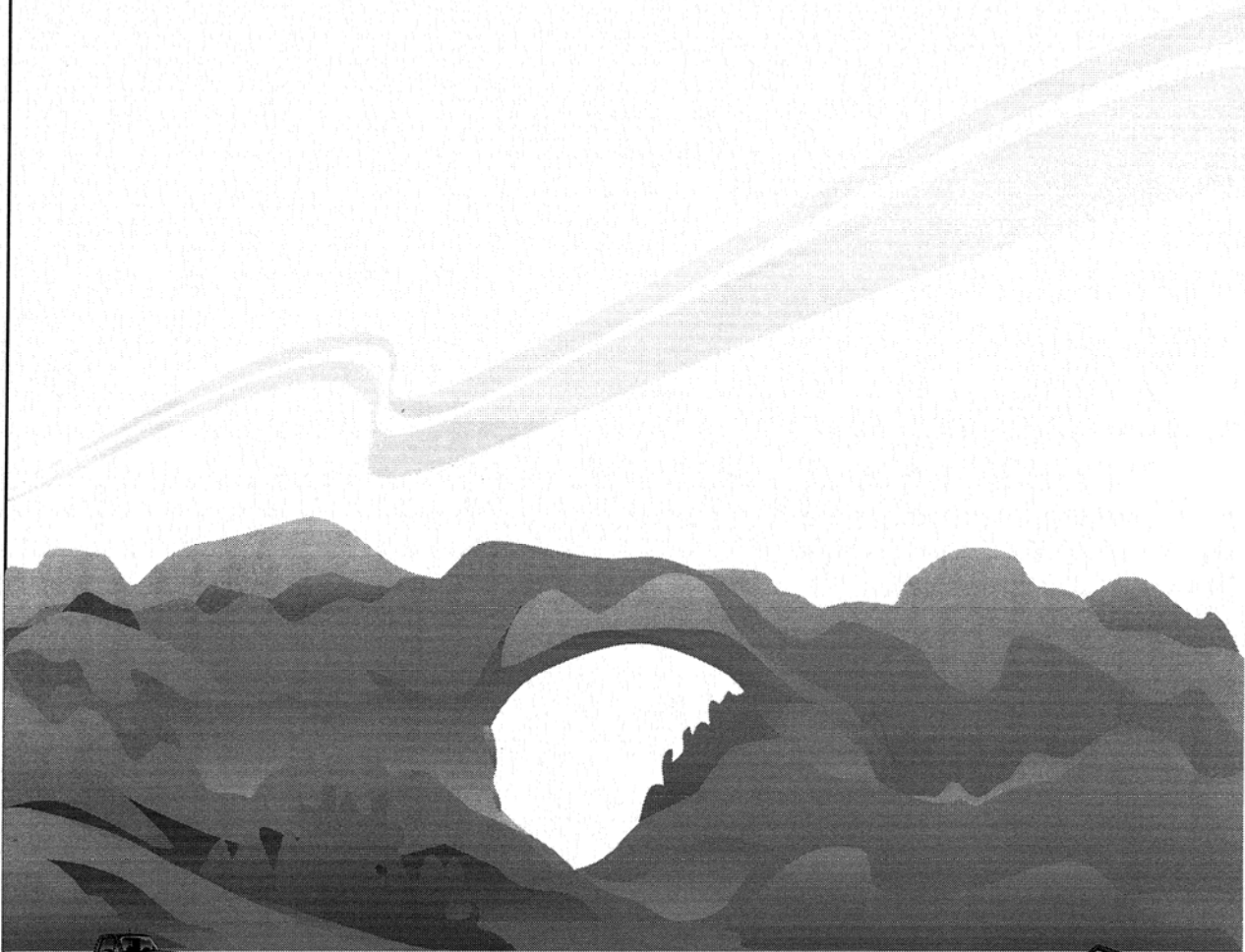


Off-Highway Vehicle Four-Wheeler Survey:

A summary report of 1997 Moab Easter Jeep Safari Participants



Institute for Outdoor Recreation and Tourism
Department of Forest Resources
Utah State University
Logan, Utah 84322-5215

Professional Report IORT-PR-1998-3

Off-Highway Vehicle Four-Wheeler Survey, Survey of Easter Jeep Safari Participants:

Summary Findings

DOUGLAS K. REITER

DALE J. BLAHNA

Utah State University
Department of Forest Resources
Institute for Outdoor Recreation & Tourism

RUSS VON KOCH

U.S.D.I. Bureau of Land Management
Moab Field Office

Results of Research Cooperative Agreement No. D910-A3-0210
Task Order #20

September 16, 1998

FINAL REPORT

Professional Report IORT-PR-1998-3

TABLE OF CONTENTS

List of Tables and Figures	i
Preface	iv
I. Introduction	1
<i>Research methods</i>	2
II. Demographic Characteristics	3
III. Four-Wheel Experience	11
IV. Moab Four-Wheel Experience	19
V. Motivations/Experience Expectations	25
VI. Management Preferences	29
<i>Open-ended comments on management preferences</i>	37
VII. Willingness To Pay	42
VIII. Trip Characteristics	45
IX. Summary and Discussion	50
<i>Visitor characteristics and trip characteristics</i>	50
<i>The four-wheeling experience</i>	52
<i>Four-wheelers management preferences</i>	54
Appendix A (survey instrument)	
Appendix B (four-wheel drive clubs and conservation organizations)	
Appendix C (reasons for preference and frequency of trail sectors' use)	
Appendix D (other management problems)	
Appendix E (trails that attract four-wheelers to Moab)	
Appendix F (other comments)	

LIST OF TABLES AND FIGURES

TABLES

II.1	States where respondents reside	6
II.2	Respondents' occupational categories	9
III.1	Frequency of using general information four-wheeling sources	17
IV.1	Different areas of four-wheeling in the Moab area	21
IV.2	Frequency of use for different Moab 4-wheel areas	24
V.1	Landscape setting characteristics as reasons for four-wheel off-highway recreation	26
V.2	Socio-psychological characteristics as reasons for four-wheel off-highway recreation	27
VI.1	OHV recreation preferences for Moab area land management	30
VI.2	Moab land management preferences in intensely used four-wheel driving areas	33
VI.3	Problems encountered four-wheeling on Moab area roads	35
VII.1	Methods to raise funds for four-wheel management in the Moab area	43
VIII.1	Accommodations and meals for Moab trip	49

FIGURES

II.A	Respondents' gender and age	3
II.B	Respondents' ethnic background	5
II.C	Amount of formal education	5
II.D	Current residence	7
II.E	Childhood residence	8
II.F	Employment status	8
II.G	Household income	10
III.A	Year began four-wheeling	12
III.B	Number of times gone four-wheeling in general	12
III.C	Number of times gone four-wheeling in the Moab area	13
III.D	Off highway miles on an average drive	14
III.E	Off highway hours on an average drive	14
III.F	Number of vehicles in the average group	15
III.G	Number of people in the average group	15
III.H	Usual makeup of group	16
III.I	Self assessed four-wheel skill level	16
III.J	Membership in four-wheel clubs and conservation organizations	18
IV.A	Gone four-wheeling in the Moab area before 1997 Jeep Safari	19
IV.B	Number of times gone four-wheeling in the Moab area before 1997 Jeep Safari	20
IV.C	Number of four-wheel drive trails driven off highway in the Moab area	20

IV.D	Moab area four-wheeling preference trail sectors	23
VI.A	Physical impacts from four-wheeling on public lands in the Moab area	32
VI.B	Management focus on public lands in the Moab area	32
VI.C	Campsite preferences of OHV visitors to the Moab area	36
VII.A	Willingness to pay a fee to four-wheel in the Moab area	42
VIII.A	Date of last trip to Moab area	45
VIII.B	Own or rent vehicle used on most recent trip	46
VIII.C	Length of stay on most recent Moab trip	47
VIII.D	Recreation activities participated in on most recent Moab trip	47
VIII.E	Information about Moab as a destination for four wheeling	48

PREFACE

Off-highway vehicle (OHV) recreation is one component in the entire recreational spectrum of concern to public land managers. These users share the trails and land with other recreationists such as mountain bikers, hikers, campers, horseback riders, and site seers. This diversity represent a variety of expectations, motivations, values, and needs that land managers consider when formulating and implementing policy that both accommodate the activities while protecting the landscape that draws the outdoor recreationists.

The following report summarizes findings from a survey conducted of OHV recreationists using the lands around Moab, Utah. Moab is a small town located in southeast Utah and has become somewhat of an outdoor recreation mecca attracting mountain bikers, river runners, rock climbers, site seers, and four-wheel drive enthusiasts. In the immediate area are several national parks (Canyonlands and Arches), a state park (Dead Horse Point), national forest lands, major river systems (the Colorado and Green), ancient Native American home sites and pictographic walls, and numerous dirt roads and trails. These lands and hospitable climate (along with the supporting businesses in Moab and adjacent towns) draw countless visitors from around the world to this remote desert location. Among those visitors are OHVers who choose to access the back country in four-wheel drive sport utility vehicles, Jeeps, and pickup trucks. That group is the subject of this research.

The report is organized into nine sections. The first section (INTRODUCTION) describes the need for the study, the parties conducting the research, study objectives, sampling frame, survey methodology, and response rates. The DEMOGRAPHIC CHARACTERISTICS section includes such information as respondents age, gender, race, residence, employment status, and income.

The next section (FOUR-WHEEL EXPERIENCE) reports on the four-wheel driving experience level for our sample group along with number of times in a year they four-wheel, how many miles do they travel, who they four-wheel with, experience level, and sources of information they use regarding four-wheeling. The MOAB FOUR-WHEEL EXPERIENCE section focuses on OHVing in the Moab area. We report on amount of use and frequency and preferences for different four-wheel trails.

The MOTIVATIONS/EXPERIENCE EXPECTATIONS section deals with the psychological and social factors that both motivates four-wheelers to pursue this activity and what they expect

from participation. The next section (MANAGEMENT PREFERENCES) reports on a series of questions we asked regarding public land management issues in the Moab area, physical impacts and other problems resulting from outdoor recreation activities, and what these users would prefer that the land managers focus on.

The WILLINGNESS TO PAY section summarizes the questions we asked regarding generating income to support management activities. We report on respondents preferred method of payment and who should be charged for using these lands. The next section in the report (TRIP CHARACTERISTICS) focuses on the respondents' most recent trip to the Moab area. We look at such things as season of use, ownership of vehicle, length of stay, other recreation activities our respondents participate in, where they get their information about Moab, and what local services they partake of while in Moab.

The last section (SUMMARY AND DISCUSSION) focuses on three areas: 1) visitor characteristics and trip characteristics, 2) the four-wheeling experience, and 3) four-wheelers management preferences.

The report is followed by six appendices which contain the following: APPENDIX A - a copy of the survey instrument; APPENDIX B - lists of four-wheel drive clubs and conservation organizations respondents belong to; APPENDIX C - reasons given why or why not certain trail sectors are preferred and reasons given for increased or decreased frequency of use on certain trail sectors; APPENDIX D - responses from the open-ended question on other problems that public land managers around Moab need to address; APPENDIX E - specific trails or areas that attracted the respondents to Moab, other primary reasons for their visit, and other four-wheel information sources used; and APPENDIX F - other comments written on the back of the survey instrument.

We would like to acknowledge the following organizations and personnel for their support and assistance in conducting this research: the Bureau of Land Management for financing this study; Utah State University College of Natural Resources, Department of Forest Resources, Institute of Outdoor Recreation and Tourism for the use of facilities and equipment; Red Rock 4-Wheelers, Inc. for providing the names from which our sample was drawn and help in developing the survey instrument; and the students who pre-tested the survey instrument and provided useful feedback.

I. INTRODUCTION

The public lands around Moab, Utah have become a major recreation destination. Off-highway vehicle (OHV) use with four-wheel drive vehicles is an important component of the recreational landscape. "Four-wheelers" share many trails with mountain bikers, dirt bikers, and All Terrain Vehicle (ATV) enthusiasts. Hiking, camping, river running, rock climbing, geological sightseeing (car touring), and visiting Native American archeological sites are popular. The diversity of recreational activities taking place near Moab reflect the variety of interests, needs, and values held by visitors and residents. Such diversity compounds the public land manager's job of maintaining and managing both human and natural resources.

In an effort to better serve public land users and improve the management of recreation areas, the Bureau of Land Management's (BLM) Moab Field Office asked recreation researchers at Utah State University's (USU) Institute of Outdoor Recreation and Tourism (IORT) to clarify the needs and values of four-wheelers. Four-wheeling was selected as a study topic because it has been a significant part of the Moab recreation "scene" for many years. Pioneer outfitters began using Jeeps to take guests into the area's back country after World War II. In the late 1960's, the Moab Chamber of Commerce began sponsoring the Easter Jeep Safari, which has grown from a one-day, one-trail event to a nine-day, thirty-plus trail mega-event with over 1,600 officially registered vehicles and nearly 5,000 participants. The Easter Jeep Safari, now sponsored by both the Chamber of Commerce and the Red Rock 4-Wheelers, Inc. (a four-wheel drive club), is Moab's single largest outdoor recreation event with over 96% of the participants coming from outside southeastern Utah.

IORT researchers conducted a mail survey in cooperation with the Red Rock 4-Wheelers, Inc., the local four-wheel club that operates the Easter Jeep Safari. The broad objective of this research was to obtain information about four-wheelers regarding: 1) demography; 2) four-wheel experience in general; 3) four-wheel experience particular to the Moab area; 4) motivations/experience expectations; 5) management preferences; 6) willingness to pay; and 7) trip characteristics. The following summary results is organized into those sections.

Research methods

A twelve-page survey instrument with approximately 200 questions was developed by USU researchers experienced with recreation survey design (see Appendix A for sample survey instrument). BLM staff and members of the Red Rock 4-Wheelers reviewed drafts of the survey instrument and provided comments on its design. The survey is patterned after the 1994 Moab Mountain biker survey completed in 1994 by USU researchers. A list of names and addresses of registered participants in the 1997 Moab Jeep Safari was provided by the Red Rock 4-Wheelers as the population from which the sample was drawn. Of the 1616 possible respondents, 25% (404) were randomly selected (using a random number generator) to receive the mail survey.

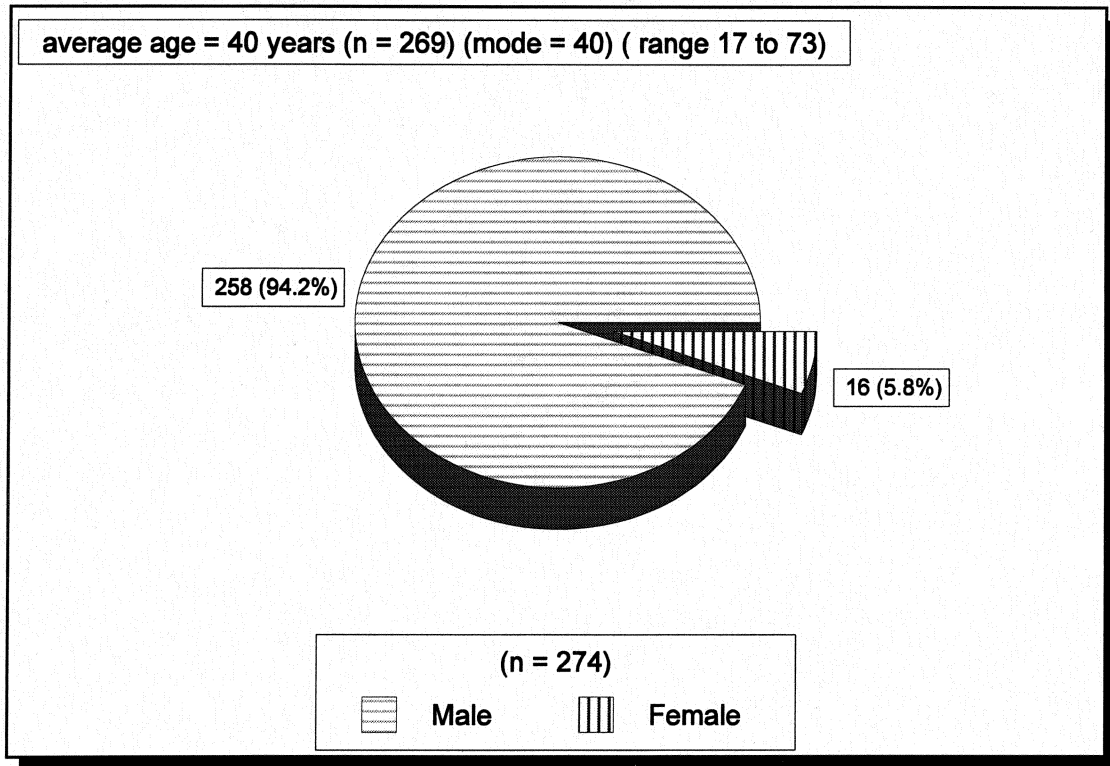
The mail survey design involved three mailings: 1) sending a cover letter and the survey instrument; 2) sending a reminder postcard 10 days later; and 3) sending a second cover letter and the survey instrument to those who did not respond 10 days after the reminder postcard. The mailings were begun at the end of January, 1998.

Of the 404 survey sample, nine came back marked undeliverable with no forwarding address and three came back blank (not eligible to participate because they had not, in fact, attended the 1997 Jeep Safari) for a total of 392 eligible to participate. Of that overall 392 sample population, 276 were returned completed for a response rate of 70.4%.

II. DEMOGRAPHIC CHARACTERISTICS

As shown on Figure II.A, Easter Jeep Safari participants tended to be male (94.2%) with an average age of 40 years. Their ethnic background was mostly Caucasian with only 2.6% indicating that they were of Asian, American Indian, Hispanic, or other ethnic origin (see Figure IIB).

Figure II.A: Respondents' gender and age.



This is a relatively highly educated group; 84% of the participants had at least some college level education (compared to U.S. Census Bureau estimate of 38% nationally), including 44% with an associate or higher level college degree (18% nationally). More than half (55%) of our respondents indicated that they had not received a post high school degree (62% nationally) while more than 15% (7% nationally) had some college graduate experience (Figure II.C).

Moab Jeep Safari participants come from across the United States and some come from other nations (in 1997 seven came from Canada, two each from Germany and Liechtenstein, one from England, and one of the participants was stationed on a U.S. military base in Spain). Our respondents represented 25 states (the few international visitors were excluded from this survey sample). Most of the survey respondents (79%) live in the southwestern four-corner states of Utah, Colorado, New

Mexico, and Arizona while 8.3% indicated they live in California (see Table II.1). Utah survey respondents (which comprised 158 or 57.2% of the respondents) were mostly comprised of residents of the urban megalopolis known as the Wasatch Front and its associated suburbs (78.5% of Utahns and 44.9% of total sample), which includes the residents of Utah, Salt Lake, Davis, and Weber counties. Only ten (3.6%) indicated that they were residents of the southeastern Utah counties of Grand (where Moab is located), San Juan, or Emery.

Figure II.B: Respondents' ethnic background.

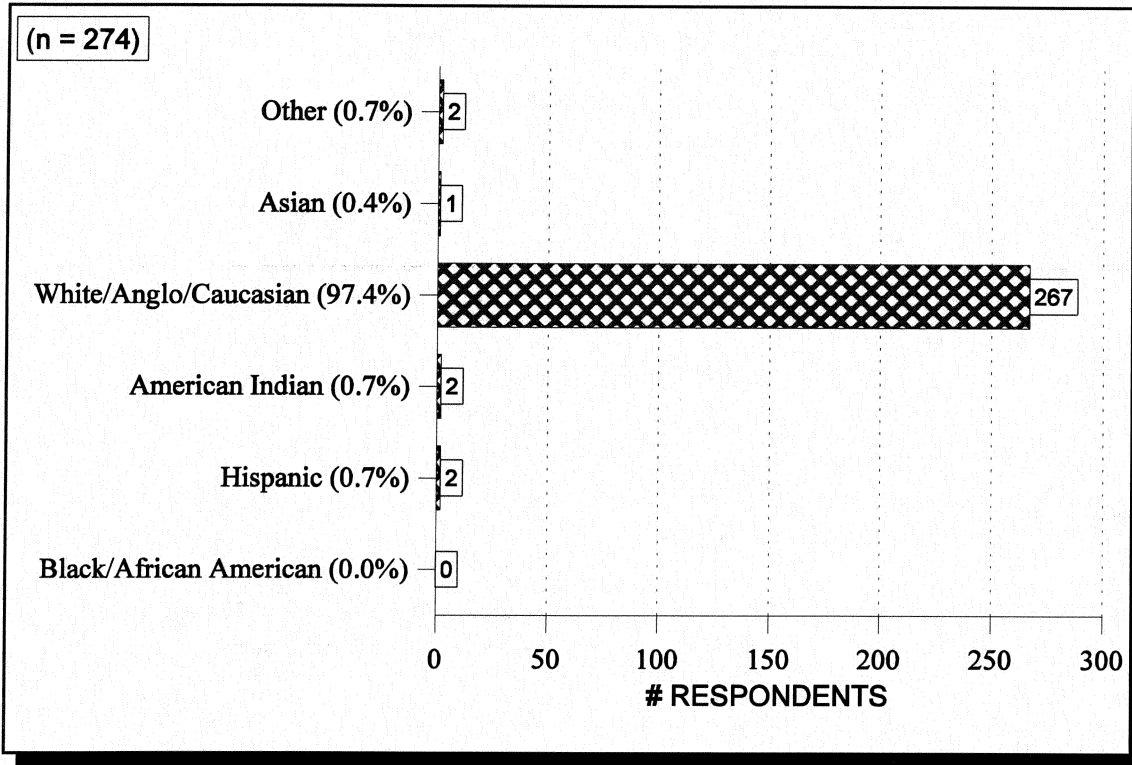


Figure II.C: Amount of formal education.

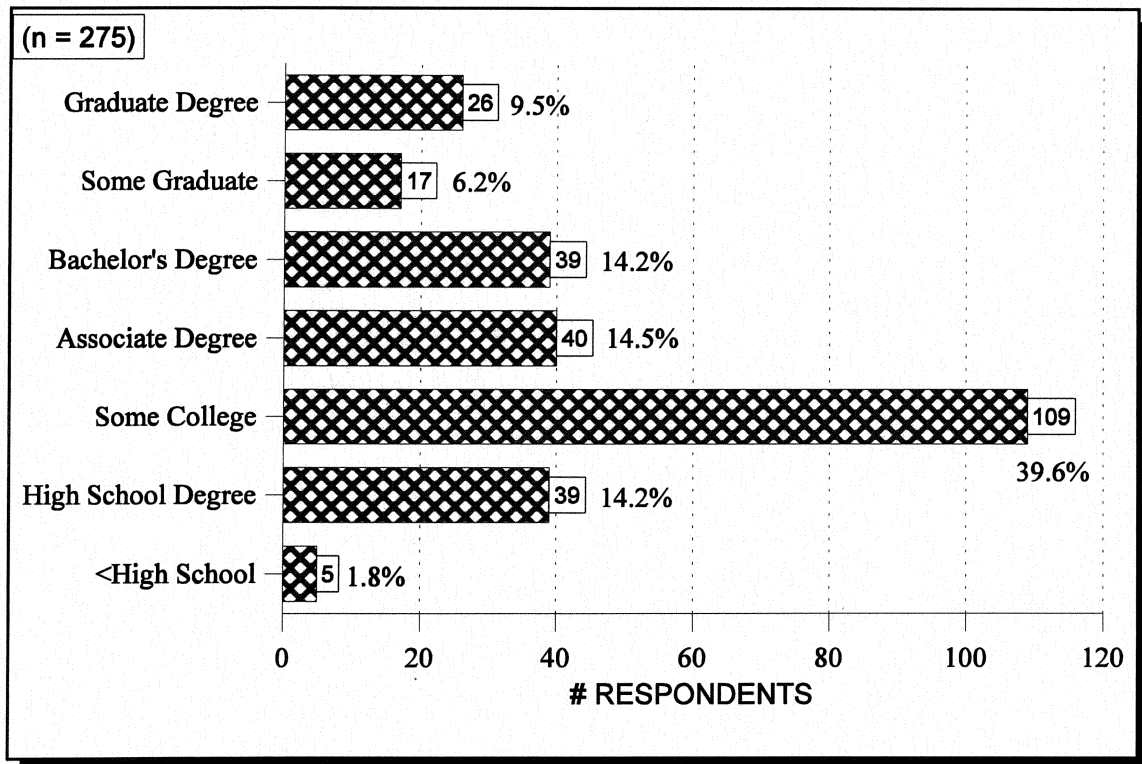


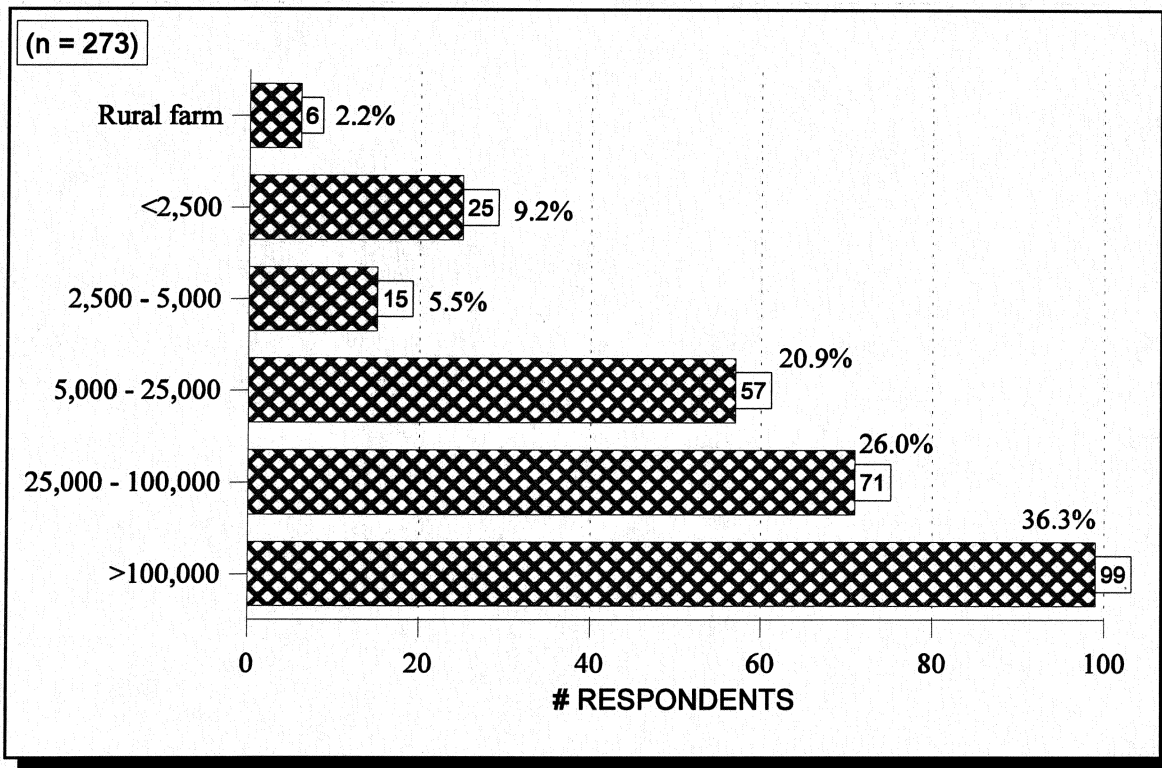
Table II.1: States where respondents reside.

