roads, and campground need to be updated!”*
- *“Continue to work with Navajo people whose land this is.”*



Summary and Conclusion

- Survey research provides valid and reliable “snapshot in time” data about visitors to inform planning, management, and stewardship
- Primary visitor motives include nature enjoyment, desire to experience Navajo culture, and learning
- Visitors feel that the park currently provides an “authentic” experience, which is inspired by preservation of archaeological resources, learning local customs, and meeting local people. There is an opportunity to enhance the role of park interpretation in contributing to authenticity
- Visitors are developing a relatively strong sense of place identity but a lesser sense of place dependence
- Overall, vast majority of visitors are very satisfied, although a small percentage are dissatisfied – these unsatisfied visitors are more motivated by nature enjoyment and Navajo culture
- Satisfaction with specific facilities, programs, and services is high, although visitors recommend increased opportunities for independent canyon access
- Deliverables include SPSS dataset provided to parks that can be queried as new questions arise



Thank You

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Appendix IV: 2007 George Wright Society Conference Presentation

Connecting Visitors to Land, People, and Place:
Place Attachment and Perceptions of Cultural Authenticity
at Canyon de Chelly National Monument, Arizona



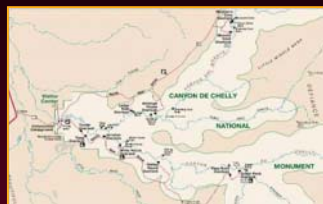
Connecting Visitors to Land, People, and Place:
Place Attachment and Perceptions of Cultural
Authenticity at Canyon de Chelly National
Monument, Arizona

Jill A. Wodrich
Megha Budruk
Dave D. White



Presentation Roadmap

- Study Area
- Past Research
- Methods
- Study Findings
- Conclusions and Discussion



Research Partners



- Canyon de Chelly National Monument
- NPS Denver Service Center
- NPS Social Science Program
- Colorado Plateau Cooperative Ecosystems Studies Unit
- ASU School of Community Resources & Development



Canyon de Chelly National Monument, AZ

- Approximately 84,000 acres of Navajo Tribal Trust Land located in NE Arizona on Navajo Reservation
- Unique among NPS units because approximately Navajo families currently reside within the canyon
- The canyon has a long history of human use beginning ~ 2500 BCE
 - Archaic
 - Basketmaker
 - Pueblo/Anasazi
 - Hopi
 - Navajo
- Along with cultural significance there is an abundance of natural beauty



Relevant Research

- Heritage Tourism
- Authenticity
- Motivations
- Place Attachment



Cultural Heritage Tourism

- Concept has been difficult to define for researchers leading to several approaches
 - General definitions (Timothy & Boyd, 2003; Yalc 1991)
 - Supply and demand (Apostolakis, 2003; Nyaupane et al., 2006)
 - Individuals involved in the supply of cultural heritage use a descriptive or curatorial approach
 - Demand or experience side of cultural heritage places emphasis on the visitor
- An important aspect of cultural heritage is **authenticity as it greatly enhances quality** (Apostolakis, 2003; Chhabra et al., 2003; Taylor, 2001; Xie & Wall, 2002)



Authenticity



- Authenticity also lacks an agreed upon definition
 - Staged authenticity (MacCannell, 1979)
 - Negotiated/subjective (Cohen, 1979)
 - Existential (Wang, 1999)
- Few quantitative studies explore authenticity but the past has shown that as visitors age and travel more they become increasingly skeptical about authenticity (Littrell et al., 1993; Wang, 2000)



Motivation

- Motivation is often conceptualized as desire for satisfying recreation experiences
- Operationalized through the use of the Recreation Experience Preference (REP) scales
- REP demonstrated overall consistency, construct validity, and acceptable reliability in a meta-analysis of 36 studies using them to measure leisure motivations.



Place Attachment

- Sense of place results from people attaching meaning to what otherwise would simply be space

(Moore & Scott, 2003)

- Three Common Elements (Altman and Low, 1992)
 - Construct is emotion based.
 - The notion of “place” implies geographic setting
 - Places may possess a strong social element because they are often repositories or contexts within which social relations occur
- Often broken down into separate constructs: place identity and place attachment



Place Identity

- Place identity is the dimension of an individual's personal identity defined in relation to the physical environment (Proshansky, 1978)
- When a group of people are using a setting, the group constitutes a social system whose authority transcends that of the individual using the space (Proshansky et al., 1983)
- An individual may see a place as a resource for satisfying one's goals or explicitly felt behaviors and at the same time see the place as a part of one's self (Williams et al., 1992)



Place Dependence

- People with strong bonds to a place are considered place dependent.
- Stokols and Shumaker (1981) two factors that individuals and groups employ to determine place dependency
 - Quality of current place
 - Once people become attached to a particular place, they will compare the qualities of that place with the qualities of available alternatives in order to determine how dependent they are.
 - Quality of comparable alternative places
 - Individuals or groups will compare the outcome of the activities or goals they are trying to achieve in the current setting to places they may potentially use for the same goals or activities.