State	Number ^a	Percent
Utah	158	57.2%
Colorado	41	14.9%
California	23	8.3%
New Mexico	11	4.0%
Arizona	8	2.9%
Nevada	4	1.4%
Texas	3	1.1%
Wyoming	3	1.1%
South Dakota	3	1.1%
Idaho	2	0.7%
Kentucky	2	0.7%
Oklahoma	2	0.7%
Washington	2	0.7%
Oregon	2	0.7%
Iowa	2	0.7%
Kansas	1	0.4%
Minnesota	1	0.4%
North Dakota	1	0.4%
Indiana	1	0.4%
Illinois	1	0.4%
Michigan	1	0.4%
Ohio	1	0.4%
New York	1	0.4%
North Carolina	1	0.4%
Montana	1	0.4%

^aN=276

The respondents tend to reside in more urban communities (here defined as towns, cities, and suburbs with a base population of 5,000 or greater). Not only do 83% currently reside in urban areas (Figure II.D), but about 84% have spent most of their lives in these type of communities (Figure II.E).

Figure II.D: Current Residence.



As shown on Figure II.F, almost 86% (n=236) are employed full time followed by 6.5% retired and 5.5% working part time. Less than one percent indicated they were unemployed while the national unemployment rate, as estimated by the Bureau of Labor Statistics, was 6.5%. Our respondents tended to be employed in managerial (28.7%), craftsman (this include mechanics, carpenters, machinists, etc.) (21.8%), and professional (17.1%) type of positions while only 3.3% are employed in the service sector (Table II.2).

Figure II.E. Childhood residence.

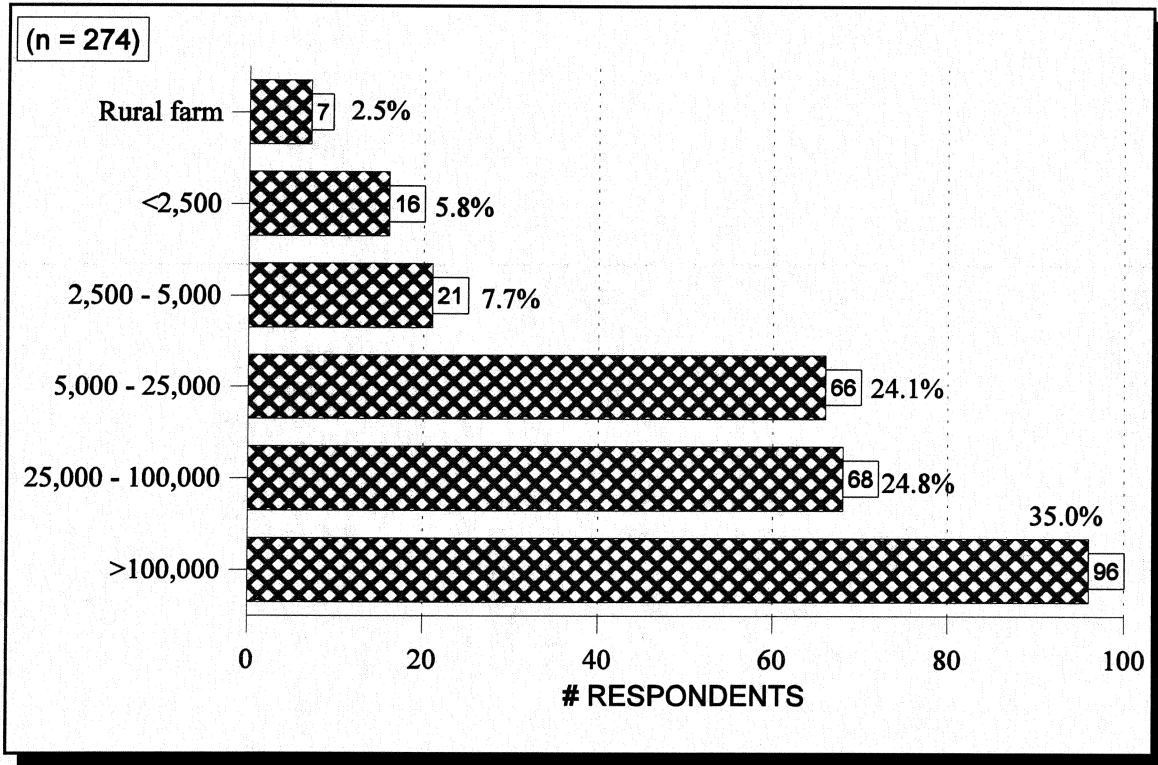


Figure 11.F: Employment status.

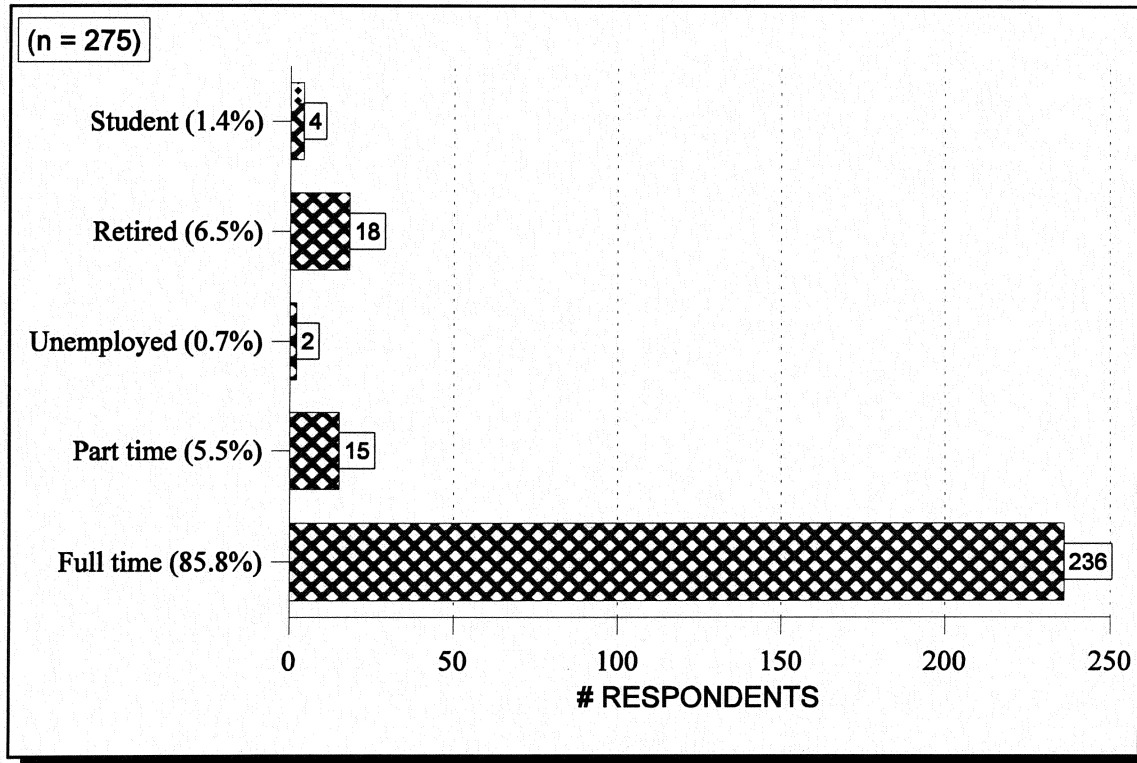


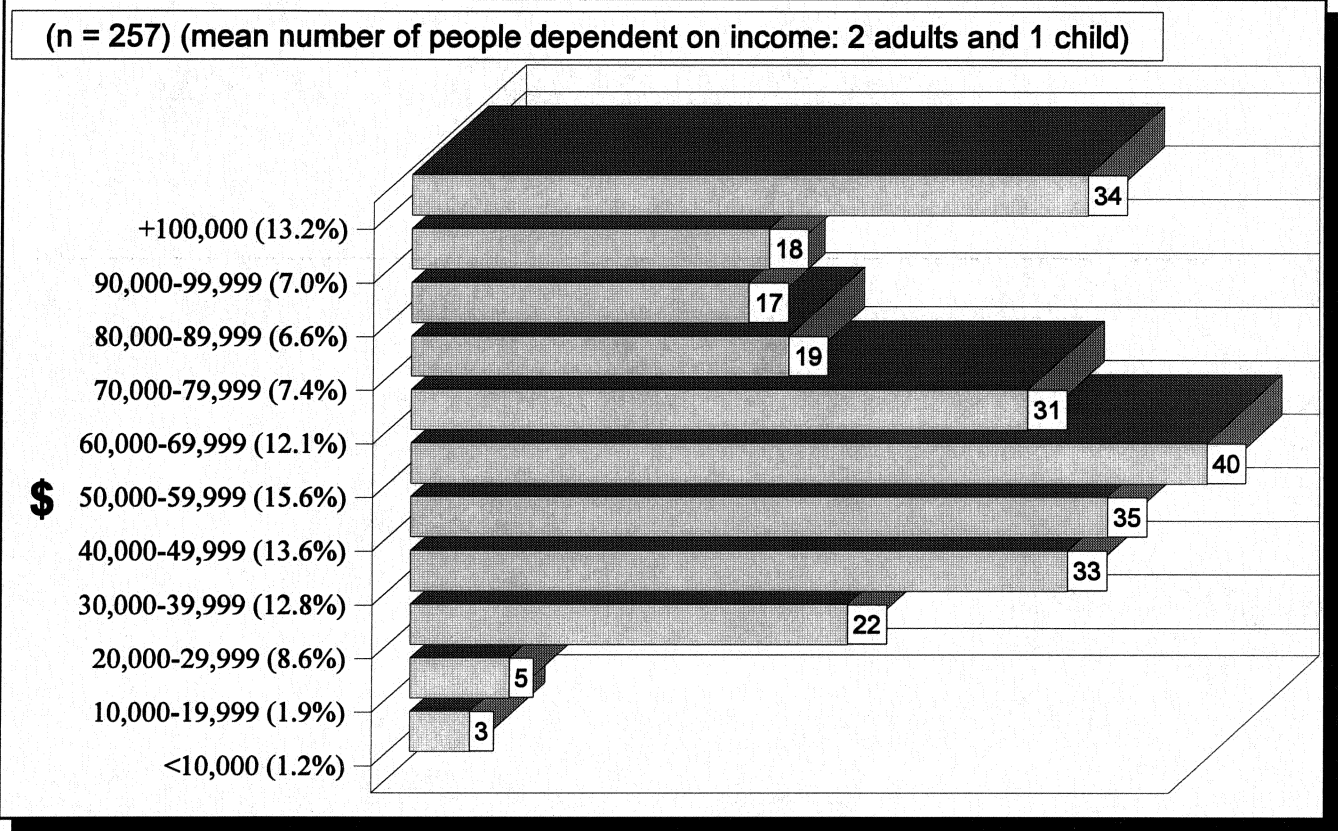
Table II.2: Respondents' occupational categories.

Occupation Category	Number ^a	Percent
Managers, officials, and proprietors except farm	79	28.7%
Craftsmen, foremen, and kindred workers	60	21.8%
Professional, technical, and kindred workers	47	17.1%
Operatives and kindred workers	37	13.5%
Clerical, sales and kindred workers	33	12.0%
Service workers except private household	9	3.3%
Laborers except farm and mine	7	2.5%
Students	3	1.1%

^aNumber of respondents who answered this question was 275.

Another question on the survey asked respondents to estimate their gross household income for 1997. About 3% earned less than \$20,000 while over 13% earned more than \$100,000 (Figure II.G). Over half (54.1%) indicate that their gross earnings were between \$30,000 and \$70,000 with the modal category of \$50,000 to \$59,999 (15.6%) (U.S. Census Bureau estimated the national median household income was around \$35,500). When asked how many adults this income supports, the range was from zero to six with the mean of two and the modal category being two (73.8%) followed by one (18.1%). We also asked how many children this income supports and the responses ranged from zero to ten. Most of the respondents indicated that their income supported no children (56.8%) followed by one child (17.3%) then two children (15.5%) with the mean calculated as 0.88 children.

Figure II.G: Household income.



III. FOUR-WHEEL EXPERIENCE

The survey instrument contained a series of questions asking about the degree of four-wheel experience respondents have had. For purposes of comparison, we asked experience questions not only about off-highway four-wheeling in general, but also the same questions regarding OHVing in the Moab area.

The first in this series of questions asked what year the respondents began off-highway four-wheeling in general then what year they began in the Moab area. The average year in general was 1981 while in Moab it was 1990. Figure III.A shows a recruitment trend graph for our respondents as categorized in four year intervals. In examining the line labeled "In General," it appears that there has been a somewhat steady recruitment rate (i.e., people beginning the sport) from about 1970 to present. Looking at the line slope marked "In Moab Area," not much new growth occurs until about 1974. From about 1974 to around 1985, there was a consistent increase that appears to take off around 1985. From the period 82-85 until 86-89, there was a greater than two-fold increase (from 19 to 43) in new participants that has continued with an 67% increase to the period of 90-93 (from 43 to 77), and an increased use of 25% (from 77 to 96) from the period 90-93 until 94-97. Moab recruitment does not appear to be tailing off. It appears that, in recent years, recruitment to four-wheeling in the Moab area is much greater than new recruitment in general.

The survey also contained the questions "During the past 12 months, how many times did you go four-wheeling for recreation?" and "How many times do you go four-wheeling in a typical year?" Figure III.B shows the side by side comparison of those two questions regarding four-wheeling in general while Figure III.C compares the questions asked about four-wheeling in Moab.

The majority (64%) of the respondents indicate that they four-wheel for recreation in general less than 20 times in a typical year and 86% reported less than 30 times, with an overall mean score of 18 times (Figure III.B). In the Moab area, 54% four-wheel once or twice in a typical year (Figure III.C). The mean score of four being positively skewed from the mode of one is most likely the result of respondents who reside in the immediate area (e.g., southeast Utah and southwest Colorado) reporting high visitation due to ease of access.

Figure III.A: Year began four-wheeling.

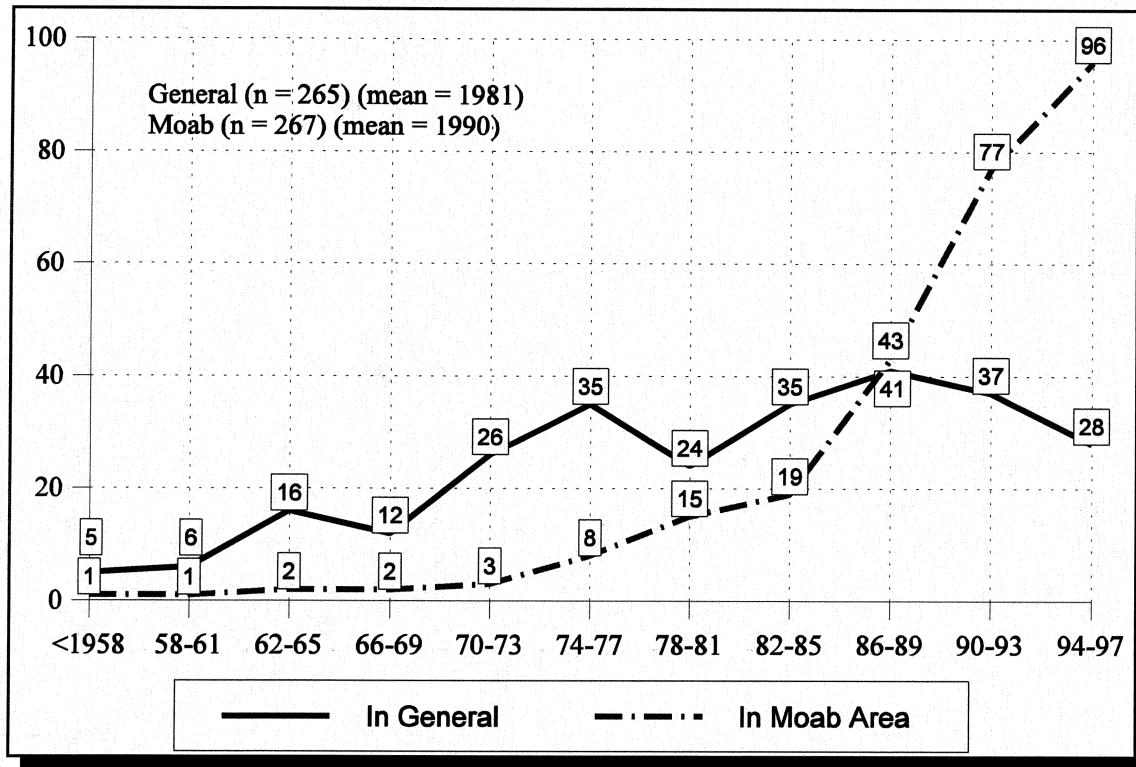


Figure III.B: Number of times gone four-wheeling in general.

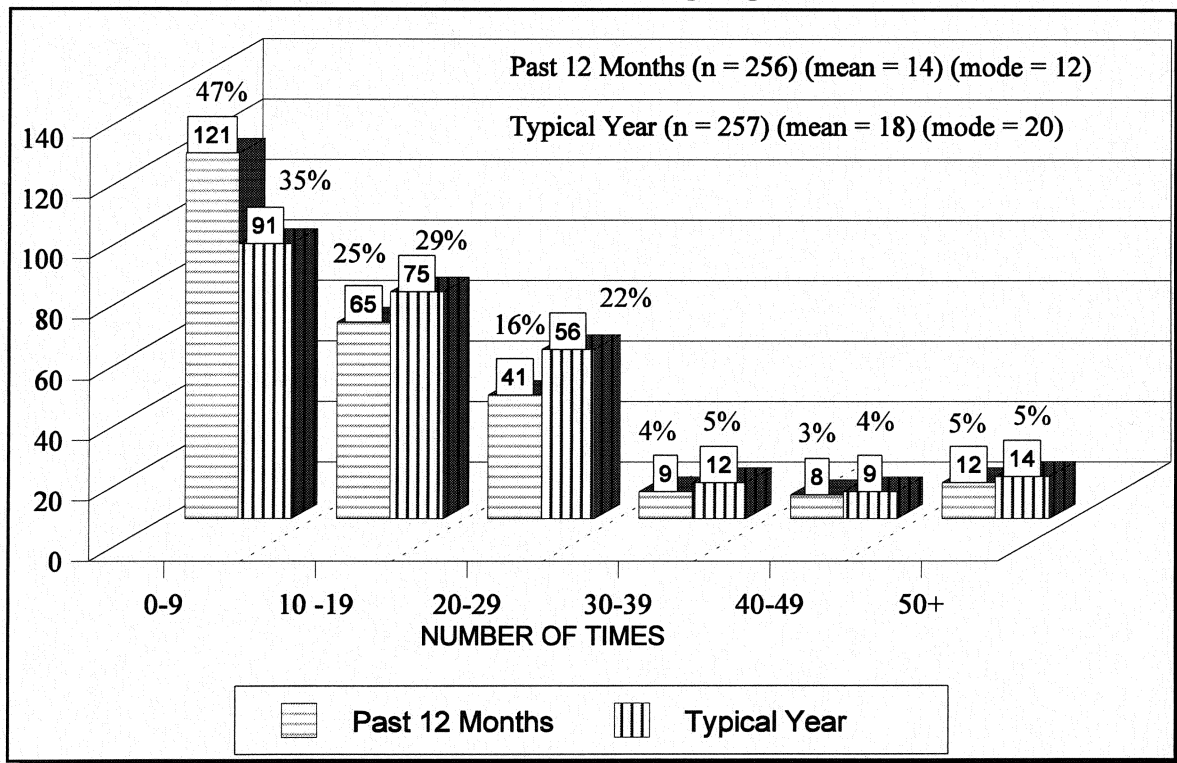
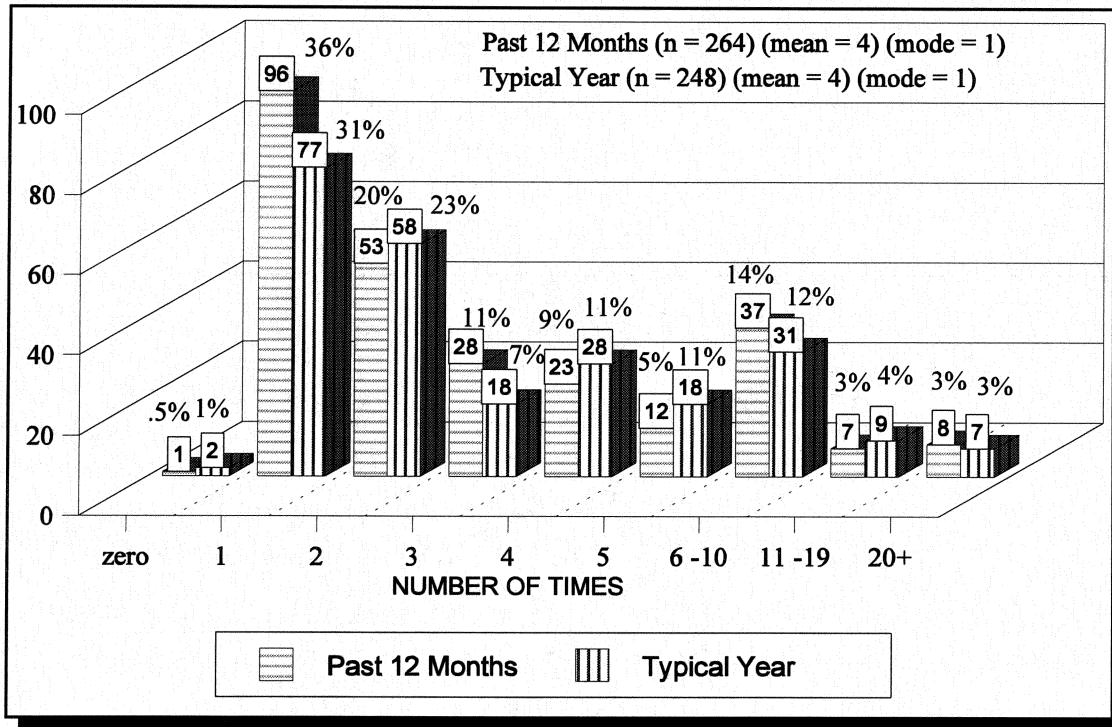


Figure III.C: Number of times gone four-wheeling in the Moab area.



We next asked the respondents to tell us how many miles they travel and how many hours they spend on an average off-highway drive both in general and in the Moab area. The number of miles (Figure III.D) and hours (Figure III.E) correspond closely to both four-wheeling in general and around Moab. In comparing the modal categories for distance traveled (20 miles) against time spent (8 hours), a calculated average speed works out to be 2.5 miles/hour.

Average group sizes are much larger when respondents are traveling in the Moab area. The mean number of vehicles in an average group is five compared to 15 in the Moab area (Figure III.F), and the mean number of people in an average group was 10 in general and 27 in the Moab area (Figure III.G). These contrasting differences are probably the result of the fact that the typical Moab four-wheeling experience, for most of the respondents, consisted of participating in the Moab Jeep Safari which is characterized by large guided parties riding a single trail system every day.

When asked the usual makeup of the group the participants four-wheeled with, a majority (73% in the Moab area and 64% in general) indicated their group consisted of both family and friends followed by friends only (18% and 23% respectively) and family only (6% and 11%) (Figure III.H). Only 3% of the Easter Jeep Safari participants go OHVing alone.

Figure III.D: Off highway miles on an average drive.

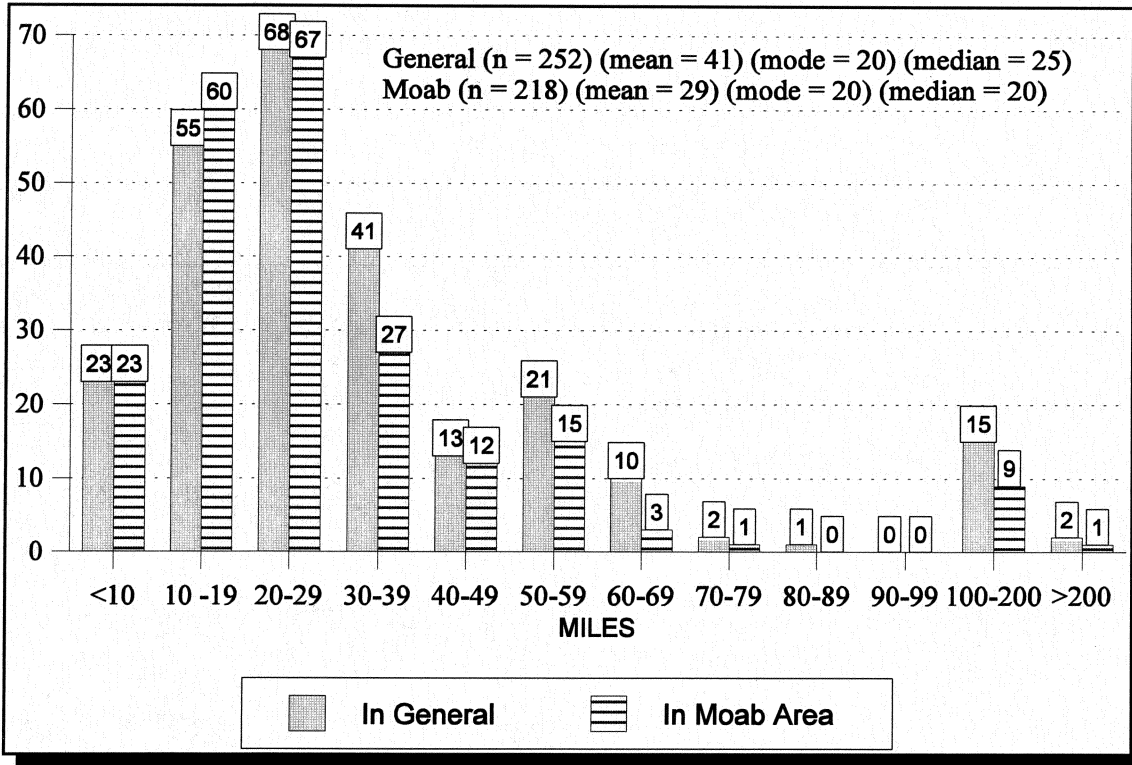


Figure III.E: Off highway hours on an average drive.

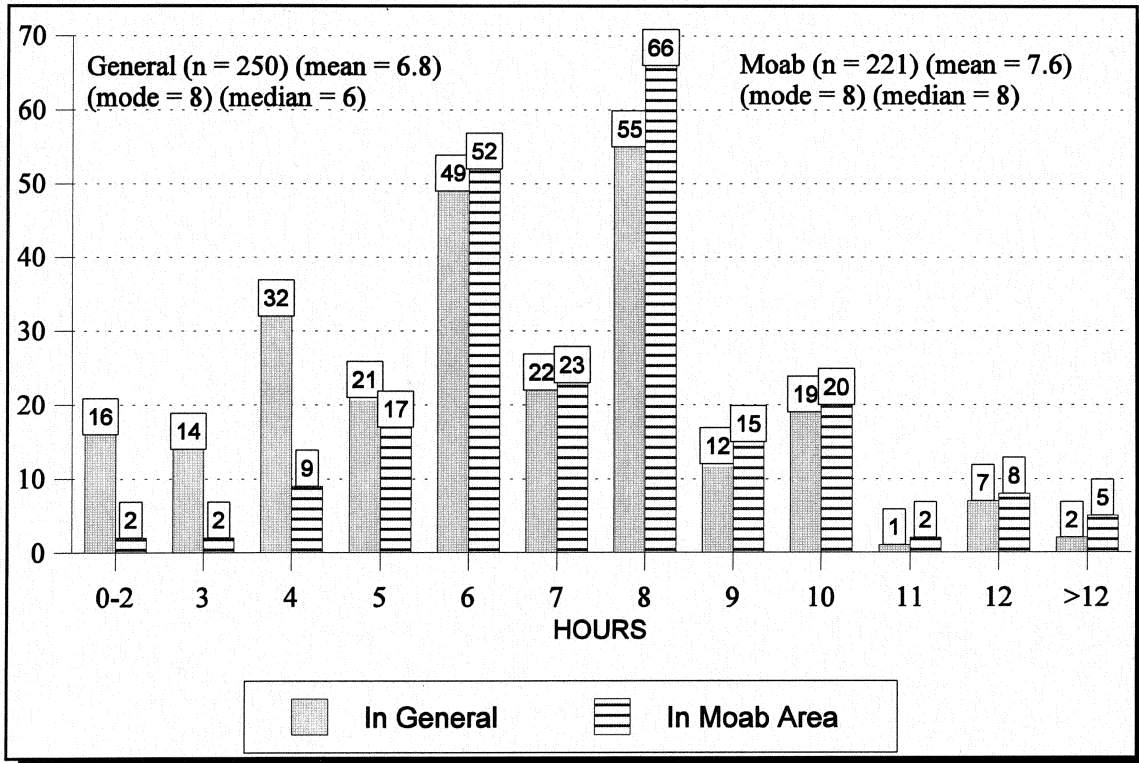


Figure III.F: Number of vehicles in the average group.

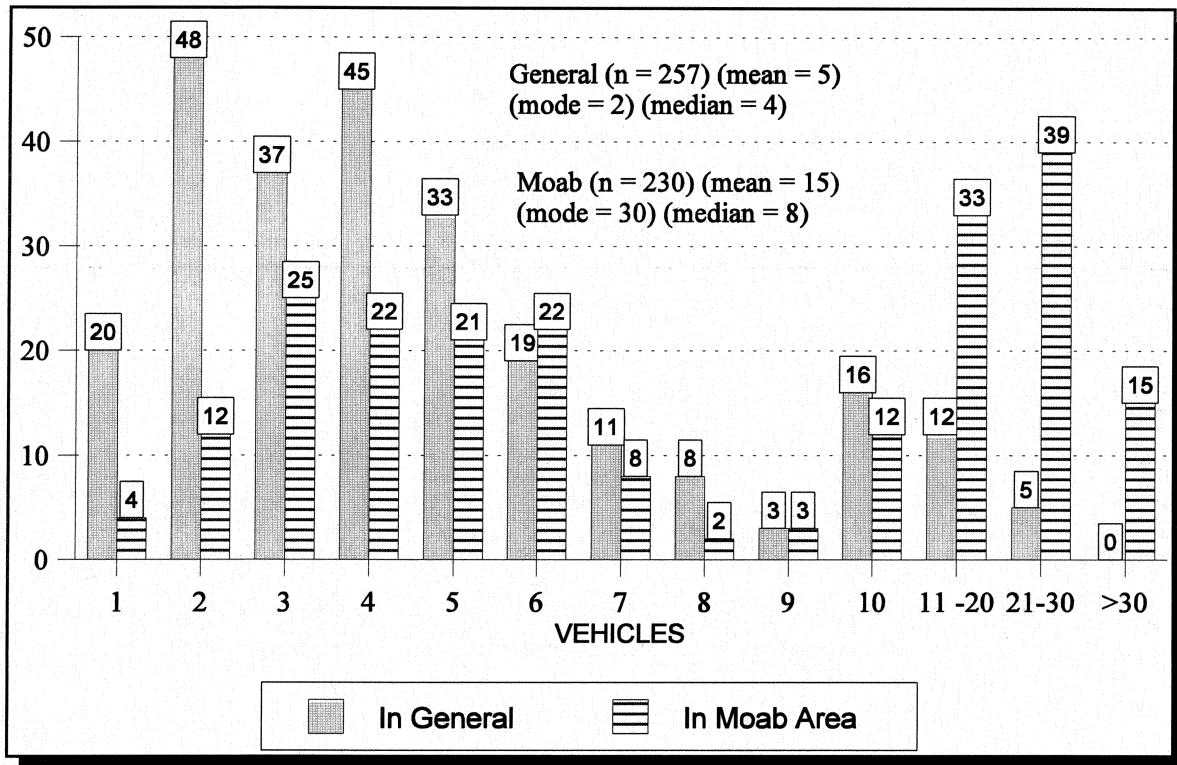


Figure III.G: Number of people in the average group.

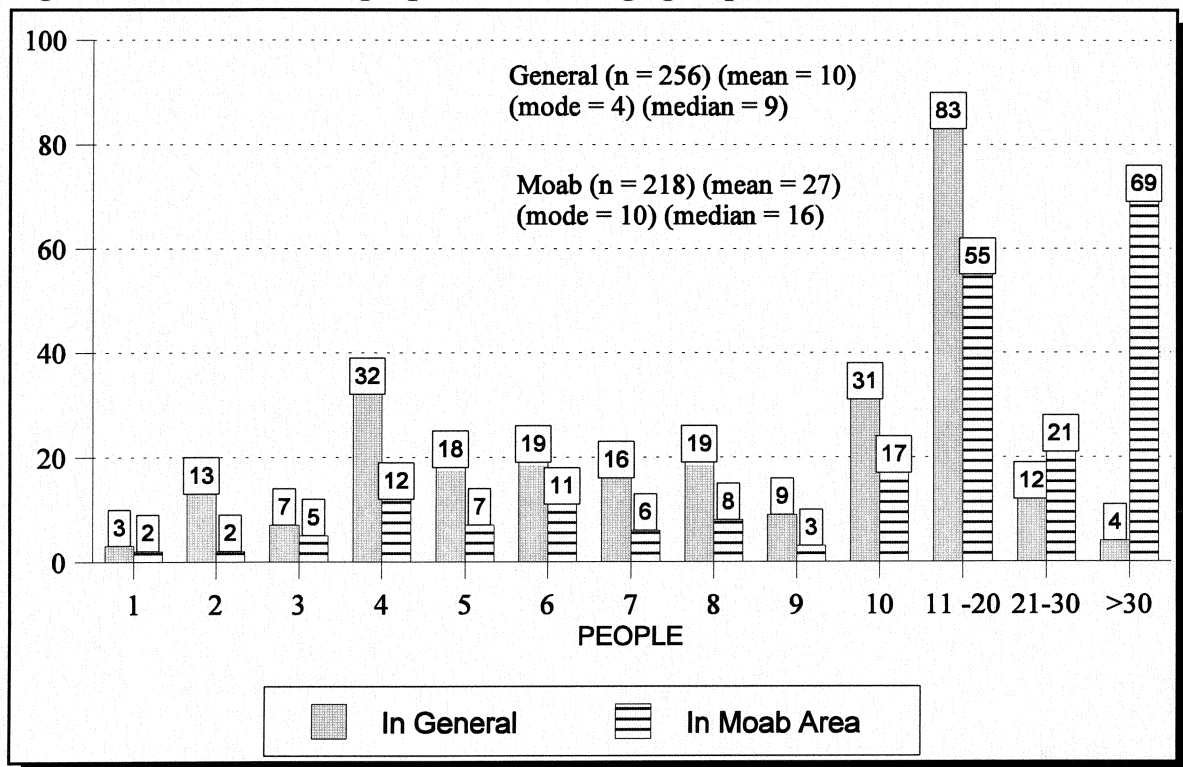
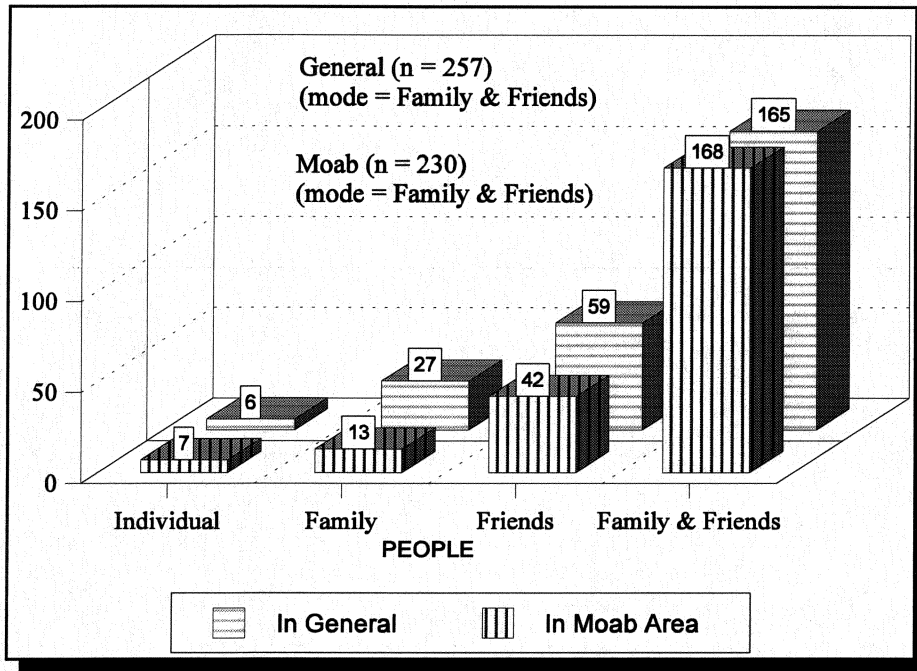
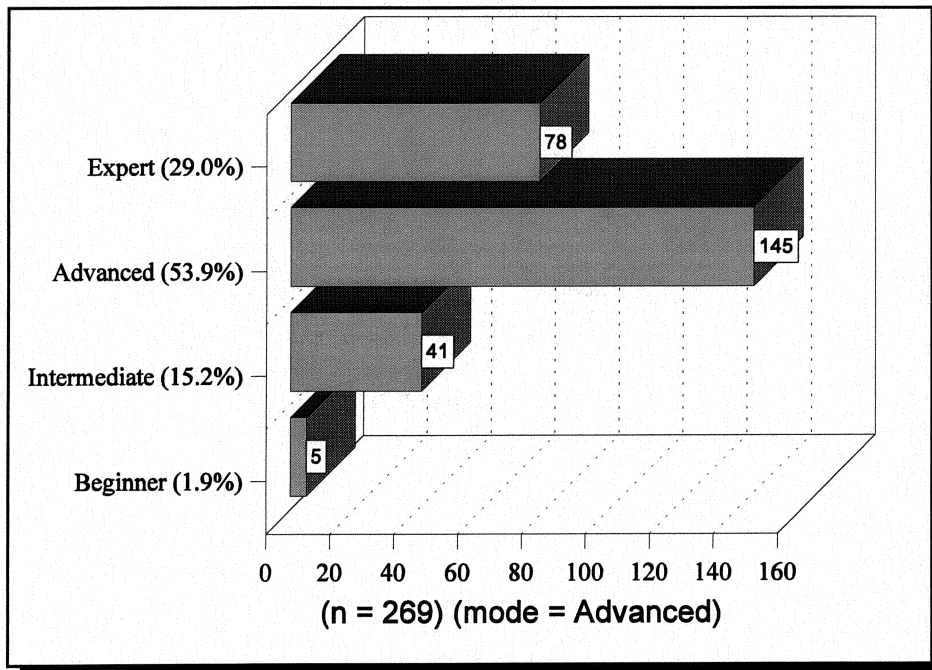


Figure III.H: Usual makeup of group.



When asked the question "How would you rate your skill level as a four-wheeler?," an overwhelming majority (82.9%) indicated either expert or advanced (Figure III.I). Only 1.9% rated themselves as beginner and 15.2% as intermediate.

Figure III.I: Self assessed four-wheel skill level.



We next asked our respondents how often they obtain information about four-wheeling in general from a variety of sources we listed. When examining the mean scores shown on Table III.1, the highest rated sources (between 3 and 4 where 3 = "Sometimes" and 4 = "Often") were Magazine or Newspaper (mean=3.73), Friends/Family (mean=3.70), and Four-wheeling groups or clubs (mean=3.49). The information sources with mean scores between 2 and 3 (where 2 = "Rarely" and

Table III.1: Frequency of using general information four-wheeling sources.

Source	Never	Rarely	Some- times	Often	Very Often	Mean ^a
Four-wheeling groups or clubs	9 (3.3%)	40 (14.8%)	91 (33.6%)	70 (25.4%)	61 (22.5%)	3.49
Other outdoor groups or clubs	67 (25.4%)	85 (32.2%)	75 (28.4%)	22 (8.3%)	15 (5.7%)	2.37
Friends/Family	13 (4.8%)	15 (5.6%)	78 (28.9%)	97 (35.9%)	67 (24.8%)	3.70
Radio/television	124 (46.6%)	100 (37.6%)	27 (10.2%)	8 (3.0%)	7 (2.6%)	1.77
Auto/Parts store	117 (44.0%)	88 (33.1%)	47 (17.7%)	9 (3.4%)	5 (1.9%)	1.86
Magazine or Newspaper	12 (4.4%)	28 (10.2%)	66 (24.1%)	84 (30.7%)	84 (30.7%)	3.73
Government agency offices/personnel	125 (46.6%)	80 (29.9%)	52 (19.4%)	9 (3.4%)	2 (0.7%)	1.82
Guidebook	60 (22.5%)	97 (36.3%)	81 (30.3%)	23 (8.6%)	6 (2.2%)	2.32
Advertisement	91 (34.3%)	81 (30.6%)	65 (24.5%)	21 (7.9%)	7 (2.6%)	2.14
Tour guide	144 (54.1%)	80 (30.1%)	29 (10.9%)	12 (4.5%)	1 (0.4%)	1.67

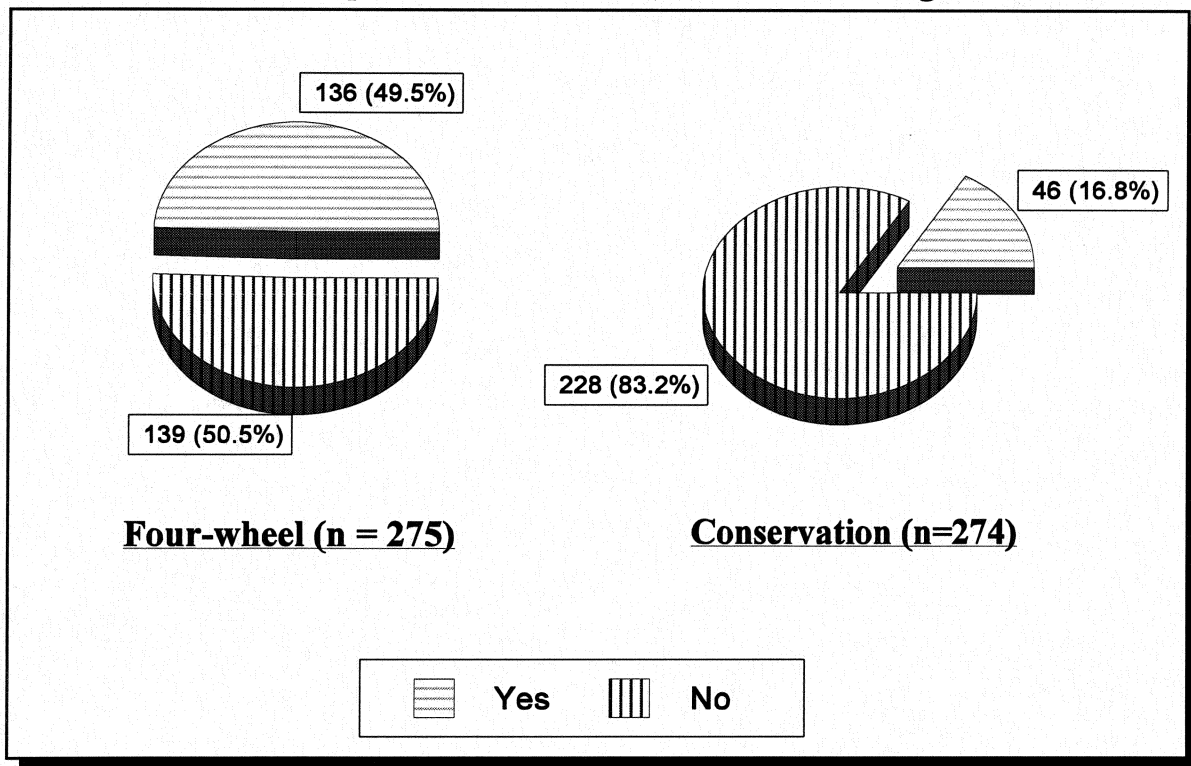
^aMean score calculated on a Likert-type scale where 1 = "Never", 2 = "Rarely", 3 = "Sometimes", 4 = "Often", and 5 = "Very Often".

3 = "Sometimes") were Other outdoor groups or clubs (mean=2.37), Guidebook (mean=2.32), and Advertisements (mean=2.14). The lowest ranked information sources (mean scores between 1 and 2 where 1 = "Never" and 2 = "Rarely") were Auto/Parts store (mean=1.86) followed by

Government agency offices/personnel (mean=1.82), Radio/Television (mean=1.77), and Tour guide (mean=1.67) (see Appendix E for other information sources mentioned).

Finally, we asked if the respondents were members of any four-wheeling groups or clubs and if they were members of any environmental or conservation organizations. We qualified the definition of environmental organizations by giving the examples Sierra Club, Nature Conservancy, and Ducks Unlimited. As shown on Figure III.J, about half (50.5%) indicated they belonged to four-wheeling groups while only 16.8% indicated they were members of environmental or conservation organization. A total of 90 different four-wheeling groups or clubs were cited while 32 different environmental/conservation type organizations were mentioned (for a complete list, see Appendix B).

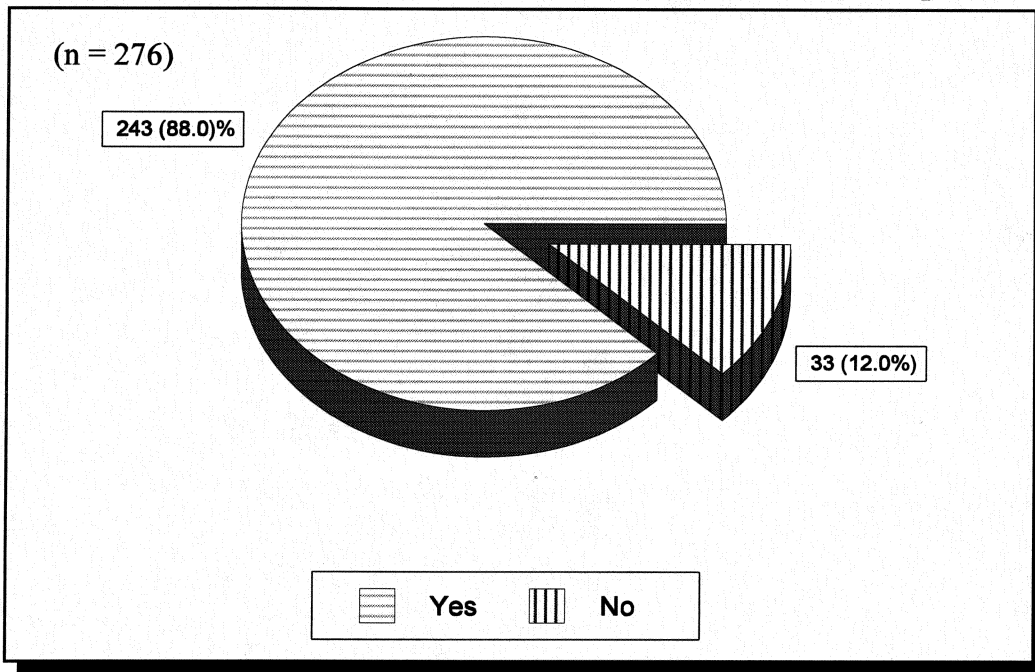
Figure III.J: Membership in four-wheel clubs and conservation organizations.



IV. MOAB FOUR-WHEEL EXPERIENCE

The next series of questions were designed to assess four-wheel off-highway use levels specific to the Moab area. As shown on Figure IV.A, 33 (12%) of the respondents indicated that they had not four-wheeled in the Moab area prior to the 1997 Moab Jeep Safari (i.e., first-timers).

Figure IV.A: Gone four-wheeling in the Moab area before 1997 Jeep Safari.



Of the 88% who had gone four-wheeling in Moab before the 1997 Jeep Safari, the median category was seven times (meaning that half of those 243 respondents indicated seven or more and half indicated seven or less) (Figure IV.B). The average (mean) number of prior visits was about 12 (11.6) with the highest number of respondents indicating that they had only four-wheeled in Moab once before (n=22, 9.6%). First timers and those that had visited once before was about 22.3%. The number of previous visits ranged between 1 and 80.

Next we asked the survey respondents to tell us about how many trails they had driven off-highway in the Moab area. The results (shown on Figure IV.C) show the average number of trails being around 13, with most (34 or 12.6%) indicating 20 trails.

Figure IV.B: Number of times gone four-wheeling in Moab area before 1997 Jeep Safari.

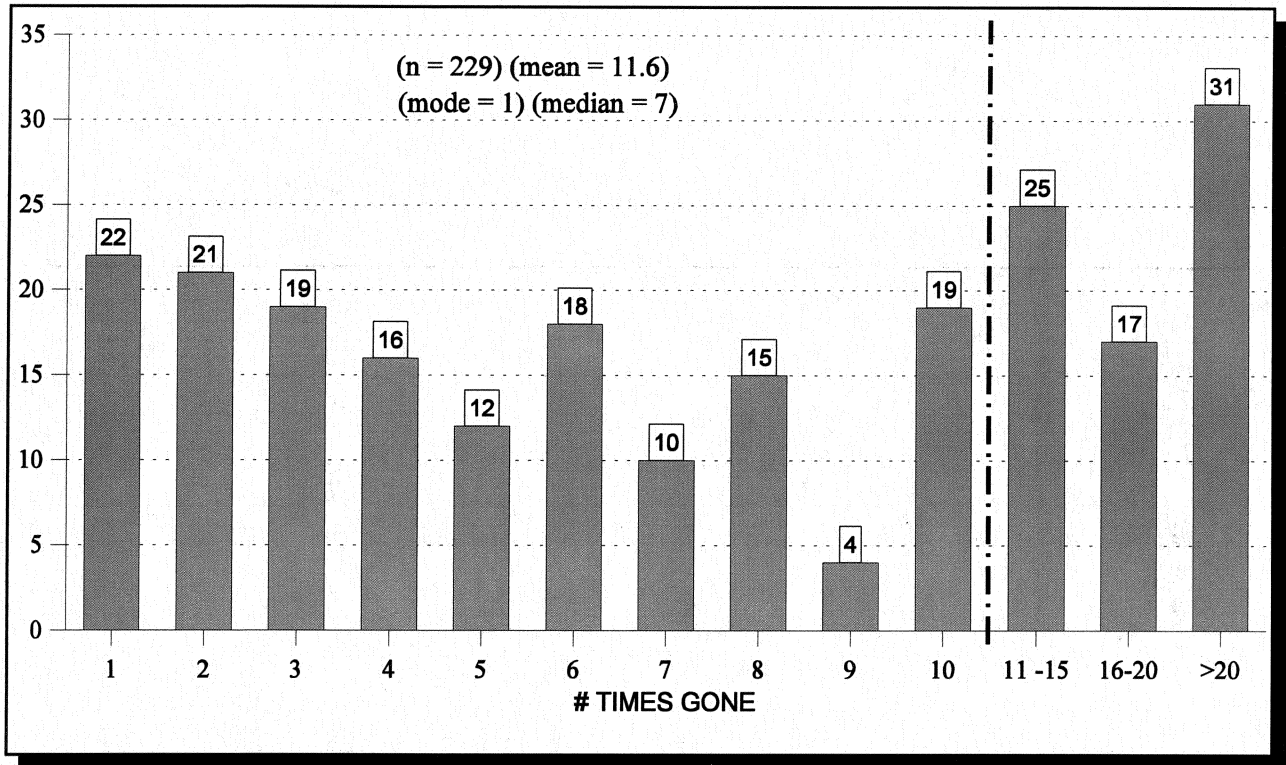
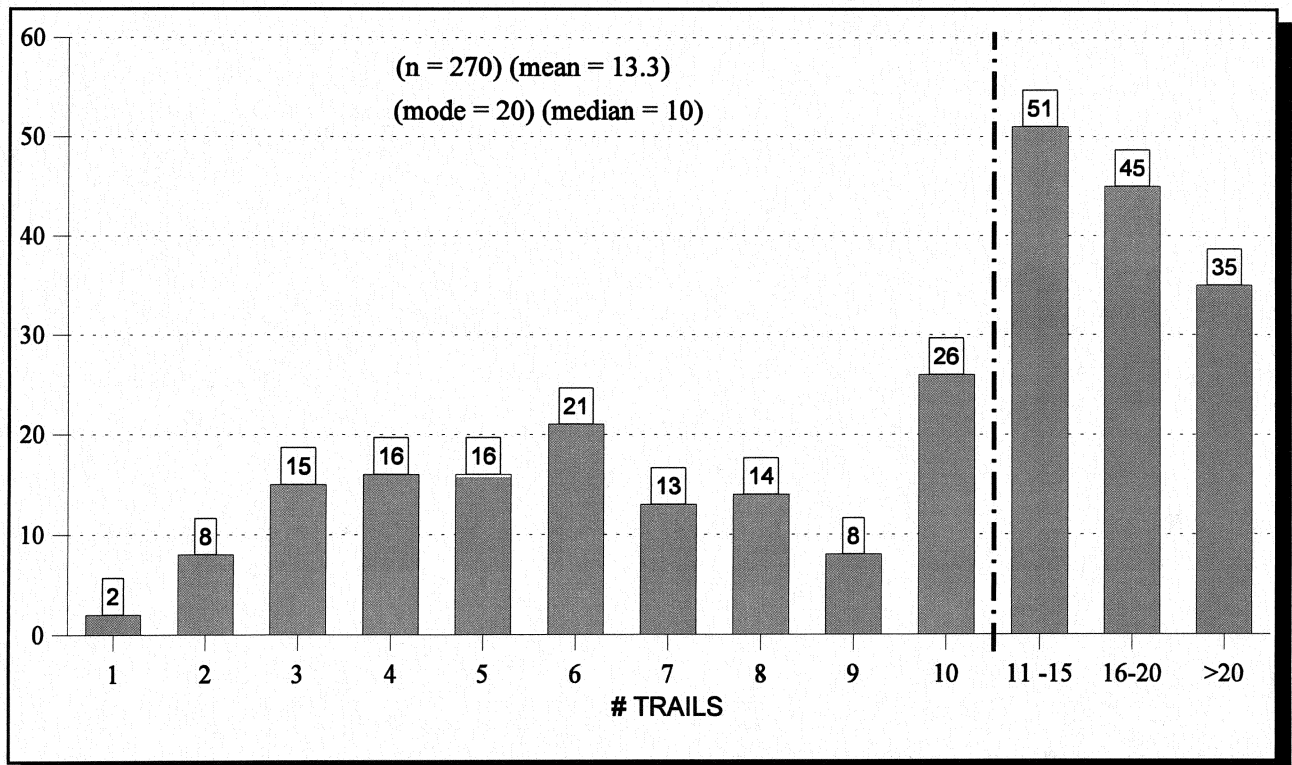


Figure IV.C: Number of four-wheel drive trails driven off highway in the Moab area.