Methods: Data Collection



- Visitors were sampled using a stratified, random sample method
 - Three park locations (Visitor Center, White House Overlook, and Thunderbird Lodge)
 - Collection took place summer and fall 2006
- Data was collected via on site, self-administered survey
 - 500 visitors contacted with 379 agreeing to participate
 - Response rate of 76%

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Study Findings



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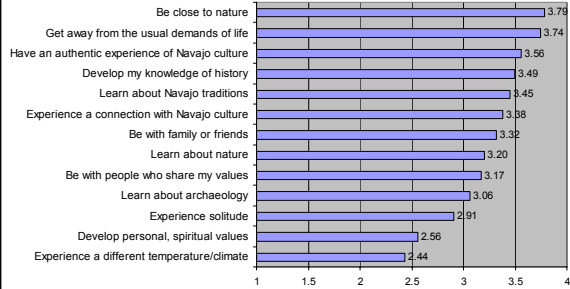
Visitor Characteristics

- Just more than half (53%) of sample was male
- Average age of 52
- Overall, respondents were *very well* educated with 71% having attained a Bachelor's degree of higher level of education
- Common recreation activities included taking pictures, horseback riding, hiking, and auto/jeep touring



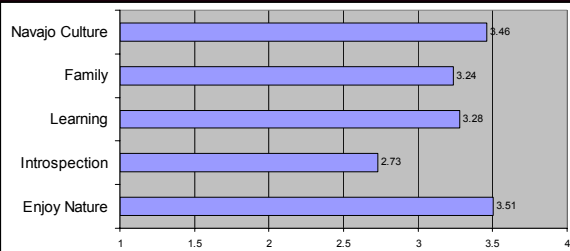
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Motives: Individual Items



Note: Values are means on a 5 point Likert type scale from not at all important to very important

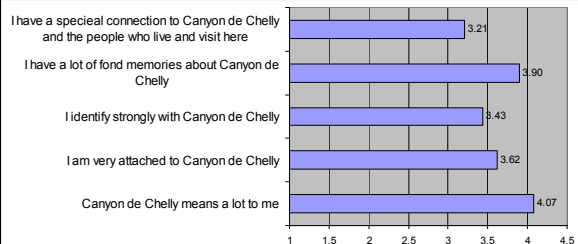
Motives: Multi-item Scales



Navajo $\alpha = .884$; Family $\alpha = .617$; Learning $\alpha = .738$; Introspection $\alpha = .770$; Nature $\alpha = .663$

Note: Values are means on a 5 point Likert type scale from not at all important to very important

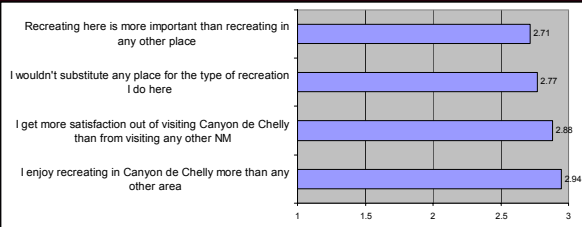
Place Attachment: Place Identity Dimension



$\alpha = .865$, Scale mean = 3.65

Note: Values are means on a 5 point Likert type scale from not at all important to very important

Place Attachment: Place Dependence Dimension



$\alpha = .922$, Scale mean = 2.83



Note: Values are means on a 5 point Likert type scale from not at all important to very important

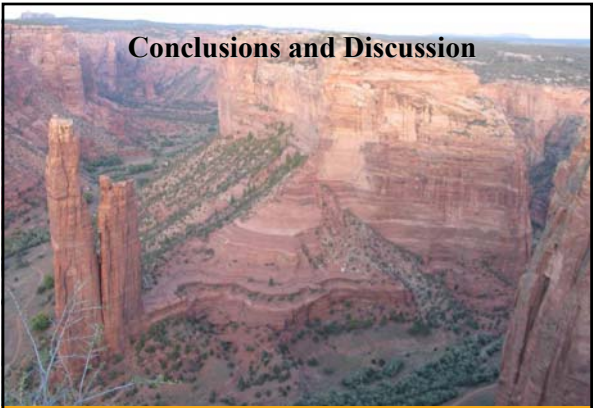
Findings: Multiple Regression Analysis

Model	Unstandardized Coefficients			Standardized Coefficients		Sig.
	B	Std. Error		Beta	t	
1	(Constant)	1.711	.339		5.050	.000
	Place Identity	.349	.074	.273	4.714	.000
	Navajo Culture	.196	.051	.223	3.837	.000
	Age	.010	.003	.161	3.024	.003
	Education	-.085	.038	-.119	-2.243	.026

- Dependent Variable: “Canyon de Chelly NM provided me with an authentic experience”
- $F = 19.18$, $p < .001$, adjusted $r^2 = .205$



Conclusions and Discussion



Conclusions and Discussion

- Of the variables tested, place identity was the strongest predictor of perceptions of authenticity
 - This suggests that a strong emotional bond is an important factor in visitors' perceptions of authenticity
 - People seek authenticity in recreation experiences because it is lacking in their everyday lives. Thus, forming an emotional attachment to a park helps to fulfill this need



Conclusions and Discussion

- As motivation for learning about Navajo culture increased so did perceptions of authenticity
 - This may relate to the visitors' expectations and the perception that the site fulfilled those expectations
- Higher age lead to increased perceptions of authenticity
 - Unlike previous studies, as visitors aged, they were less skeptical about authenticity
- However, as respondents education level increased their perceptions of authenticity decreased
 - More educated visitors may be more critical of the historical accuracy of the site
 - This is an area of concern considering more than 2/3 of visitors had at least a Bachelor's degree



Thank You

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