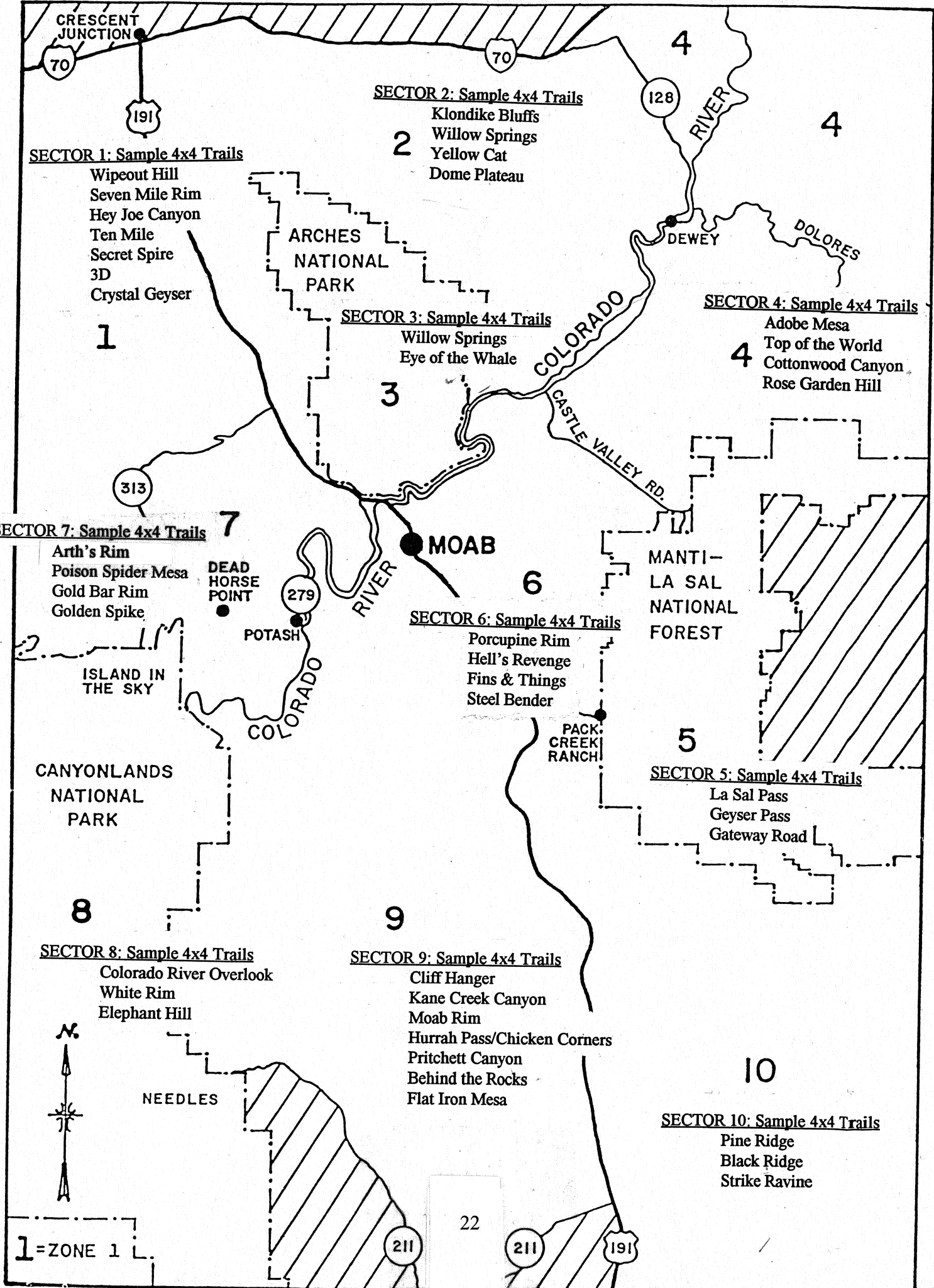
We next asked a series of questions concerning use patterns and preferences for specific areas and trails in the Moab area. The map on the following page shows the location of ten different sectors in the Moab area and a sample of OHV trails within each sector. Table IV.1 shows the summary results of the survey question "Have you ever four-wheeled in this area?" and the mean number of times in the previous 12 months the respondent indicated they had four-wheeled there if they answered yes to the question. In examining the "Yes" column, the most visited was Sector 7 (89.8%) followed by Sector 9 (88.0%), Sector 6 (85.1%), and Sector 1 (74.9%). The least visited area was Sector 3 (30.3%) preceded by Sector 2 (31.8%), Sector 10 (33.2%), and Sector 5 (34.7%). The mean number of times ranged from 1.2 to 2.3.

Table IV.1: Different areas of four-wheeling in the Moab area.

Area ^a	Ever 4-wheeled in this area		Mean # times in last 12 months	Total # trips in last 12 months
	No	Yes		
Sector 1	69 (25.1%)	206 (74.9%)	1.51	311
Sector 2	187 (68.2%)	87 (31.8%)	1.37	119
Sector 3	191 (69.7%)	83 (30.3%)	1.21	100
Sector 4	124 (45.3%)	150 (54.7%)	1.39	209
Sector 5	179 (65.3%)	95 (34.7%)	1.61	153
Sector 6	41 (14.9%)	234 (85.1%)	2.03	475
Sector 7	28 (10.2%)	247 (89.8%)	2.08	514
Sector 8	136 (49.5%)	139 (50.5%)	1.39	193
Sector 9	33 (12.0%)	242 (88.0%)	2.26	547
Sector 10	183 (66.8%)	91 (33.2%)	1.35	123

^aSee map on following page.

We then asked the respondents who had four-wheeled in more than one sector to indicate which sector they preferred the most and least, and why. Their reasons given for those preferences are listed in Appendix C. Figure IV.D shows the summary results of those preference questions. The most preferred area was Sector 7 (29.3%) followed by Sector 9 (26.7%) and Sector 6 (13.6%). A number of respondents (15%) could not pick one sector over another and wrote in



SECTOR 1: Sample 4x4 Trails

- Wipeout Hill
- Seven Mile Rim
- Hey Joe Canyon
- Ten Mile
- Secret Spire
- 3D
- Crystal Geysir

1

SECTOR 2: Sample 4x4 Trails

- Klondike Bluffs
- Willow Springs
- Yellow Cat
- Dome Plateau

2

SECTOR 3: Sample 4x4 Trails

- Willow Springs
- Eye of the Whale

3

SECTOR 4: Sample 4x4 Trails

- Adobe Mesa
- Top of the World
- Cottonwood Canyon
- Rose Garden Hill

4

SECTOR 7: Sample 4x4 Trails

- Arth's Rim
- Poison Spider Mesa
- Gold Bar Rim
- Golden Spike

DEAD HORSE POINT

POTASH

ISLAND IN THE SKY

7

SECTOR 6: Sample 4x4 Trails

- Porcupine Rim
- Hell's Revenge
- Fins & Things
- Steel Bender

6

SECTOR 5: Sample 4x4 Trails

- La Sal Pass
- Geysir Pass
- Gateway Road

5

SECTOR 8: Sample 4x4 Trails

- Colorado River Overlook
- White Rim
- Elephant Hill

8

SECTOR 9: Sample 4x4 Trails

- Cliff Hanger
- Kane Creek Canyon
- Moab Rim
- Hurrah Pass/Chicken Corners
- Pritchett Canyon
- Behind the Rocks
- Flat Iron Mesa

9

SECTOR 10: Sample 4x4 Trails

- Pine Ridge
- Black Ridge
- Strike Ravine

10



NEEDLES

1 = ZONE 1

22

211

211

191

CRESCENT JUNCTION

70

70

191

128

RIVER

4

DOLORIS

DEWEY

ARCHES NATIONAL PARK

COLORADO

CASTLE VALLEY RD.

MOAB

MANTI-LA SAL NATIONAL FOREST

RIVER

279

COLORADO

CANYONLANDS NATIONAL PARK

PACK CREEK RANCH



NEEDLES

1 = ZONE 1

22

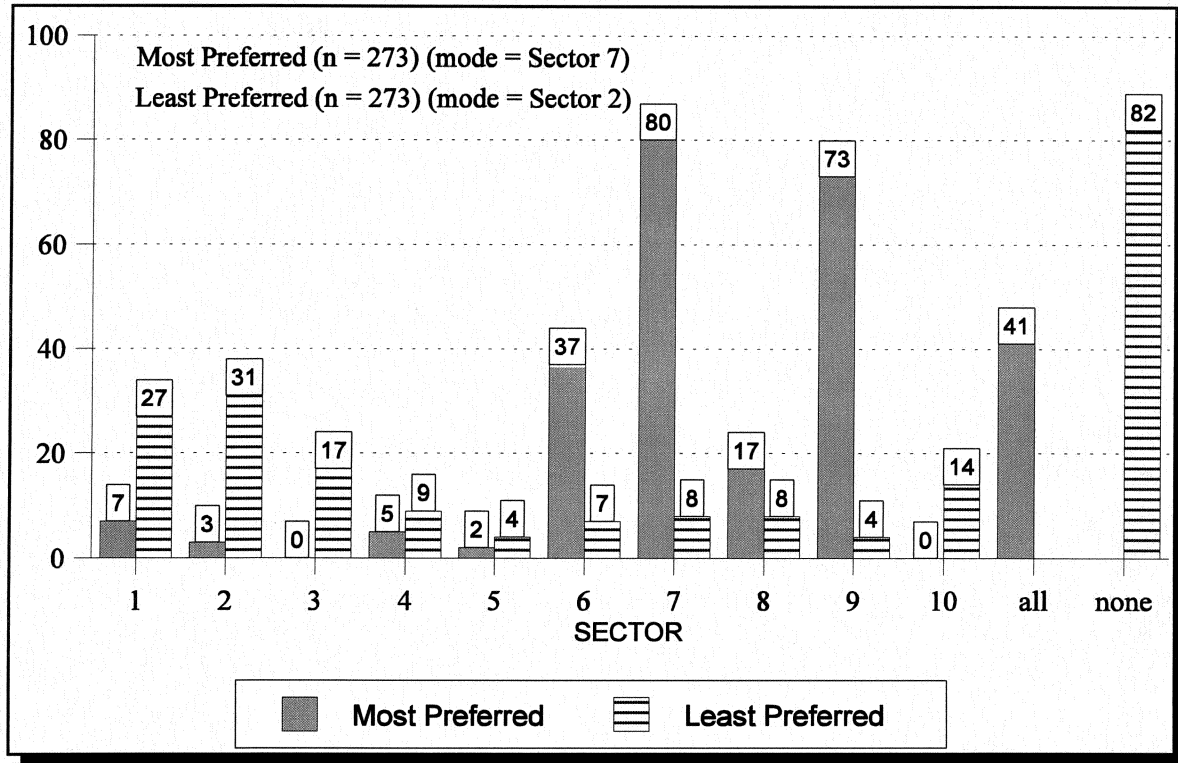
211

211

191

"All" meaning that they preferred all the sectors they had four-wheeled on equally well. No one indicated either Sector 3 or Sector 10 as their most preferred areas. When asked to indicate their least preferred sectors, 30.0% wrote "None" (meaning that they had no "least preferred" sectors). The least preferred area was Sector 2 (11.4%) closely followed by Sector 1 (9.9%).

Figure IV.D: Moab area four-wheeling preference trail sectors.



The next survey question regarded the frequency of use (increase, decrease, or remain the same) of the specific sectors and the Moab area in general. In comparing the ratios between the columns labeled "Increased" and "Decreased" on Table IV.2, Sectors 2, 3, 4, 5, and 8 had about the same frequency of increased to decreased use (ratio of about 1.0). The category with the highest increase in use was the Moab area in general by a ratio of seven to one. The area sector that showed the highest "recruitment ratio" was Sector 6 (4.5:1) followed by Sector 9 (3.9:1), Sector 7 (3.5:1), and Sector 1 (1.4:1). The only sector that showed a decrease in use was Sector 10 by a 0.5:1 ratio (i.e., for every person who said they had increased their use, about two people indicated their use had decreased). Appendix C contains the lists of reasons given for increased

and decreased use on the sectors. Most of the respondents who indicated that they had been on the different sectors indicated that their use level had not changed (range from 41% to 63%).

Table IV.2: Frequency of use for different Moab 4-wheel areas.^a

Area	Rarely or never	Decreased	No change	Increased
Sector 1	42 (18.8%)	26 (11.7%)	136 (61.0%)	19 (8.5%)
Sector 2	112 (50.0%)	11 (4.9%)	91 (40.6%)	10 (4.5%)
Sector 3	110 (48.9%)	10 (4.4%)	96 (42.7%)	9 (4.0%)
Sector 4	69 (31.1%)	17 (7.7%)	121 (54.5%)	15 (6.8%)
Sector 5	97 (43.7%)	11 (5.0%)	106 (47.7%)	8 (3.6%)
Sector 6	17 (7.6%)	12 (5.3%)	142 (63.1%)	54 (24.0%)
Sector 7	12 (5.4%)	17 (7.7%)	134 (60.4%)	59 (26.6%)
Sector 8	74 (33.3%)	17 (7.7%)	114 (51.4%)	17 (7.7%)
Sector 9	15 (6.8%)	16 (7.2%)	128 (57.9%)	62 (28.1%)
Sector 10	98 (45.4%)	15 (6.9%)	95 (44.0%)	8 (3.7%)
Moab area	3 (1.3%)	12 (5.3%)	126 (55.8%)	85 (37.6%)

^aOf the 276 respondents, 36 (13%) indicated that they had not gone four-wheeling in the Moab area before the 1997 Jeep Safari.

V. MOTIVATIONS/EXPERIENCE EXPECTATIONS

As an indicator of motivations for four-wheeling, we asked the sample subjects to respond to a set of 30 different reasons for driving OHVs in general *and* for driving in Moab on a scale of 1 (not important) to 5 (very important). Most of these items were standard statements derived from B.L. Driver's experience expectation item pool, with a few added items that were related specifically to the OHV experience. To aid in the interpretation of the results, the 30 items were divided into eight general topic categories or indices. The results are also divided into two tables: 1) features of the natural environment (Natural Setting/Escape, Wildlife, New Landscapes, and Predictability/Control) are listed in Table V.1; and 2) personal and social factors (Socializing, Self Test, Self Improvement, and Thrill/Social Status) are in Table V.2. Most of the OHV-specific items that we developed for this survey are in the Predictability/Control category (e.g., "feeling in control of the vehicle") and the Thrill/Social Status category (e.g., "driving off established trails").

In general, expectations for experiencing the natural environment were rated higher than the personal and social items. Based on the general categories, the top two reasons for four-wheeling in general *and* in Moab specifically are to experience Natural Settings/Escape and to see New Landscapes (Table V.1). The Natural Settings/Escape category was rated about the same for four-wheeling in general (4.15) and for Moab (4.14), but seeing New Landscapes was rated higher as a reason for visiting Moab (4.28) compared to OHVing in general (4.14). For specific scale items, seeing "exhilarating scenery" and "new and different places" were the highest ranked expectations for four-wheeling in Moab, while "getting away from it all" was rated highest for OHVing in general.

Table V.1: Landscape setting characteristics as reasons for four-wheel off-highway recreation.

Survey Statement	Mean ^a	
	General	Moab
<i>Natural Setting/Escape^b</i>	<i>(4.15)</i>	<i>(4.14)</i>
Getting away from it all	4.46	4.27
Seeing exhilarating scenery	4.33	4.52
Being in a natural area	4.26	4.36
Gaining access to remote areas	4.12	4.19
Feeling secluded	3.59	3.40
<i>Nature Study^b</i>	<i>(3.48)</i>	<i>(3.18)</i>
Seeing wildlife	3.74	3.16
Studying nature	3.22	3.21
<i>New Landscapes^b</i>	<i>(4.15)</i>	<i>(4.28)</i>
Seeing new and different areas	4.33	4.38
Viewing unfamiliar landscapes	3.97	4.18
<i>Predictability/Control^b</i>	<i>(3.55)</i>	<i>(3.63)</i>
Feeling in control of the vehicle	4.54	4.58
Being aware of difficulty before you start	4.01	4.25
Knowing where you are on the trail	3.76	3.78
Knowing how long the drive will last	2.85	3.01
Driving in a familiar area	2.53	2.53

^aMean score calculated on a Likert-type scale where 1 = “Not Important” and 5 = “Very Important”.

^bIndex scores were derived from the summation of individual’s items means and dividing by the number of items in each group. Group means were calculated from those index scores.

The Self Test and Socializing categories were ranked 3rd and 4th overall, and all of the items in these categories were rated higher as reasons for four-wheeling in Moab (3.95 and 3.85 respectively) compared to four-wheeling in general (3.77 and 3.52) (Table V.2). Among the specific items in these categories, “being with family and friends” was the highest rated item for both OHVing in general (4.45) and in Moab (4.47) and it was the third highest rated item of all 30

Table V.2: Socio-psychological characteristics as reasons for four-wheel off-highway recreation.

Survey Statement	Mean ^a	Mean ^a
	General	Moab
<i>Socializing^b</i>	<i>(3.52)</i>	<i>(3.85)</i>
Being with family and friends	4.45	4.47
Meeting other people	3.14	3.51
Being part of an organized or group outing	2.99	3.57
<i>Self Test^b</i>	<i>(3.77)</i>	<i>(3.95)</i>
Driving on challenging trails	4.02	4.31
Improving your driving skills	3.98	4.11
Doing technically difficult maneuvers	3.79	4.02
Having some exciting unplanned experiences	3.69	3.76
Testing yourself	3.34	3.55
<i>Self Improvement^b</i>	<i>(3.37)</i>	<i>(3.27)</i>
Feeling self-reliant	3.70	3.54
Getting exercise	3.04	3.01
<i>Thrill/Social Status^b</i>	<i>(2.27)</i>	<i>(2.33)</i>
Having a thrilling ride	3.29	3.61
Showing others you can do it	2.67	2.84
Feeling power and strength	2.21	2.26
Having the opportunity to get lost	1.95	1.91
Driving off established trails	1.82	1.77
Feeling speed	1.65	1.55

^aMean score calculated on a Likert-type scale where 1 = “Not Important” and 5 = “Very Important”.

^bIndex scores were derived from the summation of each individual’s item means and dividing by the number of items in each group. Group means were calculated from those index scores.

scale items. “Meeting other people” and “being part of an organized group,” on the other hand, were rated relatively low, although they were rated slightly higher for four-wheeling in Moab than

for four-wheeling in general. This indicates that socializing within one's personal group is a very important motive, but socializing outside one's group is much less important, especially outside of an organized event like the Easter Jeep Safari. For the Self Test category, "driving on challenging trails" was rated especially high for driving in Moab (4.31), but the other items in this experience category were rated at, or just above, the middle range of the scale (from 3.34 to 4.11) for both Moab and four-wheeling in general.

The next highest expectation category is Predictability/Control, which is especially important for four-wheeling in Moab (3.63) compared to driving in general (3.55). In fact, "feeling in control of the vehicle" was the *highest ranked expectation on the entire scale* for both driving in general (4.54) and for driving in Moab (4.58). The only item in this category that was ranked quite low was "driving in a familiar area" (2.53 for both subgroups). The items "being aware of difficulty before you start" and "knowing how long the drive will last" were rated as higher expectations for Moab (4.25 and 3.01 respectively) than for driving in general (4.01 and 2.85 respectively). Thus, driving in a familiar area and knowing the length of a trip is not as important as knowing the trip difficulty.

Given the importance of experiencing nature to the OHVers, it was surprising that the Nature Study items were ranked relatively low: 6th for riding in general and 7th for riding in Moab (Table V.1). This may be due to the noise of the machines and the speed of travel, making "nature study" and wildlife viewing unlikely. Respondents gave "seeing wildlife" a moderate rating for driving in general (3.74), but it was significantly lower as a motive for driving in the Moab area. This could reflect the perception that there is little wildlife in the desert compared to other regions, or that there are so many other distinctive natural features in the Moab area that wildlife viewing drops in importance.

The lowest ratings were given to the items in the Self Improvement and Thrill/Social Status categories (Table V.2). Among these items, the only moderately important items were "feeling self-reliant" (3.54 for driving in Moab and 3.70 for ORVing in general), and "having a thrilling ride" (3.61 and 3.29 respectively). The items suggesting potential *danger* (opportunity to get lost, driving off trails, and speed), however, were all ranked below 2.0; they were the lowest ranked items for both subgroups.

VI. MANAGEMENT PREFERENCES

Several multi-item questions were used to measure respondents' attitudes toward management preferences. The questions tapped attitudes toward social (e.g., crowding and conflicts), managerial (e.g., facilities, information, staffing needs), and environmental (e.g., soil, wildlife, vegetation) aspects of management. Specific problems (e.g., litter, graffiti) and controversies (e.g., cattle, driving off trail) were also included in the preference questions.

The first set of preference questions asked respondents for their opinion on how managers should prioritize their efforts (Table VI.1). The 17 items measured preferences toward trail and road management (3 items), resource protection (4), visitor information (5), facility needs (2), agency staffing (2), and crowding reduction (1). The items were ranked on a 7-point scale from 1 = "lowest priority" to 7 = "highest priority."

The top ranked management priorities by a wide margin were for protecting historical/cultural artifacts (5.82) and wildlife (5.38). Over the whole set of items, the resource protection-related items were ranked the highest, with all four protection items among the top eight ranked priorities on the scale (mean rankings between 4.63 and 5.82).

The next highest rated items were related to information and trail management (Table VI.1). Among the information items, providing information on trail safety and etiquette (5.02) and general information at trailheads (4.88) were ranked higher than providing route markers, directional signs, and interpretive signs *along* the trails.

Trail management items were generally considered as important as informational needs, but there was one exception. The 4th highest ranked priority on the list was to designate new trails (4.95), and allowing trails to get more difficult as a result of use was ranked 7th (4.87) overall. The *lowest*, rated item on the scale, however, was to "maintain trails to make them more passable" (2.42). Thus, trail management and maintenance to protect the environment and increase driving challenge is viewed as important, but not to make the drives easier. Obviously this also reflects the relatively high skill level of this respondent group. There is a fine line in deciding how "bad" a trail can get before the physical impacts or safety implications are unacceptable, but perhaps, in some cases, especially in highly resilient ecological areas, this approach can help reduce management costs.

Table VI.1: OHV recreation preferences for Moab area land management.

Survey Statement	Lowest Priority				Highest Priority				Mean ^a
	1	2	3	4	5	6	7		
	----- % -----				----- ^b -----				
Protect historical/cultural resources and artifacts	2	2	5	8	15	24	44	5.82	
Protect wildlife	2	3	6	19	17	21	33	5.38	
Provide four-wheeling safety & trail etiquette information	3	6	9	17	19	22	23	5.02	
Designate new four-wheeling roads and trails	8	5	9	16	15	19	29	4.95	
Prevent impacts to natural vegetation	5	5	8	21	18	21	22	4.92	
Provide general information signs at trail access points	4	7	7	20	22	23	17	4.88	
Allow trails to get more difficult as a result of use	6	6	9	18	20	16	25	4.87	
Prevent impacts to soil	7	7	10	23	18	14	21	4.63	
Provide frequent trail route markers	7	10	11	19	17	20	17	4.56	
Provide directional and distance signs on roads and trails	7	11	11	22	20	17	13	4.41	
Provide signs on trails about nature or cultural history	8	12	14	14	22	19	12	4.34	
Designate campsites along trails	14	15	14	17	15	15	10	3.90	
Reduce crowding in heavy use areas	12	10	16	31	13	13	6	3.88	
Provide toilets at existing trail access points	19	18	19	17	14	5	8	3.37	
Provide more law enforcement personnel on trails	25	18	19	19	6	8	6	3.10	
Provide more agency personnel (land managers) on roads and trails	27	19	19	15	10	7	4	2.99	
Maintain trails to make more passable	39	21	15	13	7	4	1	2.42	

^aMean score calculated on a Likert-type scale where 1 = "Lowest Priority" and 7 = "Highest Priority".

^bPercentage summation other than 100% due to rounding errors.

The average ratings for items about adding facilities and staffing and reducing crowding were all below 4.0 on the 7-point scale. While these are very general results, and specific staffing

and facility decisions need to be made on a site-specific basis, the results indicate that a low level of facilities and management presence is preferred. In fact, for this sample group, the more rustic, remote, and technically challenging the trails the better. Even the specific type of information and trail management preferred by respondents indicates the lower end of the management scale is desired. In general, their management priorities are: 1) protect the natural resource, 2) provide new trails and let existing trails get more difficult, and 3) emphasize informational approaches to protect the environment and inform and educate the OHV recreationists. The difficulty in this prioritization, of course, is balancing the effects of items 1 and 2, but this in itself becomes an educational requirement for the BLM.

The results of this scale also indicate that respondents feel that reducing crowding is not a major concern *even on heavily used trails* (3.88). While this is an indication that there is little or no need to restrict or disperse use for crowding reasons at the present time, this one item is not enough to get a full picture of the management implications of OHV use levels.

Based on the results in Figure VI.A, 93.5% of the riders feel that the physical impacts from four-wheeling in the Moab area are currently acceptable or even low (54.5%). While this result may reflect the relatively resilient appearing nature of the red rock country, it may also be a political statement on behalf of the four-wheelers. In other words, our respondents may fear that through indicating that severe impacts occur as a result of four-wheeling, land managers may be prompted to close existing trails. (It is interesting to note that in a study of mountain bikers in the same region, there were more bikers willing to state that the physical impacts from mountain biking were higher rather than lower than acceptable.) Thus, while it is difficult to interpret the practical meaning of this result, it does indicate there may be major differences between the perceptions of land managers (and certainly environmentalists) and the Easter Jeep Safari participants on the issue of resource impacts.

This is supported by the findings in Fig. VI.B, where more respondents indicated that land managers need to put greater emphasis on visitor services (21%) rather than land protection (9%). This finding seems to contrast the results in Table VI.1, where resource protection was weighted higher than any other management priorities. (And again, is nearly the reverse of the results of the mountain biking study.) Responses to this question may have been influenced by the previous question (on the physical impacts of OHVs) and simply shows the strength of respondents'

Figure VI.A: Physical impacts from four-wheeling on public lands in the Moab area.

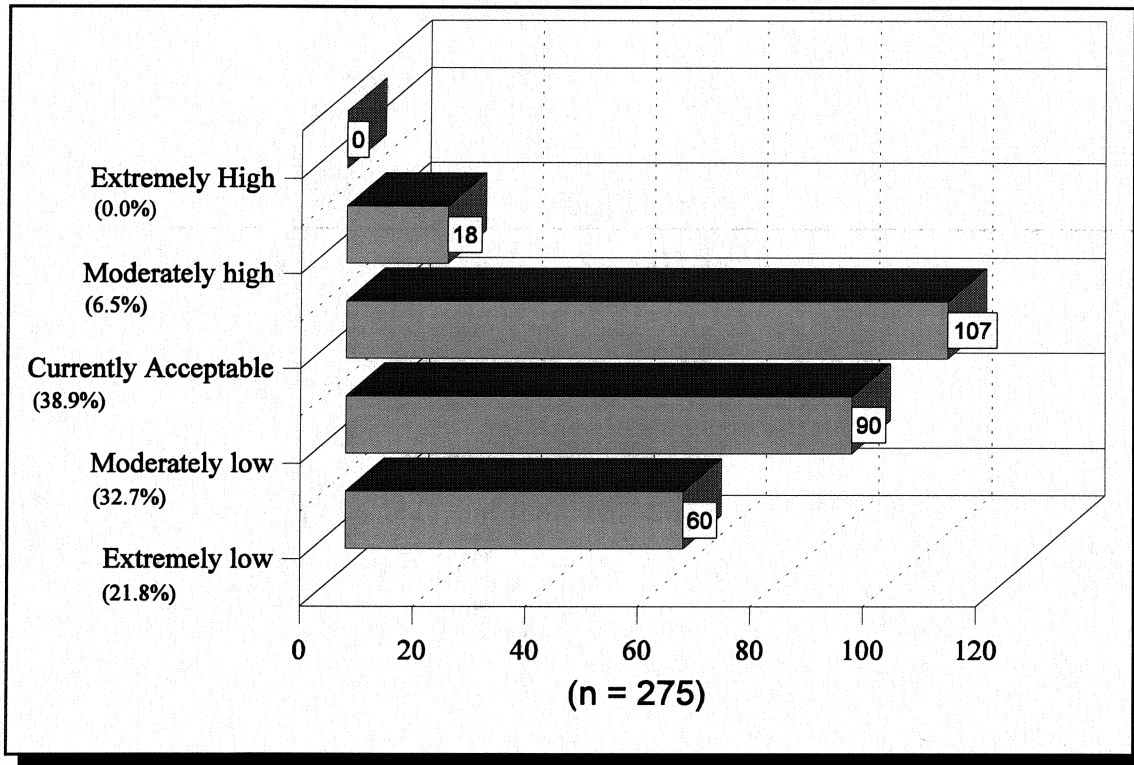
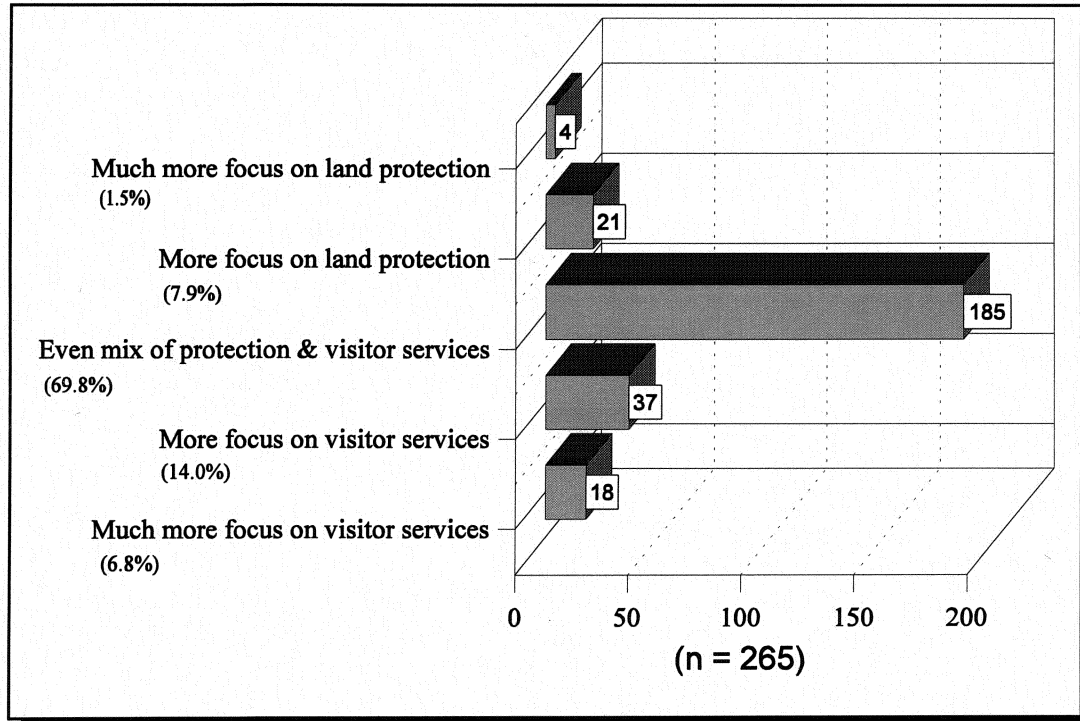


Figure VI.B: Management focus on public lands in the Moab area.



commitment to the activity and reactance against the implications of resource damage caused by OHVs. Whatever the case, the implication is that land managers and OHV drivers may not see physical impacts, or rate the importance of those impacts, the same. Education and collaboration efforts are going to be critical for doing resource protection work related to OHV use, but the potential for compromise and consensus exists, at least based on results in Table VI.1.

When asked for their preferences for land management approaches in "intensively used" four-wheeling areas (Table IV.2.), survey respondents overwhelmingly rated "keep existing trails open" highest of the six items (4.82 on a *five*-point scale), and "restricting the number of vehicles" the lowest (2.83). Information management approaches were preferred, and restricting vehicle travel to designated routes was rated just slightly above the scale mid-point (3.53). The message of Table VI.2 seems to be: it's alright to work to maintain the naturalness of intensively used areas, but don't close trails or restrict the number of drivers that may use them. Information and education techniques are preferred, especially to target low impact behavior (4.10), and restricting drivers to designated routes *may* be acceptable.

Table VI.2: Moab land management preferences in intensively used four-wheel driving areas.

Survey Statement	Not Important		Very Important			Mean ^a
	1	2	3	4	5	
	-----%----- ^b					
Keep existing trails open to four-wheeling	0	1	2	11	86	4.82
Provide information on how four-wheelers can reduce plant and soil impacts	2	4	19	32	43	4.10
Work to maintain scenic, relatively natural character of the area	3	3	28	36	29	3.85
Provide information on four-wheeling safety and etiquette	3	12	24	28	34	3.77
Restrict vehicle travel to designated routes	13	10	19	27	31	3.53
Restrict the number of vehicles that can use trails at one time	16	20	36	20	8	2.83

^aMean score calculated on a Likert-type scale where 1 = "Not Important" and 5 = "Very Important".

^bPercentage summation other than 100% due to rounding errors.

Respondents were also asked to evaluate 19 potential management problems on Moab area four-wheeling roads and trails (Table VI.3). For each item identified as a problem, they were asked if it was a problem on "one or two trails," "on several trails," "on most trails," or "on all trails." Since nearly all problems were concentrated in one or two areas, responses were collapsed into two categories: "not a problem" and "a problem on at least one trail." The table also includes "don't know" responses, because this was an important category for some items.

In the eyes of the Easter Jeep four-wheelers, the *two biggest problems they see are with OHV drivers themselves*: 80% listed inexperienced people driving on difficult terrain, and 62.4% listed four-wheelers going off established trails as management problems (Table VI.3). This is surprising since studies indicate that resource impacts, vandalism or litter, or visitors participating in other activities are the biggest problems they encounter. This could be explained by four-wheelers not equating the results of inexperienced drivers being where they shouldn't and four-wheelers driving off-trail with the consequence of resource impacts. On the other hand, these results *do* reflect risk recreation study results, where skilled participants often rate inexperienced participants as a major problem because it hurts the image of the activity.

The next highest ranked problems are related to resource impacts. The first impact items are related to litter at "access points" (57.5%) and on "trails or roads" (55%). Soil erosion (52.2%), graffiti (45.5%), and defacing historic resources (43.3.%) were ranked 5th, 6th, and 8th respectively, but these items also had a relatively large number of "don't know" responses (11.2%, 20.0%, and 20.1% respectively). While the absolute amount of litter, erosion, and vandalism on Moab area trails seems low compared to many other OHV driving areas, these attitudes may reflect expectations for nearly pristine conditions in the Moab area, and that seeing *any* resource impacts is unacceptable to the OHVers.

The social conflict and crowding items are considered to be problems by relatively few respondents. Large groups of four-wheelers, mountain bikers, too many four-wheelers on trails, and too many people at access points, were the major social concerns and listed as problems by between 33.7% and 42.7% of the respondents. Problems related to cattle, hikers, backpackers, and horseback riders were listed by very few people (4.8% to 15.5%). Thus, crowding, large groups, and mountain bikers may be minor problems, or on the cutting edge of being viewed as problems by the OHVers, but they are not considered major problems yet.

A moderate number of respondents (44.1%) feel that a lack of toilets was a problem. This was more than expected since the results in Table VI.1 indicate that providing facilities, including

Table VI.3: Problems encountered four-wheeling on Moab area roads.

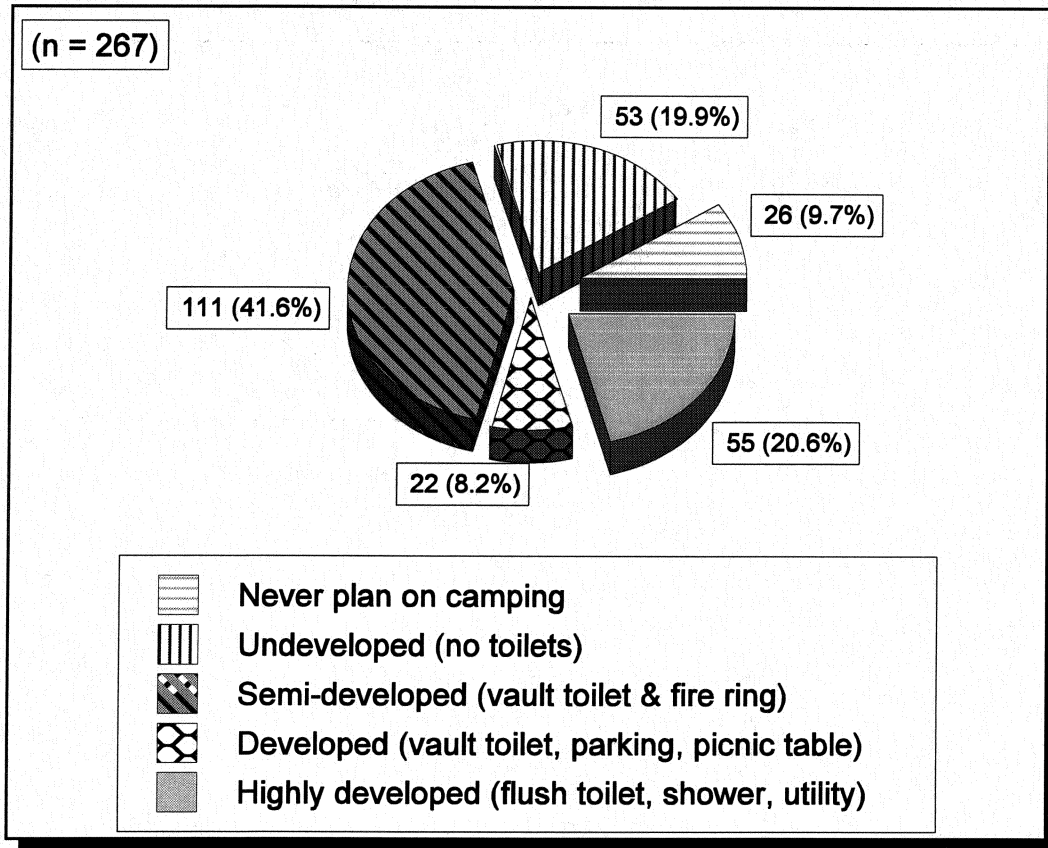
Survey Statement	Not a problem	Problem on at least 1 trail ^a	Don't Know
Inexperienced drivers in difficult terrain	42 (15.6%)	206 (80.0%)	12 (4.4%)
4-wheelers going off established roads/trails	79 (29.4%)	168 (62.4%)	22 (8.2%)
Litter or trash at trail access points	98 (36.2%)	156 (57.5%)	17 (6.3%)
Litter or trash on roads or trails	110 (40.6%)	149 (55.0%)	12 (4.4%)
Soil erosion or trampling	98 (36.6%)	139 (52.2%)	31 (11.2%)
Graffiti or other vandalism	93 (34.4%)	123 (45.5%)	54 (20.0%)
Lack of toilets	145 (53.7%)	119 (44.1%)	6 (2.2%)
Destruction/defacing of historic resources	98 (36.6%)	106 (43.3%)	54 (20.1%)
Large group of four-wheelers	150 (55.8%)	115 (42.7%)	4 (1.5%)
Mountain bikers on the trails	164 (60.5%)	104 (38.4%)	3 (1.1%)
Too many four-wheelers on roads and trails	163 (60.4%)	96 (35.5%)	11 (4.1%)
Too many people at trail access points	161 (59.6%)	95 (35.2%)	14 (5.2%)
Other four-wheelers on the trails	175 (64.8%)	91 (33.7%)	4 (1.5%)
Dangerous drop offs, mines, etc.	169 (62.6%)	72 (26.7%)	29 (10.7%)
Dangerous driving routes	191 (69.2%)	65 (26.3%)	12 (4.5%)
Evidence of cattle	214 (79.0%)	42 (15.5%)	15 (5.5%)
Hikers or backpackers on the trails	226 (83.7%)	34 (12.6%)	10 (3.7%)
Cattle on or near roads and trails	226 (83.7%)	25 (9.3%)	19 (7.0%)
People on horseback on the trails	233 (86.0%)	13 (4.8%)	25 (9.2%)

^aResults shown are summarized across four categories given on the survey instrument: "Problem on 1 or 2 trails"; "Problem on several trails"; "Problem on most trails"; and "Problem on all trails".

toilets (3.37 on a seven-point scale) should be a relatively minor management priority. And finally, about one-quarter of the respondents felt that dangerous drop-offs and dangerous routes (26.7% and 26.3% respectively) were problems.

The last set of preference questions were about campsite development preferences (Fig. VI.C). Semi-developed sites (with vault toilets and fire rings) were preferred by the largest number of respondents (41.6%), followed by an even split of preferences for highly developed

Figure VI.C: Campsite preferences of OHV visitors to the Moab area.



(20.6%) and undeveloped sites (19.9%) sites. (This shows a preference for a little higher level of facility development and convenience compared to mountain bikers in the 1994 study.)

Open-ended comments on management preferences

Respondents' attitudes toward management problems and preferences were also discussed in two open-ended questions on the survey; 114 (41%) people added comments to the problem scale (listed in Appendix D), and 77 (28%) people added general comments at the end of the survey (Appendix F).

After the list of 19 specific "problem" items, respondents were asked to list any other problems they felt "managers needed to address." One major comment that was not included in the original problem list was alcohol, partying, noise, or some combination of these factors (n=15). These comments are equally split between "drinking and driving" and drinking and partying related to spring break. This was one of the few areas where a law enforcement "fix" was recommended. One person said "Alcohol and driving 4-wheel do not mix. I would not object to random checks at trailheads."

For other management problems, about twice as many people said a greater emphasis on rule/law enforcement was needed to help solve management problems (n=10) – especially to reduce physical impacts and defacing cultural sites – as the number who felt there was too *much* emphasis on rules, management, and enforcement (n=5). Those who wanted to see more enforcement were especially emphatic that just a few offenders could ruin the experience and image of four-wheeling for everyone else, and that they should be punished with heavy fines, vehicle impoundment, and losing trail privileges. As one person put it: "In every activity there will be the rare jackass. All off-roaders dislike this guy."

The largest number of write-in comments (35), however, related to the need for better use of information and education strategies to reach not only four-wheelers but other Moab area recreationists as well. For four-wheelers, these comments suggested using educational fixes for three specific management problems: reducing physical impacts (and increasing tread lightly information), improving trail marking, and providing better information for newer or less experienced four-wheelers. Regarding other visitor groups, several respondents felt it was as important, or even *more* important, that information and education be used to reduce impacts and conflicts caused by other recreationists, not just four-wheelers. Nine people specifically mentioned impacts or conflicts with mountain bikers as a management problem.

While most respondents were in favor of enforcing existing rules and regulations and

drinking laws, and using education to protect the environment, many were even more adamantly opposed to additional regulations, trail or road development, and (especially) trail closure or restrictions. Five people said there was already too much management, and even road *upkeep* was opposed by several respondents (4) who felt that this would reduce the challenge of four-wheeling and encourage an increase in the number of users. A representative comment is: “Keep the trails open. Provide new trails like the Golden Spike. Don’t blade the 4WD trails. Clear landslides to keep the trail open but don’t touch the rest of the trail with the blade.”

Sixteen people either asked that additional roads be opened (or reopened) or said they were opposed to, or would “fight,” road closure. And several respondents pointed to mountain bikers, ATVers, or motorcyclists as a major source of social or physical impacts (n=13). A few respondents even said that hiking, backpacking, and dispersed camping causes more damage than four-wheeling. The major reasons were that there are a lot more of these other types of recreationists, and that they can go just about anywhere, while four-wheelers are more tied to established roads and trails.

A few people (n=5) also listed the need for better coordination between management agencies, recreation groups, and the public in solving management problems, but these comments were diverse. For example, one respondent said “Government land managers often consider the land their own [and] make rules to limit public use and they are exempt,” and another said “Organize community and/or volunteer programs to clean up bad areas/campsites.”

Only four people addressed the issue of fees, with two in favor of fees and two opposed. There were many other recommendations made by only one or two respondents each, such as limiting the number of vehicles per group, limiting dispersed camping to designated sites, separating different types of trail users, and using maps to “dissipate use.”

Most of the 77 respondents who made comments at the end of the survey (Appendix F) also addressed recreation related problems and management preferences. These comments were often more specific than the comments discussed above and often more detailed and passionate.

The major theme of the open-ended comments at the end of the survey, was the need to keep trails and roads open and available for motorized use. Many respondents gave a “multiple use” explanation, arguing that the purpose of public lands is to support a diversity of uses, and that restricting use and increased government control in general was opposed to multiple use

principles and caters to the wishes of a few environmental “extremists.” Several respondents also argued that most of the trash they see (and pack out) is left by backpackers and mountain bikers (water bottles, power bars, inner tubes, etc.), and that OHV groups encourage cleaning up sites, and tread lightly and environmental protection messages.

Four-wheelers take a bad rap in [the] public eye . . . Four-wheelers make up volunteer search and rescue organizations that rescue lost or hurt hikers, backpackers, rock climbers, bicyclists, etc. Four-wheel drive clubs also do a lot of trail maintenance, bridge repairs, clean-up days, etc. . . . When our family group takes to the trails . . . we stick to established trails and pack out more garbage than we brought in. We are able to do this because of the vehicle we drive. Nine times out of ten, the trash we pick up is left by hikers and backpackers [and] bicyclists . . .

Several respondents also argued that they or loved ones have physical limitations (getting older, have a handicap, etc.) and can not get to the areas they love without a four-wheel drive vehicle.

About a third of the comments at the end of the survey addressed fees, but these opinions were mixed between those who adamantly opposed fees and those who felt that *nominal* fees are acceptable. Many who opposed fees were often very passionate in expressing the opinion that these were “public lands” and that their taxes already paid for the lands.

My taxes . . . have bought and paid for all these public lands. Now that my legs are not as good as they were when I was earning the money and paying the taxes to buy these public lands for the younger and environmentally-extreme taught, they now want to close these lands to those of us who have paid for them and keep them for themselves to just walk on or bike on. I want to keep the land free and open to everyone.

Those in favor of nominal fees feel they are acceptable as long as: 1) the fees stay in the local area; 2) the funds are spent for resource protection, education, or minor recreation facilities or services, but *not* for restricting use or improving access or development; and 3) all recreationists are required to pay, not just four-wheelers.

I strongly agree with land management . . . [it’s] necessary because people have a tendency to be irresponsible. I believe we should preserve the environment. However, make the environment accessible so we all can continue to enjoy it. Pay a small fee so that the roads, campsites, etc. stay clean, updated, and in good shape is not a concern of mine as long as the money goes back into the area we are paying to enter. However I would hate or regret to see the time when an entrance fee becomes so high that a person can’t afford or will refuse to pay!

The importance of organized groups, especially four-wheeling groups, was addressed by quite a few respondents as well. Many people bragged about the job several of the clubs do to organize events like the Jeep Safari, and, in general, to educate members and others to reduce use impacts and help provide a safe, enjoyable experience.

I feel that we [4WD and ATV enthusiasts] get a bad name due to the actions of a few careless 4WD users. The group that I sometimes go with, Cache Rangers, is service and preservation oriented. We always leave a camp site cleaner than how we found it. Moab is a beautiful part of the state. The 4WD trails should remain open.

Another major theme of the open-ended responses at the end of the survey, is a strong antipathy for paving, improving, and even the simple up-keep of roads and trails. Many respondents feel that road and trail improvements will lead to more use, over use, and adverse use, which many respondents think is more likely to be exhibited by inexperienced four-wheelers.

[I]t is obvious that a lot of people need to camp at a minimum cost. Land managers should concentrate on providing low cost facilities for these people. Toilets and trash removal are the most important facilities. The trails need very little money. Development usually means restrictions and vandalism.

As the trails deteriorate with use, they become self-regulating . . . There are plenty of places for people who want “easy” trails. Don’t pave Moab like has been done on Elephant Hill. If people want that, they will go to Canyonlands and pay use fees. I don’t want to pay for service that I go to Moab to avoid.

And the following respondent addressed all three issues of fees, trail improvement, and government restrictions.

I am very much for responsibly building new trails for this type of recreation. I am strongly opposed to paving access and building “pay camp” areas. Any place that I have seen this type of “improvement” has only made the area overused and has destroyed the integrity of the area. This leads to a “looking glass” environment. It seems that if there is a dirt road, far fewer people are willing to go there. However, those who strive to enjoy the country are willing to make the effort. These are people who appreciate and who want to come back because of the privacy and the beauty. Go to any paved access campground and you will see overuse, lack of respect, and more trash than you can imagine. The result is more effort to maintain, usually resulting in imposed fees and government interference which [results in] the opposite of what you’re going there for.

While there is a strong anti-environmentalist sentiment in the open-ended comments, most respondents feel they are environmentally oriented and that environmentalists who are not “extremists” should be able to work with four-wheelers to help protect the resources while still keeping areas open for all types of uses. For example:

As an avid outdoorsman and 4-wheeler, and also as an environmentally concerned person, I think some limits should be set to: A) preserve existing hiking, biking, and 4-wheeling opportunities; and B) preserve existing wilderness and wildlife habitat and also set aside certain areas as no travel zones. I believe all sides to these issues could come to a reasonable compromise by working together rather than finding fault in each other’s interests. This is accomplished by communication, respect for different ideas and interests, and simple common sense. [Emphasis in original.]

Perhaps the most comprehensive perspective on management needs was offered by the following respondent.

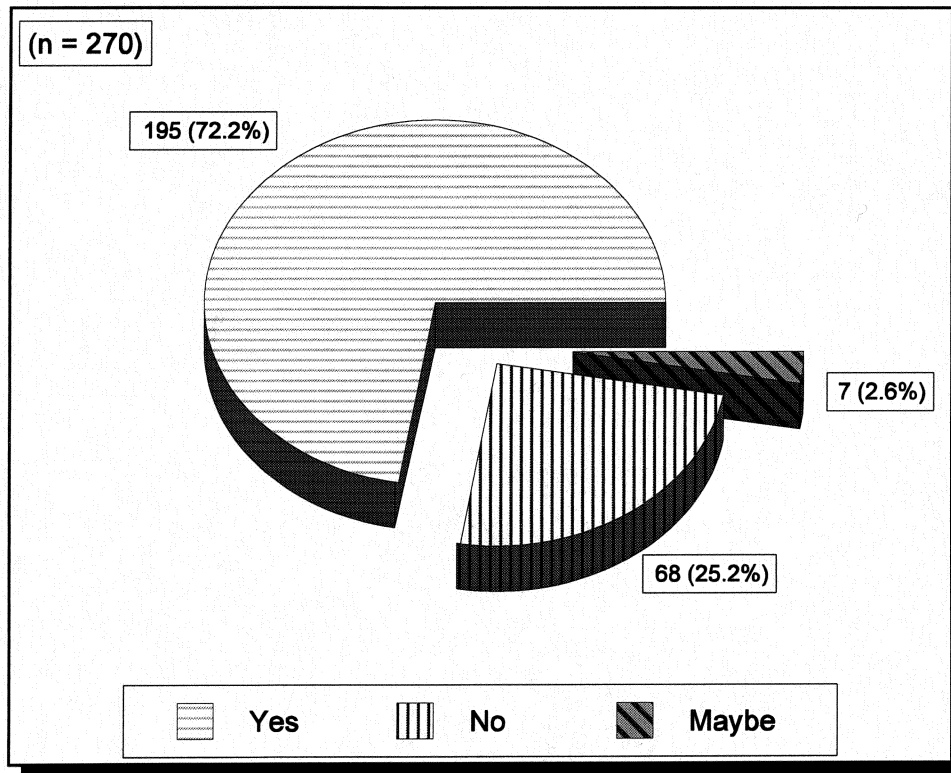
The largest cause of your land problems is not coming from 4-wheelers, it is coming from bikers and campers who ride anywhere they want and camp anywhere they want . . . I agree there is damage done to the earth by going off trails, but I think the 4-wheel drive people are taking the blunt of the cause . . . I have personally watched hikers-bikers-campers drop trash, ride everywhere, and not give a damn . . . [And finally] I'd like to cover . . . the camping-anywhere-you-please problem. Every year as we leave to go on the trail, we have to drive by campsites that are filthy with trash . . . I feel this does more harm to the land than any 4-wheel vehicle staying on the trail . . . The land managers should control the camping areas first, mountain bikers second, 4-wheelers third, hikers fourth.

VII. WILLINGNESS TO PAY

The survey instrument contained a series of questions assessing respondents' attitudes about paying fees to four-wheel in the Moab area. We introduced these questions with the statement: "Four-wheeling generates very little revenue to help manage routes and access areas. Land managers and emergency service providers have identified the need to provide more funding for four-wheel management in the Moab area. Projects could include restrooms, marking of routes, development of parking and camping facilities, low-impact education, search-and-rescue equipment, and land protection activities."

As shown on Figure VII.A, about 72% indicated that they would be willing to pay a fee, 25% indicated that they would not, and 3% indicated they might be willing to pay depending on the collection method used or how the revenue was distributed.

Figure VII.A: Willingness to pay a fee to four-wheel in the Moab area.



We then listed six different methods of collecting fees and asked the respondents to indicate

whether they oppose, favor, or are neutral regarding those methods. As shown in Table VII.1, about one-fifth to one-quarter of the respondents indicated they were neutral for all of the different methods. The method of a "Utah state tax on sale on new 4x4 vehicles" had the least support, with 62.7% indicating they were opposed to this method for revenue collection. The highest level of support for generating revenue was for a weekly (54.3%) or annual permit (45.7%) for *all* dispersed recreation users in non-fee areas. These methods, however, were closely followed by the level of support for weekly and annual use permit for OHV use on all trails in the Moab area (42.6% and 44.0% respectively). A daily use fee for certain heavily used trails is preferred by

Table VII.1: Methods to raise funds for four-wheel management in the Moab area.

Survey Statement	Strongly Oppose	Oppose	Neutral	Favor	Strongly Favor	Mean ^a	Most Preferred Method ^b
Daily use fee for certain heavily used areas	53 (19.9%)	42 (15.7%)	68 (25.5%)	82 (30.7%)	22 (8.2%)	2.92	41 (15.1%)
Weekly use fee for permit to use all trails in the Moab area	52 (19.3%)	39 (14.4%)	64 (23.7%)	84 (31.1%)	31 (11.5%)	3.01	23 (8.5%)
Annual use fee for permit to use all trails in the Moab area	53 (19.8%)	41 (15.3%)	56 (20.9%)	82 (30.6%)	36 (13.4%)	3.03	24 (8.8%)
Utah state tax on sale on new 4x4 vehicles	127 (47.4%)	41 (15.3%)	60 (22.4%)	24 (8.7%)	16 (5.8%)	2.11	22 (8.1%)
Weekly permit for <u>all</u> dispersed recreation users in non-fee areas	43 (16.0%)	32 (11.9%)	48 (17.8%)	85 (31.6%)	61 (22.7%)	3.33	84 (30.9%)
Annual permit for <u>all</u> dispersed recreation users in non-fee areas	53 (19.7%)	39 (14.5%)	54 (20.1%)	74 (27.5%)	49 (18.2%)	3.10	58 (21.3%)

^aMean score calculated on a Likert-type scale where 1 = "Strongly Oppose", 2 = "Oppose", 3 = "Neutral", 4 = "Favor", and 5 = "Strongly Favor".

^bTwenty of the respondents (7.4%) did not respond to the question "Which (of the funding methods) would be your preferred method?".

only about one-third of the four-wheelers (38.9%). When combined with respondents who said they were neutral on the revenue collection methods however, *between 61% and 72% of the respondents appear willing to support the methods listed except the sales tax on 4x4 vehicles (36.9%).*

We then asked the survey respondents to indicate which one of the six payment methods they would select as their most preferred (see Table VII.1). Nearly 31% selected the weekly permit for all dispersed recreation users followed by an annual permit for all users (21.3%) and a daily use fee for certain heavily used areas (15.1%). The other three methods (tax on 4x4 vehicle sales, weekly use fee for all Moab area trails, and annual use fee for all Moab area trails) were the least popular with between 8% and 9% selecting any one of those methods.

VIII. TRIP CHARACTERISTICS

In the last part of the questionnaire, we asked a series of questions regarding the characteristics of the respondents' most recent trip to Moab. As mentioned previously, only 10 (3.6%) of the 276 respondents indicated that they were residents of Grand, San Juan, or Emery counties. As these questions were designed to tap tourists' visitation characteristics, we asked only non-tri-county (i.e., non-local) residents to complete this section.

As shown on Figure VIII.A, about 64% (n=168) of the non-local residents indicated that their most recent trip to Moab occurred in either March or April 1997 (Easter fell on the last Sunday in March that year). It should be pointed out again that the population from which this sample was drawn were the registered participants in the 1997 Easter Jeep Safari. About 12% indicated that they had visited again around September 1997, the Labor Day period.

When asked if they rented their OHV in Moab on the most recent trip, only six people indicated they had (see Figure VIII.B). About 97% owned their vehicle while 0.4% said the vehicle they used was borrowed.

Figure VIII.A: Date of last trip to Moab area.

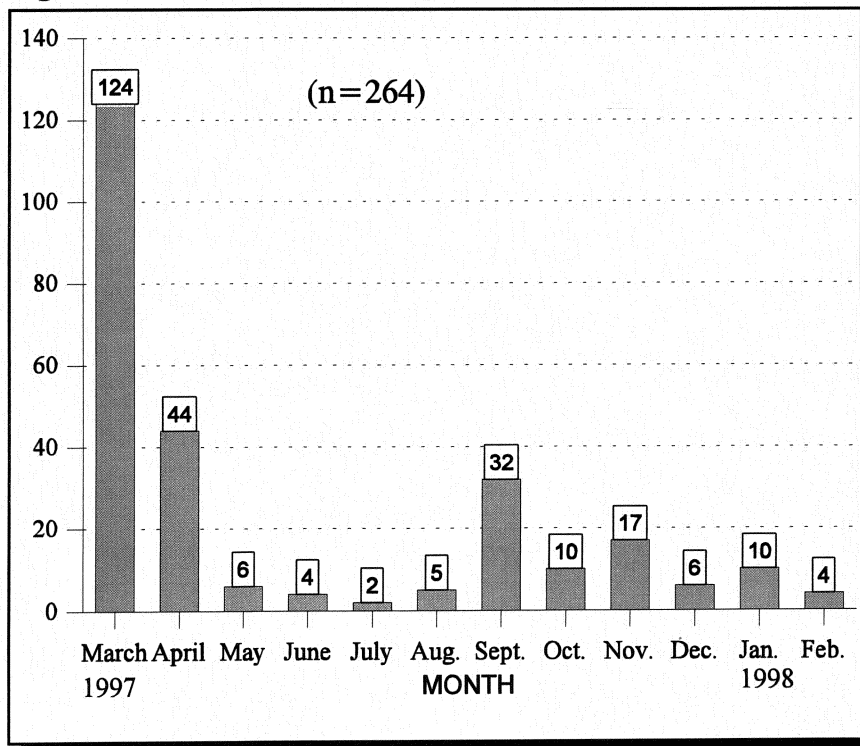
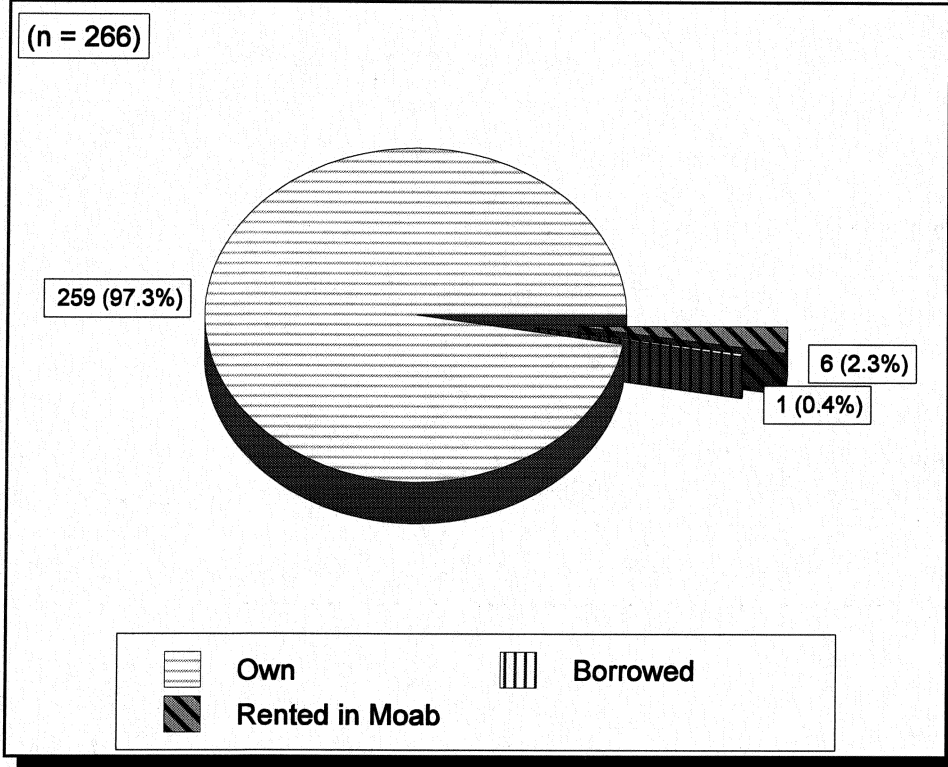


Figure VIII.B: Own or rent vehicle used on most recent trip.



We next asked how many days and nights they stayed during their trip. As shown on Figure VIII.C, the average (mean) number of days were 5.3 and nights were 4.6. These averages are somewhat misleading due to three respondents indicating that they had stayed 18, 30, and 60 days and nights respectively. Most visitors stayed three, four, and five days (62.8%, n=167) and 65.0% (n=173) stayed two, three, and four nights.

About 97% of our sample indicated that Moab was the primary destination for their trip and almost 84% said that four-wheeling was the primary reason. It is not surprising that almost all (264 out of 266) said that four-wheeling was an outdoor recreation activity they participated in (see Figure VIII.D). The next most popular activity was photography (74.8%) followed by driving for pleasure (69.2%), camping (58.3%), hiking (52.3%), picnicking (46.2%), and visiting Native American sites (37.2%).

Figure VIII.C: Length of stay on most recent Moab trip.

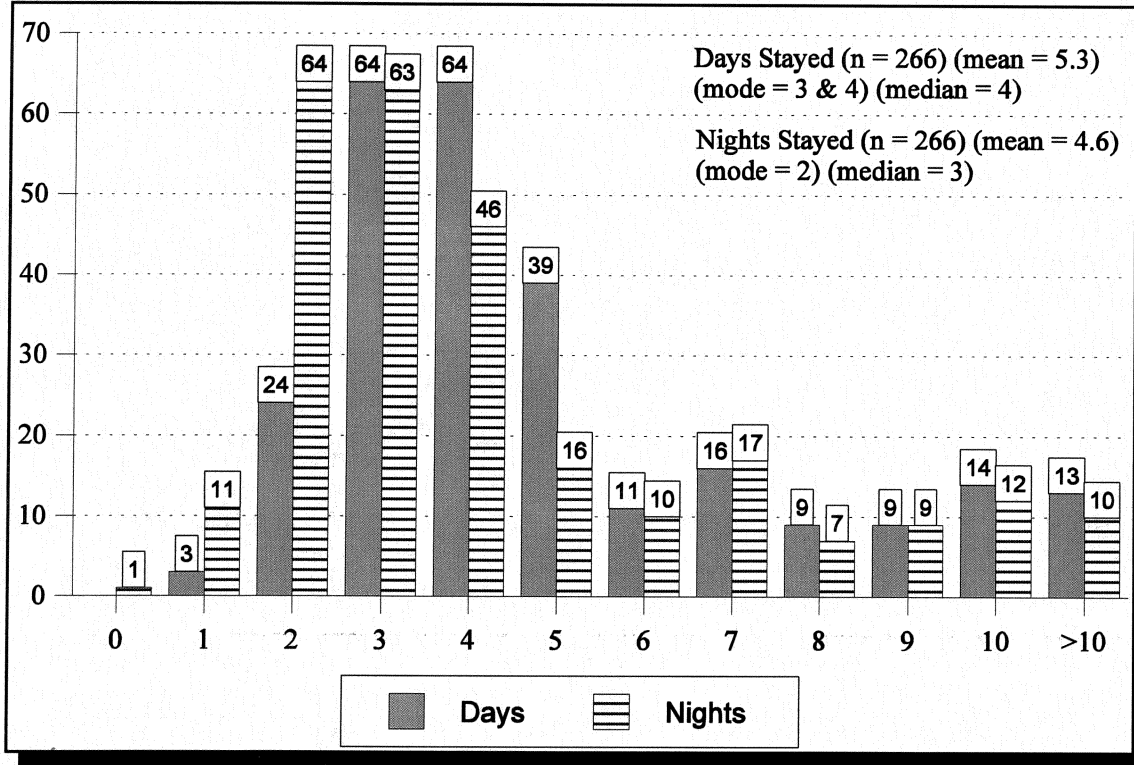
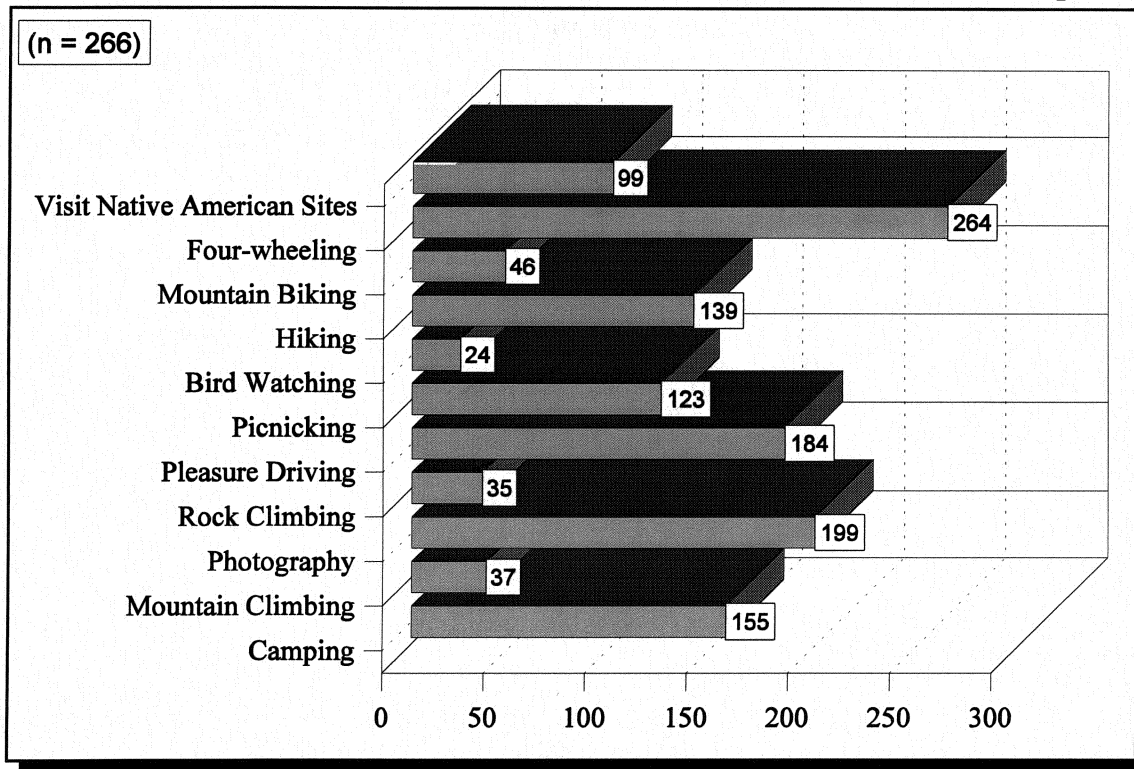
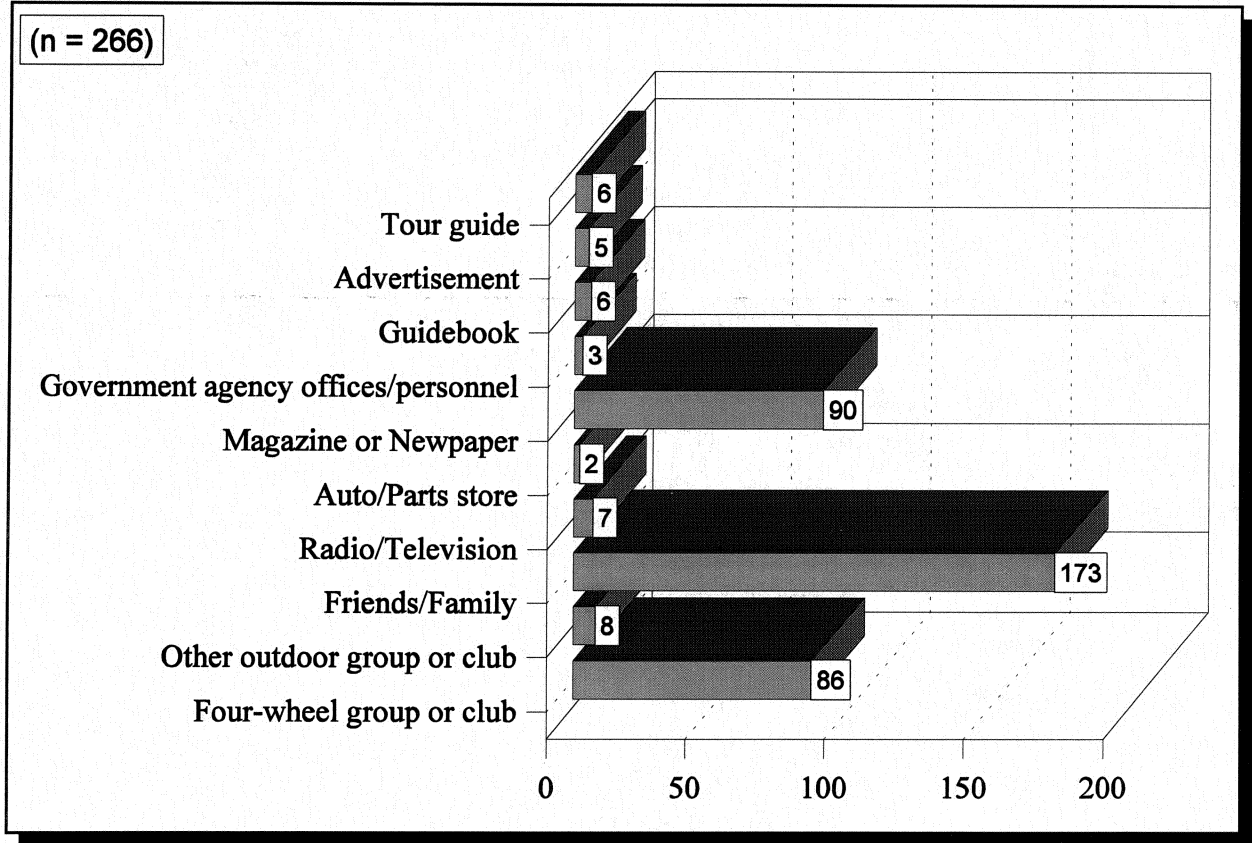


Figure VIII.D: Recreation activities participated in on most recent Moab trip.



When asked about 10 different potential sources of information about Moab as a destination for four-wheeling, only three sources were listed by more than 3% of the respondents: 65.0% indicated family and friends, 33.8% said magazine and newspaper articles, and 32.3% said a four-wheel group or club (see Figure VIII.E)..

Figure VIII.E: Information about Moab as a destination for four-wheeling.



During their trip to Moab, we wanted to know the general location where the respondents stayed, the type of accommodations used, and how many meals they ate in restaurants or taverns. The summary results for up to seven days are shown on Table VIII.1. An overwhelming majority (about 90% depending on the day) stayed in the vicinity of Moab and most (around 70%) stayed in motels or private campgrounds. For the seven days shown on Table VIII.1, between 68% to 80% of the respondents paid to stay overnight (motels, private campgrounds, and government campgrounds). Only about 15% camped on government land of which 6.6% to 11.1% "camped on government land, but not in actual campground." As shown under the heading

"RESTAURANT MEALS" a large number of meals eaten were bought in restaurants or taverns, including about two-thirds of the dinners, 20% of the lunches, and usually about 40% of the breakfasts (except on day 3 when 79.5% of the four-wheelers ate breakfast at a restaurant. Fewer lunches were eaten in restaurants than breakfasts or dinners.

Table VIII.1: Accommodations and meals for Moab trip.

LOCATION	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Moab vicinity	91.7%	88.1%	88.4%	86.5%	87.0%	87.7%	86.9%
Green River	0.8%	0.4%	0.4%	1.2%	---	---	---
National Parks	0.4%	1.5%	1.3%	0.6%	0.9%	---	---
Other	0.8%	1.1%	1.3%	1.8%	0.9%	---	---
Not determined	6.4%	8.8%	8.6%	10.0%	11.1%	12.3%	13.1%
ACCOMMODATIONS	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Didn't stay overnight	0.4%	2.3%	8.6%	7.6%	13.0%	6.8%	6.6%
Motel	40.6%	38.3%	35.3%	31.2%	25.0%	26.0%	27.9%
Private campground	34.6%	33.3%	32.3%	35.3%	38.9%	45.2%	47.5%
Gov. campground	5.3%	4.2%	3.9%	5.3%	4.6%	2.7%	1.6%
Other gov. land	10.5%	11.1%	8.6%	8.2%	8.3%	8.2%	6.6%
Friends/family home	5.3%	4.6%	5.2%	4.1%	1.9%	2.7%	3.3%
Second home	1.1%	1.1%	1.3%	1.8%	0.9%	1.4%	1.6%
Not determined	2.3%	5.0%	4.7%	6.5%	7.4%	6.8%	4.9%
RESTAURANT MEALS	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Breakfast	33.8%	44.8%	79.5%	38.2%	42.6%	38.3%	44.3%
Lunch	23.3%	21.8%	23.3%	20.0%	13.9%	20.5%	13.1%
Dinner	68.4%	60.9%	57.3%	53.5%	56.5%	58.9%	57.4%
SAMPLE SIZE	266	261	232	170	108	73	61

IX. SUMMARY AND DISCUSSION

It is important in any consideration and discussion of these research results to identify both the nature of the four-wheeling activity and the recreational expectations for this particular user group. The survey sample was drawn from the population who registered to participate in the 1997 Moab Easter Jeep Safari. As indicated in the FOUR-WHEEL EXPERIENCE section, these respondents have a great deal experience four-wheeling (about 16 years average) and are highly committed to the activity (about half belong to some type of four-wheel club). The event (Moab Easter Jeep Safari) also possesses unique characteristics that attract a certain segment of the four-wheeling population. These characteristics include: 1) distinctive geologic landscapes (e.g., high southwest desert, canyon country, redrock formations, etc.); 2) geographic location (e.g., remoteness – eight to twelve hour drive – from the nearest metropolitan areas such as the Denver and Salt Lake City areas); 3) climate (warm spring days); and 4) support services in Moab (including overnight accommodations and a variety of restaurants). These characteristics are not only attractive to four-wheelers but other outdoor recreationists as well. Other characteristics that draw this particular four-wheel group include the trails themselves (e.g., the vast network, slickrock, high degree of difficulty, obstacles, variety of conditions, etc.) and experiences attributed to the structure and nature of the Jeep Safari (e.g., comradery, group tours, family oriented, reacquaintance with old friends, networking, seeing new technology and innovations, etc.).

Visitor characteristics and trip characteristics

We found our respondents to be a mostly male, relatively young (mean age was 40), educated, and somewhat affluent segment of the population with very little ethnic diversity. As mentioned in the DEMOGRAPHIC CHARACTERISTICS section, most of the participants were from the southwest states and California. Most also live and grew up in urban settings. They tend to hold full time jobs across the full range of the employment sector including both “white-collar” and “blue-collar” type careers. And over 80% had at least some college education, if not a college degree. These findings tend to suggest that some of the demographic stereotypes (e.g., blue collar, low education level) of four-wheelers may be erroneous since the Easter Jeep Safari participants

closely represent most typical socio-economic national norms. It should also be noted that 6.5% indicated that they were retired which may allow them more free time to pursue this type of activity.

The respondents tend to rate themselves as highly skilled in their sport (84% rated themselves as advanced or expert) and most go four-wheeling at least 10 times in a typical year (see FOUR-WHEEL EXPERIENCE section). On average, they have been four-wheeling 16 years and their experience on Moab trails is about 7 years. This also suggests that these are not one-time four-wheelers. Nor are they “speed demons” (average speed traveled is under three miles an hour). The type of OHVing they do occurs over steep and difficult terrain necessitating intense concentration to negotiate hazardous obstacles. Lapse in attention or unnecessary speed could result in expensive vehicle damage or personal injury.

As mentioned above, most Easter Jeep Safari participants travel great distances to four-wheel in the Moab area (only 3.6% were from the immediate and adjacent Utah counties). This reinforces the fact that the trails and landscape around Moab offer unique recreational opportunities that visitors are willing to devote large blocks of their leisure time to travel to and explore this area.

As shown in the TRIP CHARACTERISTICS section, about 47% of the respondents indicated that their most recent trip to Moab occurred during the 1997 Jeep Safari. Another similar organized four-wheeling event is the Labor Day Campout in September which probably accounts for most of the 12% who indicated that their most recent Moab trip was in September. It should be noted that *53% of our respondents revisited the area during other times in the year*. Not only are more than half of the four-wheeling non-residents visiting several times in a year, they are *participating in a variety of outdoor recreation activities*. Most popular activities, other than four-wheeling, are outdoor photography, driving for pleasure, camping, hiking, picnicking, and visiting Native American archeological sites.

Even though our study was not designed to gauge the income generated to Moab businesses by this user group, we found that these four-wheelers were utilizing local business services with the exception of four-wheel vehicle rentals. As pointed out in the TRIP CHARACTERISTICS section, more than 68% indicated that they paid to stay overnight in either a motel, private campground, or government operated pay campground. A majority also ate

their dinner meals in local restaurants or taverns while a sizable number went to restaurants for their breakfasts and lunches. Other supporting businesses that probably benefit from these users would include gasoline service stations and parts stores, grocery and drug/department stores, gift shops, and trip guiding operations (including river running and mountain biking). The economic input into these and other businesses in the tourist sector, local governments, and federal and state governments through park visitation could provide interesting information through future research.

The four-wheeling experience

Quite a few of the respondents (88%) had visited Moab prior to the 1997 Jeep Safari and thus were able to give us an assessment of different trails in the area. The most preferred sectors (see MOAB FOUR-WHEEL EXPERIENCE section and the map on page 22) were 7, 9, 6, 1 and the least popular were sectors 3, 2, 10, 5. Sectors 9, 7, and 6 were also most frequently mentioned by those who indicated which sector was the primary inducement for their most recent trip (Appendix E). The most frequently given reason why some sectors were preferred over others include unique scenery and vistas, technically challenging trail conditions, distinctive trail features (e.g., slickrock), and proximity to Moab. It should also be noted that the average number of miles driven on a typical drive (41 miles) is much greater than the excursions into the Moab back country (29 miles). This may be a reflection of the greater trail difficulty that attracts this user group to the area and/or the unique viewshed that requires the four-wheeler to slow down to take it all in.

The results indicate a very distinct experience expectation profile for four-wheeling that both contradicts and supports the common stereotype (e.g., driving recklessly off established trails, discarding engine fluids haphazardly, driving in areas that may damage plants or wildlife, etc.). Survey respondents indicated that experiencing the natural environment is the major reason they drive off-road. Seeing wildlife and studying nature are not especially important elements of the experience, but scenery, naturalness, seeing new areas, and, to a lesser extent, remoteness, are important elements. And while socializing is important, it is primarily socializing *within* one's group, rather than meeting others, that respondents feel is important. While in Moab, it was particularly important to see new landscapes and exhilarating scenery, be part of an organized event, and drive challenging trails but, at the same time, know the difficulty and length of the

drives. It was *less* important to experience escape, feel seclusion, and see wildlife in Moab than while four-wheeling in general (see MOTIVATION/EXPERIENCE EXPECTATIONS section).

Perhaps the most interesting experience expectation finding is the extent that challenge and self testing (related to driving skills and the trail characteristics) are important elements for the Easter Jeep Safari participants, but *risk taking is not*. While doing challenging trails and improving driving skills were important expectations, and having a thrilling ride and having exciting unplanned experiences were moderately high expectations, the highest ranked item in the entire scale was “feeling in control of the vehicle,” and the lowest ranked items were related to speed and the potential for getting lost and going off established trails.

These findings are similar to the results of risk recreation studies. The element of challenge is very important for activities like rock climbing and cave diving, but being in control is as, or even more important, than the actual danger involved. A characteristic of risk activities is that participants are skilled and can take on a difficult challenge without significantly increasing the actual level of danger involved. And while the natural environment is an important experience element (not just for the requisite setting but also an essential part of the experience), specific elements of the natural environment (e.g., looking at flowers or seeing wildlife) are not required. All of these characteristics are exhibited by Easter Jeep Safari participants who, as discussed above, also view themselves as very skilled OHV drivers. Thus, this experience profile may not reflect the occasional OHV driver, but only active and experienced drivers that belong to groups and participate in organized events like the Jeep Safari.

Finally, from a management perspective, it is important to note that “driving off established trails” was the second *lowest* ranked item on the experience expectation scale. This is good news for environmental protection, and it contradicts some common stereotypes, but it also means it will be important to provide a diversity of OHV opportunities based on different skill and challenge levels. This can only be done in cooperation with OHV drivers and organizations. Collaboration will be needed for several reasons: the design and development of routes, sharing the costs of the development and maintenance of routes, and to provide help enforcing trail regulations and providing information and education.

Four-wheelers management preferences

The management preferences of Easter Jeep Safari participants were generally consistent but somewhat contradictory. The highest ranked management preferences were for protecting the resources, followed by the provision of information for reducing impacts, providing trail safety and etiquette information, way-finding information at trailheads and along trails, and more interpretive information (see MANAGEMENT PREFERENCES section). And while designating new routes was an important concern, trail and road maintenance was *not*. In fact, for this sample group, the more rustic, remote, and challenging the routes the better. Even the specific type of information and facilities preferred by respondents indicates the lower end of the management scale was desired. In general, there was consistent agreement on the primary management priorities: 1) protect the natural resource, 2) do not close or restrict use on any existing routes, 3) provide new trails, 4) let existing trails get more difficult, and 5) emphasize information and education approaches to minimize impacts and to inform and educate OHV recreationists. While some of these priorities seem contradictory, general survey results and the open-ended question responses help clarify how the four-wheelers see managers meeting all these criteria.

Resource impacts are not viewed by respondents as being caused solely or even primarily by four-wheeling, despite the popular anti-environmental image of the sport. Open-ended responses indicated that this sample group feels *more* impacts are caused by recreationists that are not constrained to certain areas, but go wherever they want, including backpackers, horseback riders, and especially mountain bikers and dispersed campers. Within their own ranks, respondents were also willing to blame drivers who go off trail or are in terrain that they are not skilled enough to negotiate well. Thus, educational fixes should target problems caused by all these recreationists, not just four-wheelers. Also, letting routes get more difficult and designing more routes in resilient areas of the redrock country will have the effect of providing more opportunities and provide a greater variety of experiences, both easy and challenging, so there will be less impetus to leave designated routes and thereby reduce and contain physical impacts.

Many respondents also argued that four-wheelers and their organizations are already an important part of the answer to reducing physical impacts. "Tread Lightly" messages are widely dispersed by OHV clubs and many respondents said their vehicles allow them to pack out trash left by backpackers, horseback riders, and mountain bikers. Some respondents viewed four-

wheelers and their organizations as an underutilized management resource. More collaboration between agencies and OHV clubs is needed.

Reducing crowding is not a major concern of the respondents, even on heavily used trails. Several open-ended responses indicated that reducing trail upkeep would have a self-limiting effect, where drivers self-select the type of solitude and challenge experience they want based on route difficulty. For similar reasons, there was relatively little emphasis put on increasing facilities and services, although toilets and trash removal emerged as moderate concerns for some. And while most four-wheelers stay in motels and private campgrounds, semi-developed campsites were most preferred by respondents. Many four-wheelers felt high levels of development, paved trails, and the like would ruin the “Moab experience.” Other social problems, such as large groups and conflicts with mountain bikes, appear to be minor, but may be on the increase.

In the general survey instrument, the qualitative questions regarding paying additional fees to four-wheel on public lands around Moab does indicate support. Almost three-quarters of the respondents said they would be willing to pay a fee if those revenues were used to provide services and improve conditions in the immediate area (see section WILLINGNESS TO PAY). As for funding mechanisms, our respondents tended to favor methods that would charge *all* dispersed recreation users in and charge fees in heavily used areas. Open-ended responses (see APPENDIX F) also indicated some support for *nominal* fees, and using fees to support resource protection, visitor education, and adding *minor* facilities, *not* for restricting access or improving access or trails (see MANAGEMENT PREFERENCES section). However, some respondents were adamantly opposed to fees of any kind.

However, we did find somewhat *mixed* feelings about implementing fees to help address management problems (see WILLINGNESS TO PAY and MANAGEMENT PREFERENCES sections). While qualitative questions tended to support the implementation of fees, about half of those who addressed fees in open-ended comments were adamantly opposed to fees, and the other half supported the use of nominal fees if they *were used to* 1) support management in the area they were collected, 2) increase visitor information and education, and 3) add minimal facilities, but *were not used for* 1) restricting access or 2) improve or pave routes. Opposition to fees was based on “multiple use” and freedom of use principles, and the feeling that existing taxes should already cover management costs. Thus, while many respondents understand the need for limited fees,

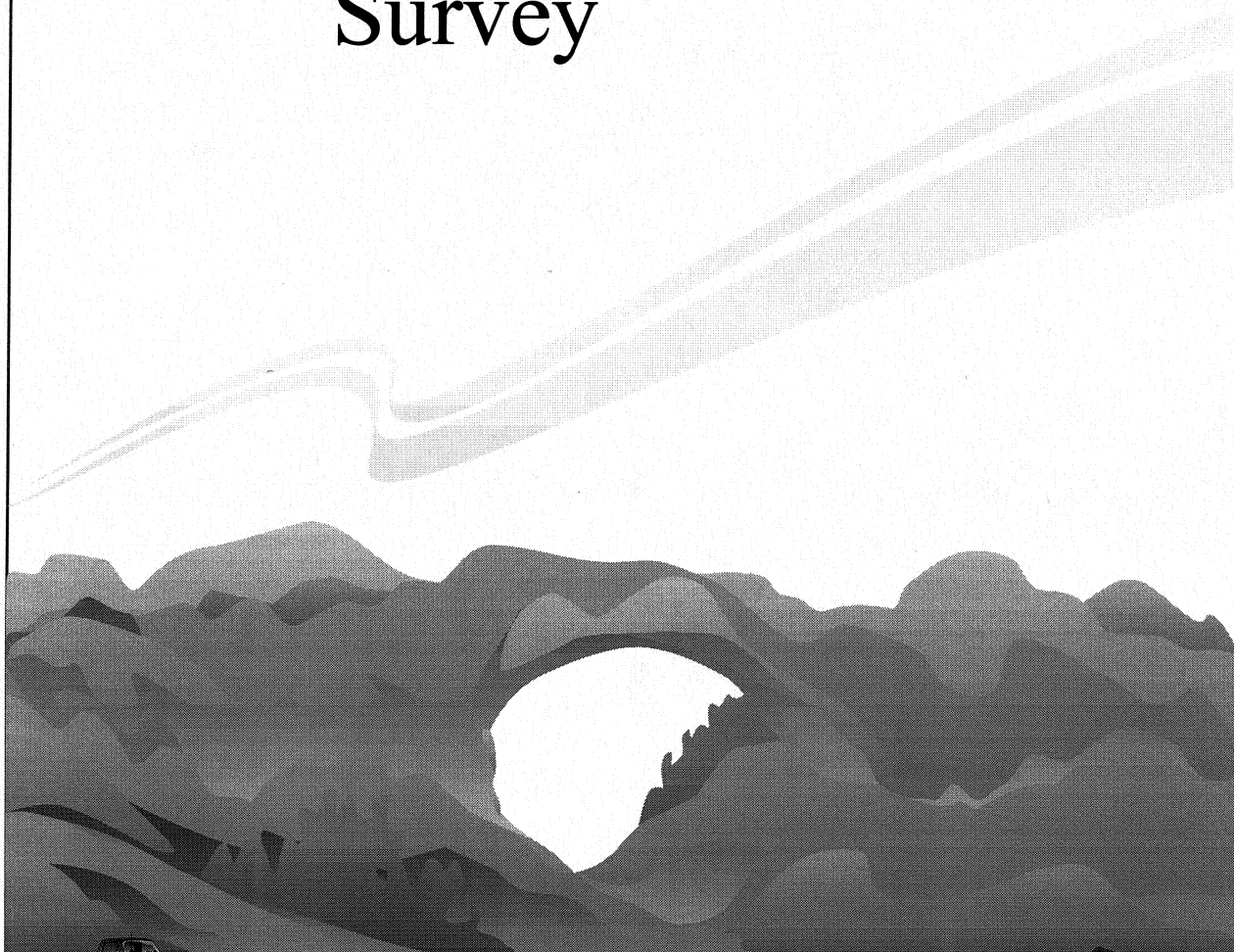
there will be a strong base of opposition. The use of fees should be limited to few areas, and even these applications should 1) make extensive use of visitor education strategies, 2) include community and organizational involvement, and 3) advertise the benefits resulting from the fees.

While there are mixed feelings about fees, respondents' opinions about agency staff and law enforcement presence is very consistent: most respondents see little need for, and many are directly opposed to, increasing agency staff presence or for additional rules and regulations *except* for formal law enforcement and reducing alcohol and drug use. The drivers who directly impair the image of four-wheeling are very few, and most of this behavior can be attacked with formal law enforcement, while the subtle resource management issues (e.g., resource impacts and crowding), should be addressed with the approaches discussed above.

APPENDIX A

- *Mail Survey Instrument*

Off-Highway Vehicle Four-Wheeler Survey



Institute for Outdoor Recreation and Tourism
Department of Forest Resources
Utah State University
Logan, Utah 84322-5215

MOAB AREA FOUR-WHEELER SURVEY

We are interested in the four-wheeling (don't include ATVing or motorcycling experience) you do for recreation in undeveloped areas (dirt or gravel roads, two tracks, or other vehicle trails and routes) where a four-wheel drive vehicle (jeep, truck, or sport utility) is necessary.

REMINDER: This survey should be filled out (without help) by the *primary driver* in your group *during the 1997 Jeep Safari* visit to Moab. *If you have NOT gone four-wheeling in Moab, or only use a four-wheel drive vehicle around town, for work, or as a means of transportation, please check this box and return the survey (without completing it) so we can re-use it.*

PART I: FOUR-WHEELING EXPERIENCE

1. During what *year* did you begin four-wheeling?
2. During the *past 12 months*, how many times did you go four-wheeling for recreation?
3. How many times do you go four-wheeling in a *typical year*?
4. How many *miles*, off-highway, is an average drive for you?
5. How many *hours*, off-highway, is an average drive for you?
6. How many *vehicles* are in your average group?
7. How many *people* are in your average group?
8. What is the *usual makeup* of your group? [Enter number: (1) Individual (2) Family (3) Friends (4) Family and friends.]

In General	In the Moab Area (if applicable)

9. How would you rate your skill level as a four-wheeler? (check *one*)

- Beginner Intermediate Advanced Expert

10. How often do you obtain information about four-wheeling from each of the sources listed below?
(Please circle a response *for each*)

<u>INFORMATION SOURCE</u>	<u>Never</u>	<u>Rarely</u>	<u>Some- times</u>	<u>Often</u>	<u>Very Often</u>
A. Four-wheeling groups or clubs	1	2	3	4	5
B. Other outdoor groups or clubs	1	2	3	4	5
C. Friends/family	1	2	3	4	5
D. Radio/television	1	2	3	4	5
E. Auto/Parts Stores	1	2	3	4	5
F. Magazine or Newspaper	1	2	3	4	5
G. Government agency offices/personnel	1	2	3	4	5
H. Guidebook	1	2	3	4	5
I. Advertisement	1	2	3	4	5
J. Tour guide	1	2	3	4	5
K. Other (please specify)	1	2	3	4	5

11. Are you a member of any four-wheeling groups or clubs?

- NO YES -----> If yes, which ones? _____
-

12. Are you a member of any environmental or conservation organizations such as Sierra Club, Nature Conservancy, or Ducks Unlimited?

- NO YES -----> If yes, which ones? _____
-

13. The next question has *two* parts:

- 1) First, indicate how important *each* of the following is in general when you go four-wheeling.
- 2) Then, for four-wheeling in or around Moab, Utah, go back and indicate how important each item is for you when you go four-wheeling in the Moab area.

**FOUR-WHEELING
IN GENERAL**

**FOUR-WHEELING
IN MOAB AREA**

Not Very
Important Important

Not Very
Important Important

1	2	3	4	5	Being in a natural area	1	2	3	4	5
1	2	3	4	5	Driving on challenging trails	1	2	3	4	5
1	2	3	4	5	Seeing exhilarating scenery	1	2	3	4	5
1	2	3	4	5	Getting exercise	1	2	3	4	5
1	2	3	4	5	Feeling secluded	1	2	3	4	5
1	2	3	4	5	Seeing wildlife	1	2	3	4	5
1	2	3	4	5	Being with family and friends	1	2	3	4	5
1	2	3	4	5	Feeling self-reliant	1	2	3	4	5
1	2	3	4	5	Studying nature	1	2	3	4	5
1	2	3	4	5	Getting away from it all	1	2	3	4	5
1	2	3	4	5	Driving in a familiar area	1	2	3	4	5
1	2	3	4	5	Meeting other people	1	2	3	4	5
1	2	3	4	5	Doing technically difficult maneuvers	1	2	3	4	5
1	2	3	4	5	Driving off established trails	1	2	3	4	5
1	2	3	4	5	Knowing where you are on the trail	1	2	3	4	5
1	2	3	4	5	Viewing unfamiliar landscapes	1	2	3	4	5
1	2	3	4	5	Being aware of trail difficulty before you start	1	2	3	4	5
1	2	3	4	5	Having some exciting, unplanned experiences	1	2	3	4	5
1	2	3	4	5	Improving your driving skills	1	2	3	4	5
1	2	3	4	5	Feeling power and strength	1	2	3	4	5
1	2	3	4	5	Testing yourself	1	2	3	4	5
1	2	3	4	5	Feeling speed	1	2	3	4	5
1	2	3	4	5	Knowing how long the drive will last	1	2	3	4	5
1	2	3	4	5	Having the opportunity to get lost	1	2	3	4	5
1	2	3	4	5	Having a thrilling ride	1	2	3	4	5
1	2	3	4	5	Seeing new and different areas	1	2	3	4	5
1	2	3	4	5	Feeling in control of the vehicle	1	2	3	4	5
1	2	3	4	5	Showing others you can do it	1	2	3	4	5
1	2	3	4	5	Being a part of an organized or group outing	1	2	3	4	5
1	2	3	4	5	Gaining access to remote areas	1	2	3	4	5

PART II: FOUR-WHEELING EXPERIENCE IN THE MOAB AREA

14. Have you ever gone four-wheeling in the *Moab area* before the 1997 Jeep Safari?

NO YES -----> If yes, how many times _____

15. About how many four-wheel drive trails have you driven off highway in the *Moab area*? _____

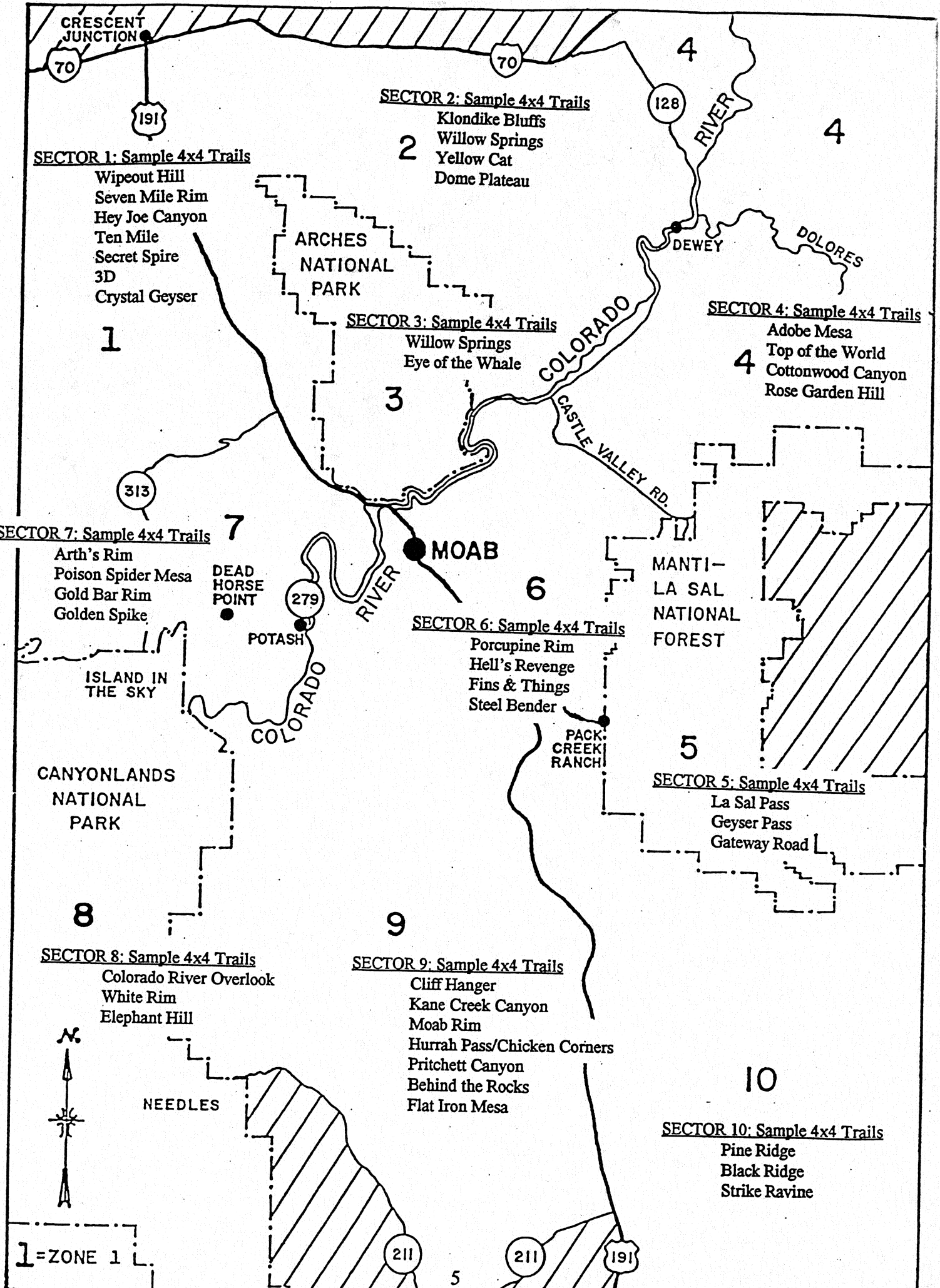
16. PLEASE REVIEW THE MAP OF THE MOAB AREA ON THE NEXT PAGE, and answer the following questions for each of the numbered sectors on the map.

	<u>HAVE YOU EVER FOUR-WHEELED IN THIS AREA?</u>		<u>IF YES, HOW MANY TIMES DURING THE LAST 12 MONTHS?</u>
	No	Yes	
SECTOR 1	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 2	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 3	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 4	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 5	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 6	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 7	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 8	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 9	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____
SECTOR 10	<input type="checkbox"/>	<input type="checkbox"/> ----->	_____

**IF YOU FOUR-
WHEELED IN
ONLY ONE
SECTOR, SKIP TO
QUESTION #19**

17. IF YOU FOUR-WHEELED IN MORE THAN ONE SECTOR, which of these sectors do you prefer the *most*? _____ Why? _____

18. Which of these sectors do you prefer the *least*? _____ Why? _____



19. If you have experienced four-wheeling in Moab *before* the 1997 Jeep Safari, has your frequency of four-wheeling in the different sectors changed or stayed the same? (If you haven't gone four-wheeling in Moab before the 1997 Jeep Safari, please check here and continue on to question #20)

FREQUENCY OF USE

	Rarely or never four -wheeled here	Decreased	No change	Increased	Reason for Increase or Decrease
SECTOR 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
SECTOR 10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
MOAB AREA (in general)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

PART III: FOUR-WHEELING MANAGEMENT PREFERENCES IN THE MOAB AREA

20. Briefly read the following list. Then go back and indicate the priority you think Moab area land managers should put on each item in the future.

	Lowest Priority			Highest Priority			
Provide toilets at existing trail access points	1	2	3	4	5	6	7
Designate new four-wheeling roads and trails	1	2	3	4	5	6	7
Allow trails to get more difficult as a result of use	1	2	3	4	5	6	7
Maintain trails to make more passable	1	2	3	4	5	6	7
Provide four-wheeling safety & trail etiquette information	1	2	3	4	5	6	7
Provide general information signs at trail access points	1	2	3	4	5	6	7
Provide directional and distance signs on roads and trails	1	2	3	4	5	6	7
Provide signs on trails about nature or cultural history	1	2	3	4	5	6	7
Provide frequent trail route markers	1	2	3	4	5	6	7
Reduce crowding in heavy use areas	1	2	3	4	5	6	7
Prevent impacts to natural vegetation	1	2	3	4	5	6	7
Prevent impacts to soils	1	2	3	4	5	6	7
Protect wildlife	1	2	3	4	5	6	7
Protect historical/cultural resources and artifacts	1	2	3	4	5	6	7
Designate campsites along trails	1	2	3	4	5	6	7
Provide more law enforcement personnel on trails	1	2	3	4	5	6	7
Provide more agency personnel (land managers) on roads and trails	1	2	3	4	5	6	7

21. In general, I feel that physical impacts from *four-wheeling* on the public lands in the Moab area are... (Check *one*.)

- Extremely low
- Moderately low
- Currently acceptable
- Moderately high
- Extremely high

22. With respect to providing visitor services and land protection for four-wheeling trails around Moab, how should land managers focus their efforts? (Check *one*.)

- Much more focus on visitor services
- More focus on visitor services
- An even mix of protection and providing visitor services
- More focus on protection of the land
- Much more focus on protection of the land

23. In places that receive *intensive* four-wheeling, how important is it that Moab area land managers...

	Not Important			Very Important	
	1	2	3	4	5
Restrict the number of vehicles that can use trails at one time	1	2	3	4	5
Restrict vehicle travel to designated routes	1	2	3	4	5
Work to maintain scenic, relatively natural character of the area	1	2	3	4	5
Provide information on four-wheeling safety and etiquette	1	2	3	4	5
Provide information on how four-wheelers can reduce plant and soil impacts	1	2	3	4	5
Keep existing trails open to four-wheeling	1	2	3	4	5

24. To what extent do you think each of the following is a problem when four-wheeling on Moab area roads?

	Don't Know	Not a Problem	Problem on 1 or 2 trails	Problem on several trails	Problem on most trails	Problem on all trails
Other four-wheelers on the trails	X	1	2	3	4	5
People on horseback on the trails	X	1	2	3	4	5
Mountain bikers on the trails	X	1	2	3	4	5
Hikers or backpackers on the trails	X	1	2	3	4	5
Cattle on or near roads and trails	X	1	2	3	4	5
Dangerous driving routes	X	1	2	3	4	5
Destruction/defacing of historic resources	X	1	2	3	4	5
Soil erosion or trampling	X	1	2	3	4	5
Graffiti or other vandalism	X	1	2	3	4	5
Litter or trash at trail access points	X	1	2	3	4	5
Litter or trash on roads and trails	X	1	2	3	4	5
Evidence of cattle	X	1	2	3	4	5
Lack of toilets	X	1	2	3	4	5
4-wheelers going off established roads/trails	X	1	2	3	4	5
Inexperienced drivers in difficult terrain	X	1	2	3	4	5
Large group of four-wheelers	X	1	2	3	4	5
Dangerous drop offs, mines, etc.	X	1	2	3	4	5
Too many people at trail access points	X	1	2	3	4	5
Too many four-wheelers on roads and trails	X	1	2	3	4	5

25. Can you think of any other problems managers need to address? _____

26. What type of campsite would you prefer to use when you visit Moab? (Check *one*)

- I never plan on camping in the Moab area
- Undeveloped sites (no toilets or other facilities)
- Semi-developed sites with vault toilets and fire rings
- Developed sites with vault toilets, parking, picnic tables, and fire grills
- Highly developed sites with flush toilets, showers, running water, and utility hookups

27. Four-wheeling generates very little revenue to help manage routes and access areas. Land managers and emergency service providers have identified the need to provide more funding for four-wheel management in the Moab area. Projects could include restrooms, marking of routes, development of parking and camping facilities, low-impact education, search-and-rescue equipment, and land protection activities.

Would you be willing to pay a fee to go four-wheeling in the Moab area?

- YES
 NO

28. Please indicate if you would oppose, favor, or feel neutral towards each of the following methods to raise these funds.

	Strongly Oppose	Oppose	Neutral	Favor	Strongly Favor
A. Daily use fee for certain heavily used areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Weekly use fee for permit to use all trails in Moab area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Annual use fee for permit to use all trails in Moab area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Utah state tax on sale on new 4x4 vehicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Weekly permit for <u>all</u> dispersed recreation users in non-fee areas (including hiking, biking, camping, four-wheeling, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Annual permit for <u>all</u> dispersed recreation users in non-fee areas (including hiking, biking, camping, four-wheeling, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

29. Which would be your preferred method? (Circle *one*) A B C D E F

PART IV: TRIP CHARACTERISTICS

☆ The following questions are for **VISITORS** to the Moab area. If you are a resident of Grand, San Juan, or Emery County, UT, check here and skip to question #38.

For each of the following questions, refer to your **MOST RECENT** four-wheeling trip to Moab.

30. What was the date of your last trip? _____

31. Did you own or rent the vehicle you used on this trip?

- Own
- Borrowed
- Rented in Moab
- Rented elsewhere

32. How long did you stay during your trip? _____ days _____ nights

33. Check all of the following activities you have participated in during your trip to Moab.

- | | | |
|--|--|--|
| <input type="checkbox"/> Camping | <input type="checkbox"/> Mountain Climbing | <input type="checkbox"/> Backpacking |
| <input type="checkbox"/> Photography | <input type="checkbox"/> Telemark Skiing | <input type="checkbox"/> Snow boarding |
| <input type="checkbox"/> Motor boating | <input type="checkbox"/> Hang gliding | <input type="checkbox"/> Fishing |
| <input type="checkbox"/> Downhill Skiing | <input type="checkbox"/> Rock Climbing | <input type="checkbox"/> Hunting |
| <input type="checkbox"/> Ski touring | <input type="checkbox"/> Driving for Pleasure | <input type="checkbox"/> Tennis |
| <input type="checkbox"/> Picnicking | <input type="checkbox"/> Canoeing/kayaking | <input type="checkbox"/> Golf |
| <input type="checkbox"/> Bird watching | <input type="checkbox"/> Hiking | <input type="checkbox"/> Mountain biking |
| <input type="checkbox"/> Rafting | <input type="checkbox"/> ATV riding | <input type="checkbox"/> Dirt biking |
| <input type="checkbox"/> Four-wheeling | <input type="checkbox"/> Visit Native American sites | |

34. Was Moab the primary destination for your trip, or was it just one stop on your trip?

- Primary destination Just one stop. What was your primary destination?

35. What was the *primary* reason that you visited Moab? (Please just check *one*)

- Go four-wheeling -----> Any specific roads or areas? _____
- For other outdoor activities (mountain biking, hiking, camping, rafting, etc.)
- Visit National Parks
- General touring, sightseeing
- Visit family or friends
- Business
- Other (please specify): _____

36. How did you find out about Moab as a destination for four-wheeling?

- | | |
|--|--|
| <input type="checkbox"/> Four-wheeling groups or clubs | <input type="checkbox"/> Government agency offices/personnel |
| <input type="checkbox"/> Other outdoor groups or clubs | <input type="checkbox"/> Guidebook |
| <input type="checkbox"/> Friends/Family | <input type="checkbox"/> Advertisement |
| <input type="checkbox"/> Radio/Television | <input type="checkbox"/> Tour guide |
| <input type="checkbox"/> Auto/Parts Store | <input type="checkbox"/> Other (please specify)
_____ |
| <input type="checkbox"/> Magazine or Newspaper | |

37. To the best of your knowledge, for *each day* of your most recent four-wheeling trip to the Moab area, please tell us where you stayed, what type of accommodations you had, and any meals eaten in a restaurant or tavern.

Day	Location (Moab, Green River, etc.)	Accommodations: (Check one for each day)								Meals in a Restaurant or Tavern: (Check <u>all</u> that apply)		
		did not stay overnight	hotel/motel	private campground	government campground	camped on other government land*	friends/family home	our second home	Breakfast	Lunch	Dinner	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

* Camped on government land, but not in an actual campground. If you stayed more than 14 days, check here and continue on to the next question.

PART V: BACKGROUND INFORMATION

38. What is your sex? male female
39. What is your age? _____
40. What is your ethnic background?
 Black/African American American Indian Asian
 Hispanic White/Anglo/Caucasian Other _____
41. How many years of school have you completed?
 Less than high school degree Completed bachelor's degree
 Completed high school Some post graduate work
 Some college or technical school Completed a post graduate degree
 Associate or technical college degree Other (please specify) _____
42. Which of the following best describes the area where you currently live?
 A large metropolitan city (over 100,000 population) or suburb
 A medium sized city (25,000 to 100,000) or suburb
 A smaller city (5,000 to 25,000) or suburb
 A town or village (2,500 to 5,000)
 In the country or a very small town (under 2,500)
 Rural farm or ranch
43. Which of the following best describes the area where you have lived most of your life?
 A large metropolitan city (over 100,000 population) or suburb
 A medium sized city (25,000 to 100,000) or suburb
 A smaller city (5,000 to 25,000) or suburb
 A town or village (2,500 to 5,000)
 In the country or a very small town (under 2,500)
 Rural farm or ranch
44. What is your current employment status?
 Working full time Retired Never been employed
 Working part time Student Other (please specify) _____
 Currently unemployed Homemaker
45. What is your usual occupation/job? (If retired or unemployed, tell us your previous occupation.)

JOB TITLE _____

TYPE OF WORK _____
46. What was your total household income (including all family members) before taxes for 1997.
 Under \$10,000 \$40,000 to \$49,999 \$80,000 to \$89,999
 \$10,000 to \$19,999 \$50,000 to \$59,999 \$90,000 to \$99,999
 \$20,000 to \$29,999 \$60,000 to \$69,999 \$100,000 or more
 \$30,000 to \$39,999 \$70,000 to \$79,999
47. How many people depend upon this income? _____ Adults _____ Children (18 or under)

Please feel free to make any additional comments on the inside of the back cover. When you have completed the survey, please staple or tape the survey closed and mail. Our return address and postage are printed on the back of the booklet. If you would like to receive a short summary of the study results, check here .

Thank you for your assistance!

APPENDIX B

- *List of four-wheel groups or clubs respondents belong to*
- *List of environmental or conservation organizations respondents belong to*

NOTE: Number in parentheses indicates the frequency of survey respondents (greater than one) who wrote in that particular answer.

Which four-wheel drive groups or clubs respondents belong to.

4x4 Teeners

American Jeepster Club
Arizona Rough Riders
Arizona State Association of Four Wheel Drive Clubs (2)

Basin and Range Cruisers
Bichen 4-Wheelers
B.I.S.
Black Hills Four Wheelers
Blue Ribbon Coalition (2)
Bronco Registry of Northern Colorado

Cache Rangers
California 4-Wheel Drive Clubs Association (12)
California Off-Road Vehicle Association
Caveman 4-Wheelers
Cherokee Club
Cliff Hangers of Farmington, New Mexico
Colorado Association of Four-Wheel Drive Clubs (6)
Colorado Go-4's Club (2)
Colorado Springs Christian 4-Wheel Drive Club
Comstock Four Wheelers
Continental Divide 4-Wheelers
Creeper Jeepers of Durango Colorado
Creeper Jeepers Gang
Creepin' Jeepers

Deep Woods Extreme of New Hampshire
Dirt Devils

East Coast 4-Wheel Drive
El Jebel Four-Wheel Drive Association
Empire 4-Wheelers

Family Motor Coach Association 4-Wheelers Chapter (4)
Fort Worth Dallas Four-Wheel Drive Association (2)
Four-Wheeling Fools
Friends-On-Our-Own-Together
Fun-In-The-Sun Club

Gett'in Off Club
The Good, Bad, and Ugly
Grand Mesa Jeep Club (4)

H.A.G.G.S. 4x4 Club
Havasu 4-Wheelers
Hell Hole Ridge Runners (3)
Hemet Jeep Club
Hometown Mud Racers Association (2)

I.O.K. Four-Wheelers
It's A Jeep Thing 4x4 Club

Las Vegas Jeep Club
Litton 4-Wheel Drive
Lone Peak 4-Wheelers (5)
Longmont United FWD Association (2)

Mile High Jeep Club (3)
M.F.W.D.A.

National Chevy GMC
Nevada United 4-Wheeling Association
New Mexico 4-Wheel Drive
New Mexico 4-Wheelers (2)
North County 4x4 Club

Off Road Adventurers 4x4 Club (2)
Ophir Gopher Jeep Club

Pacific Northwest Four-Wheel Drive Association (2)
Park City Pak Rats
Phoenix 4-Wheelers
Pirates of the Rubicon
Point Rock 4-Wheelers

Rage Valley Ridge Runners
Red Bud Four-Wheelers
Red Rock 4-Wheeling (58)
Rock Grippers
Rock Hoppers (2)
Rough Country 4x4

Sandia Jeep Club
Sioux Land Four Wheelers
Southeast Four-Wheel Drive Association
Southern Utah Land Users
Southwest Four-Wheel Drive Association (3)
Storm Mountain 4x4 Club (4)

Team Mepco (3)
Toyota Land Cruisers Association (4)
Trailmasters Jeep Club
Trailridge Runners (4)
Tread Lightly
Tri-County Four Wheelers - Ohio
Two Rivers Jeep Club

United Four Wheel Drive Association (6)
Utah 4-Wheel Association (2)

Vegas Valley Four Wheelers
Verde Valley 4-Wheelers
Victor Valley Four Wheelers

Wandering Wheelers (2)
Wasatch Outlaw Four Wheelers (3)
Wasatch Wheelers
The Wild Bunch (2)

Which environmental/conservation organizations respondents belong to.

A.C.A.

American Zoological Society
Association of Environmental Professionals
Blue Ribbon Coalition (6)
Colorado Bowhunters Association
Colorado Association of Four Wheel Clubs
Ducks Unlimited (14)
Elks Unlimited

F.NAS

Friends of Great Salt Lake
Grass Roots for Multiple Use
Hell Hole Ridge Runners 4x4 Club (2)
Land Use Network
The Mountaineers
National Resources Defense Council
National Rifle Association (4)

National Parks and Conservation (2)

Nature Conservancy (4)
North American Hunting Club
Pope and Young Club
Quail Unlimited
Rocky Mountain Elk Foundation (5)
Sierra Club (4)
SINAPU

Stone Fly

Ted Nugent World Bow Hunting Club
Tread Lightly (5)
Trout Unlimited
United Four Wheel Drive Association (2)
Utah Shared Access
Wilderness Society
Wildlife Legislative Fund

APPENDIX C

- *Reasons why trail sectors are most preferred*
- *Reasons why trail sectors are least preferred*
- *Reasons for increased frequency of use on trail sectors*
- *Reasons for decreased frequency of use on trail sectors*

NOTE: Number in parentheses indicates the frequency of survey respondents who wrote in that particular answer.

Reasons given why trail sectors are most preferred.

SECTOR 1

- More scenic (5)
- Greater technical challenge (3)
- More familiar with trails (1)
- Enjoy the trails/fun (1)
- Long trails (1)
- Small groups (1)
- Native American ruins (1)

SECTOR 2

- More scenic (2)
- Greater variety of trails/skill level (2)
- More familiar with trails (1)
- Friends go there (1)
- More remote (1)

SECTOR 3

- More scenic (2)
- Moderate four-wheeling (1)

SECTOR 4

- More scenic (2)
- More remote (2)
- Greater technical challenge (1)
- Good road conditions (1)
- Easy access (1)
- Close proximity to Moab (1)

SECTOR 5

- More scenic (2)
- Greater technical challenge (1)
- Good road conditions (1)
- Enjoy the trails/fun (1)
- Historical context of mining industry (1)

SECTOR 6

- Greater technical challenge (18)
- More scenic (16)
- Enjoy slickrock trail type (9)
- Enjoy the trails/fun (5)
- Vistas - overlooks/arches/mesas/fins/slickrock (4)
- More difficult trails (2)
- Less crowded/solitude/isolation (2)
- More familiar with trails (2)
- Photographic opportunities (1)
- Ease of negotiating without a guide (1)
- Relatively safe (1)
- Long steep slickrock climbs (1)
- Greater variety of trails/skill level (1)
- Variety/uniqueness/amount of obstacles (1)
- Long trails (1)

SECTOR 7

- More scenic (46)
- Greater technical challenge (38)
- Vistas - overlooks/arches/mesas/river (9)
- More difficult trails (9)
- Variety/uniqueness/amount of obstacles (6)
- More familiar with trails (6)
- Enjoy the trails/fun (5)
- Enjoy slickrock trail type (5)
- Greater variety of trails/skill level (3)
- Less crowded/solitude/isolation (3)
- Good road conditions (2)
- Variety of recreation opportunities - camping/hiking/mtn. biking/parks (2)
- Relatively safe (1)
- Close proximity to Moab (1)
- Moderate four-wheeling (1)
- Proximity to Dead Horse Point (1)
- Easy access (1)

SECTOR 8

- More scenic (12)
- Vistas - confluence/park (5)
- Greater technical challenge (3)
- Greater variety of trails/skill level (3)
- Enjoy the trails/fun (2)
- More remote (2)
- Less crowded/solitude/isolation (2)
- Good road conditions (1)
- Easy access (1)
- More familiar with trails (1)
- Well mapped (1)
- Moderate four-wheeling (1)

SECTOR 9

- Greater technical challenge (40)
- More scenic (31)
- More difficult trails (19)
- Vistas - canyons/streams/trees/rock formations/sand dunes (9)
- Greater variety of trails/skill level (4)
- Less crowded/solitude/isolation (3)
- Greater amount of side/back roads (2)
- Enjoy the trails/fun (2)
- Variety/uniqueness/amount of obstacles (2)
- Good road conditions (2)
- Lack of development/improvements (2)
- Native American ruins (2)
- Close proximity to Moab (2)
- Good trail length (2)
- Easy access (1)
- Lack of restrictions (1)
- Good family drive (1)
- Small groups (1)
- Moderate four-wheeling (1)
- More familiar with trails (1)
- Relatively safe (1)
- More remote (1)

SECTOR 10

(No reasons given)

NOTE: Forty-one of the respondents indicated that they could not select any of the sectors as being the most preferred (i.e., they said that they preferred all equally). Some of the reasons they gave for making that selection were: diversity of four-wheeling terrain; diversity of scenery; climatic conditions; sense of exploration; uniqueness of landscape; variety of other outdoor recreation opportunities; and the variety of activities that the town of Moab has to offer.

Reasons given why trail sectors are least preferred.

SECTOR 1

- Lesser technical challenge (8)
- Less scenic (5)
- Too far from Moab (4)
- Dusty (3)
- Dislike mud and brush (2)
- Lack of variety trails/skills (1)
- Trails too long (1)
- Boring (1)
- Not enough slickrock (1)
- Too fast paced (1)
- Too rough (1)
- Trails too short (1)

SECTOR 2

- Lesser technical challenge (11)
- Less scenic (10)
- Too flat (4)
- Less familiar with trails (4)
- Too far from Moab (4)
- Dusty (3)
- Not enough slickrock (2)
- Boring (2)
- Less difficult trails (1)
- Not remote enough (1)
- Too hot (1)
- Lack of variety trails/skills (1)

SECTOR 3

- Lesser technical challenge (5)
- Lack of variety trails/skills (3)
- Parks are over-managed (3)
- Too crowded (3)
- Too many restrictions/regulations (3)
- Paving (2)
- Entry fee (2)
- Too commercialized (2)
- Campgrounds (1)
- Poor trail markings (1)
- Lack of information (1)
- Dusty (1)
- Too familiar with trails (1)
- Less familiar with trails (1)

SECTOR 4

- Lesser technical challenge (3)
- Bad personal experience (1)
- Too dry (1)
- Dusty (1)
- Raucous teenagers (1)
- Too crowded (1)
- Too many mountain bikes (1)
- Music too loud (1)
- Too far from Moab (1)
- Less scenic (1)

SECTOR 5

- Trails not unique (3)
- Lesser technical challenge (2)
- Less scenic (1)
- Less familiar with trails (1)

SECTOR 6

- Less familiar with trails (1)
- Trails too long (1)
- Under-supervised (1)
- High centered vehicle (1)
- Too many mountain bikes (1)
- Off camber slickrock (1)
- Trails too difficult (1)
- Too rough (1)

SECTOR 7

- Too crowded (2)
- Too many mountain bikes (2)
- Group size too large (2)
- Too hot (1)
- Too flat (1)
- Too sandy (1)
- Lesser technical challenge (1)
- Broken down vehicles (1)

SECTOR 8

- Less familiar with trails (2)
- Entry fee (2)
- Too far from Moab (2)
- Lesser technical challenge (1)
- Too many restrictions/regulations (1)
- Parks are over-managed (1)
- Paved sections of Elephant Hill (1)
- Trails too long (1)

SECTOR 9

- Lesser technical challenge (2)
- Trails too difficult (2)
- Less familiar with trails (1)
- Too much variety (1)
- Boring (1)
- Too crowded (1)

SECTOR 10

- Too far from Moab (4)
- Less technical challenge (3)
- Not enough slickrock (2)
- Less familiar with trails (2)
- Less scenic (2)
- Too flat (1)

NOTE: Fifty-four of the respondents indicated that they could not select any of the sectors as being their least preferred (i.e., each had some characteristic that made them enjoyable and/or interesting).

Respondents' reasons for increased frequency of use on trail sectors.

SECTOR 1

- More familiar (3)
- More family oriented type trails (2)
- Enjoy the trails (2)
- Show to family/friends (1)
- Own different vehicle (1)
- Explore new area (1)
- Increased income (1)
- More leisure time (1)
- Enjoy time of year in the desert (1)
- More technically challenging (1)
- More scenic (1)
- Near our campsite (1)

SECTOR 2

- More familiar (2)
- More family oriented type trails (2)
- Own different vehicle (1)
- Not as technically challenging (1)
- Visit remote areas (1)
- Rock hunting opportunities (1)
- Increased income (1)
- More leisure time (1)
- More scenic (1)
- Guide Jeep Safari trails (1)

SECTOR 3

- More familiar (2)
- More scenic (2)
- Explore new area (1)
- Increased income (1)
- More leisure time (1)
- More family oriented type trails (1)
- Own different vehicle (1)
- Not as technically challenging (1)
- Close to campsite (1)

SECTOR 4

- Explore new area (6)
- More family oriented type trails (1)
- Joined a four-wheel club (1)
- Increased income (1)
- More leisure time (1)
- More familiar (1)
- Enjoy time of year in the desert (1)
- More scenic (1)
- Do overnight trips (1)

SECTOR 5

- More familiar (3)
- More scenic (1)
- Isolated (1)
- Hiking opportunities (1)
- Like being in the La Sals (1)
- Friends own property in area (1)
- Increased income (1)
- More leisure time (1)

SECTOR 6

- Enjoy the trails (13)
- More scenic (6)
- Explore new trails (4)
- More familiar (3)
- Enjoy slickrock ledges/climbs/obstacles (3)
- More technically challenging (2)
- More difficult trails (2)
- Close to Moab (2)
- More leisure time (2)
- Improved driving skills (1)
- Show to family/friends (1)
- Increased income (1)
- Enjoy time of year in desert (1)
- More family oriented type trails (1)
- Own different vehicle (1)
- Vehicle capability (1)
- Litter has been cleaned up (1)
- Easier access (1)
- Improved equipment (1)

SECTOR 7

- Enjoy the trails (17)
- More familiar (8)
- More scenic (7)
- Improved equipment (4)
- More technically challenging (3)
- Close to Moab (2)
- More leisure time (2)
- Good beginner trails (1)
- Explore new area (1)
- More difficult trails (1)
- Increased income (1)
- Enjoy time of year in desert (1)
- Improved driving skills (1)
- Group preference (1)
- Enjoy slickrock (1)
- Vehicle capability (1)

SECTOR 8

- Enjoy the trails (4)
- More scenic (4)
- Close to Moab (1)
- Increased income (1)
- More leisure time (1)
- More familiar (1)
- Enjoy time of year in desert (1)
- Explore new area (1)

SECTOR 9

- Enjoy the trails (12)
- More technically challenging (9)
- More scenic (8)
- More difficult trails (6)
- More familiar (4)
- Visit remote areas (2)
- Improved driving skills (2)
- Explore new trails (2)
- More leisure time (2)
- Vehicle capability (1)
- Challenging obstacles (1)
- Lead a Jeep Safari trail (1)
- Water crossing (1)
- Less crowded (1)
- Show to family/friends (1)
- Increased income (1)
- Enjoy the time of year in the desert (1)
- Improved equipment (1)
- Go with friends (1)
- Close to Moab (1)
- Hiking opportunities (1)
- Photographic opportunities (1)

SECTOR 10

- Explore new trails (2)
- Enjoy the trails (2)
- Challenging obstacles (1)
- More scenic (1)
- More technically challenging (1)
- Increased income (1)
- More leisure time (1)
- More familiar (1)
- Enjoy the time of year in the desert (1)

MOAB AREA

- Love area for all activities (15)
- More familiar with area (9)
- Natural setting/beauty/scenery (6)
- Increased income (5)
- More four-wheeling opportunities (4)
- More leisure time (4)
- Enjoyable experiences (3)
- Drive on difficult trails (3)
- Explore new trails (3)
- Enjoy the trails (3)
- Be with friends (2)
- Various opportunities (2)
- Retiring there (2)
- Best four-wheeling (2)
- Enjoy time of year in desert (2)
- To use the land and keep it open (1)
- Teach driving skills to friends/family (1)
- Show to family/friends (1)
- Jeep Safari (1)
- Recently purchased 4x4 (1)
- Involvement with club activities (1)
- Began coming on Labor day (1)
- Technically challenging trails (1)
- Unlimited access (1)
- Fascination with Canyon Country (1)
- Friendly people (1)

Respondents' reasons for decreased frequency of use on trail sectors.

SECTOR 1

- Less scenic (4)
- Too familiar (3)
- Explore different areas (2)
- Moved from area (2)
- Less technically challenging (2)
- Less leisure time (2)
- Too far from Moab (2)
- Alteration of trails (1)
- Alteration of landscape (1)
- Increased family obligations (1)
- Not difficult enough (1)

SECTOR 2

- Less technically challenging (2)
- Moved from area (2)
- Too far from Moab (1)
- Too dusty (1)
- Poor maps (1)

SECTOR 3

- Moved from area (2)
- Too familiar (1)
- Lack of trails/variety (1)
- Too far from Moab (1)
- Explore different areas (1)

SECTOR 4

- Explore different areas (4)
- Moved from area (3)
- Too crowded (1)
- Increased family obligations (1)
- Not enough slickrock (1)
- Less technically challenging (1)
- Dusty (1)
- Cold (1)
- Too many kids (1)
- Less enjoyable (1)

SECTOR 5

- Too far from Moab (2)
- Increased family obligations (1)
- Less leisure time (1)
- Moved from area (1)
- Less technically challenging (1)
- Too much snow (1)
- Limited access (1)
- Lack of trails/variety (1)
- Explore different areas (1)

SECTOR 6

- Moved from area (2)
- Access fees (1)
- Explore different areas (1)
- Increased family obligations (1)
- Less technically challenging (1)
- Less leisure time (1)
- Too crowded (1)
- Too many mountain bikes (1)

SECTOR 7

- Less leisure time (2)
- Too familiar (2)
- Moved from area (2)
- Explore different areas (2)
- Alteration of trails (1)
- Alteration of landscape (1)
- Too crowded (1)
- Accident (1)
- Increased family obligations (1)

SECTOR 8

- Too far from Moab (6)
- Less technically challenging (2)
- Moved from area (2)
- Access fees (2)
- Explore different areas (1)
- Paved trail sections (1)
- Intrusive rangers (1)
- Less leisure time (1)

SECTOR 9

- Moved from area (3)
- Less enjoyable (2)
- Not family oriented type trails (2)
- Fee areas (1)
- Less leisure time (1)
- Broken vehicles block trail (1)
- Accident (1)
- Increased family obligations (1)
- Less safe (1)

SECTOR 10

- Lack of trails/variety (3)
- Moved from area (2)
- Private land (1)
- Less scenic (1)
- Too far from Moab (1)
- Explore different areas (1)
- Increased family obligations (1)
- Less technically challenging (1)

MOAB AREA

- Moved from area (6)
- Increased family obligations (3)
- Less leisure time (2)
- Other interests (1)
- Too crowded (1)

APPENDIX D

- *Problems (other than those listed) that Moab areas land managers need to address*

Other problems land managers need to address.

- 1) Education and coordination of different user groups.
- 2) All users need to be educated to stay on trails.
- 3) Continue multi-use of lands by educating various user groups in environmental and social ethics.
- 4) Educate mountain biker if on 4WD road, expect 4WD vehicles.
- 5) Government land managers often consider the land their own, make rules to limit public use and they are exempt. Responsible public input in day to day management process.
- 6) Camping on BLM land needs to be controlled.
- 7) Not enough roads and trails. More and more people coming to Moab. Plan ahead. Open closed roads. It's our land, let us use it.
- 8) Teenagers (not club members) drinking on trails.
- 9) Trails being changed or diverted by other government agencies and not telling the BLM.
- 10) Officers need to control kids partying during spring break in Moab area.
- 11) Please don't let the actions of a few idiots ruin it for the majority. When the irresponsible are caught, fine them heavy or impound their vehicles.
- 12) Maybe we can get a National Park, State Park, and Moab area combination permit. I buy a Slickrock annual pass even though I don't use it because the money has restored the area tremendously. Money well spent.
- 13) (Drop) access fee to Moab dump for Jeep Safari weekend.
- 14) Need more law enforcement, re: access to trails.
- 15) Alcoholic beverages.
- 16) Drinking and driving. I think jeep jamborees are well disciplined/low impact but some people go off by themselves and litter/abuse environment.
- 17) Mountain bikers seen off trails. Don't close established trails for bike racing.
- 18) Need more trails.
- 19) Mountain bikers should give right-of-way to 4-wheelers.

- 20) Need more maps of other areas to 4-wheel to dissipate the number of people on more well known trails.
- 21) Drivers leaving designated trails and destroying natural soils, etc..
- 22) Mountain bikers disrespect or terrain (litter).
- 23) Educating four-wheelers in land management.
- 24) In general, our experience has been pleasurable. The Red Rock 4-Wheelers do a good job.
- 25) Do not charge for dumping at landfill at Jeep Safari time.
- 26) If there were more rangers available at busy times to monitor people there would be fewer problems. It seems like a small number of people ruin it for others.
- 27) Improve, yes, but don't change a good thing.
- 28) How to keep trails open.
- 29) Mountain bikers and 4-wheelers off the trail.
- 30) Fight land closures and try to promote wise multiple use of public land.
- 31) Special access to certain trails.
- 32) Too many areas being closed to any motor vehicle.
- 33) Vandalizing ruins and artifacts. Most people I encounter are very respectful of the land. It is the action of the few that are endangering the enjoyment of many. The environmentally extreme are the biggest worry. This area has been used for decades without bad impact. The worst areas are those that the government controls; i.e., paved roads, pay access, developed sites.
- 34) Get the bikers and hikers organized like the 4-wheeling groups. Manage the areas for multiple-use.
- 35) Vehicles mainly stay on approved roads. But vehicles and mountain bikes that think they are not doing any harm with their little tires should be punished.
- 36) Keep all existing roads and trails open to public; horseback, bicycle, and vehicle. Red Rock 4-Wheelers do a good job of informing people.
- 37) Seems to be an equal number of ATV, mountain bikers, and 4-wheelers going off trails.
- 38) Drinking.
- 39) People joining groups that are not registered.

- 40) Just better education of all trail users on environmental impact reduction so 4-wheelers, bikers, and hikers can enjoy this area. It's there for all of us.
- 41) Keep government managers out of it.
- 42) Trail markers.
- 43) Teach people to use the land responsibly.
- 44) Four-wheelers make a moderate percentage of trail users. Please educate and enforce rules on others (mountain bikers, motorcyclists, hikers, etc.) as well.
- 45) Alcohol and driving 4-wheel do not mix. I would not object to random checks at trailheads.
- 46) I pay taxes to manage the land so don't keep me out because I can't walk or ride a bike.
- 47) Limit the size of vehicles in a large group to 35-40.
- 48) Everything is great. Just leave things alone.
- 49) Access to private land which cuts access to public land.
- 50) Kids/spring-breakers with nothing to do.
- 51) Need more trail markers (easy to get lost).
- 52) Designate separate trails for 4-wheelers and hikers, mountain bikers. I think cattle do more damage than 4-wheelers.
- 53) Educated people. It's public land -- use it responsibly.
- 54) I think the job being done is commendable and we try to help.
- 55) If destruction/defacing of historic resources happen, I'm all for more focus in that area. The San Raphael Swell has experienced a lot of defacing of petroglyphs.
- 56) Damage is done by uncaring groups then blamed on Jeep Safari people.
- 57) Increase supervision of minors.
- 58) Just tread lightly, pick up trash, carry your waste products out, stay off microbiotic crust. Everybody.
- 59) There is a constant blame back and forth between wheelers, bikers, and hikers as to who does the most damage. We all need to respect Moab.

- 60) Mark each of the trails better. Have more than one Jeep Safari per year.
- 61) Too much maintenance on some trails. Leave them be.
- 62) Clean up camping areas of mountain bikers at Hell's Revenge entrance, Sector #6.
- 63) Too many managers.
- 64) Monitor vehicles and people going on more difficult trails.
- 65) People need to be reminded that balance is a virtue and the land is fragile.
- 66) The camping problem. Too many people camp anywhere they please. This does more destruction to the land than most of these other things.
- 67) If there is a problem anywhere because of impacts, educate and enforce.
- 68) Use similar rules for river camping; fire pans, porta-potties, pack it in and out.
- 69) Keep up the Tread Lightly program and keep the trails open to everyone for multiple use.
- 70) Teenage use of alcohol during spring break.
- 71) The only real problems are drinking and BLM not letting us enjoy our land.
- 72) Just keep this area open to four-wheelers.
- 73) Just lack of toilets. You ought to hear the women. If not more toilets, plant more trees.
- 74) Get out of the way. Let trails erode. Just because they can't maintain a road doesn't mean they should close it.
- 75) Alcohol on trails being used.
- 76) More trash cans and keep them empty.
- 77) There are one or two people who make 4-wheelers look uncaring and destructive.
- 78) Do not know if a lot of the problems are evident other than Jeep Safari.
- 79) Limit number of 4-wheelers on trails to 25 or less.
- 80) Better trail markings.
- 81) There is not one question on this survey regarding ATVs and motorcycles. They more often are found off trails than Jeeps. ATV operators tend to be young and less thoughtful.

- 82) Drugs and booze.
- 83) Establish routes including those with scenic views. Do not close off trails and access roads. Provide signs and guide to established routes.
- 84) Drinking on trails.
- 85) To mark trails at "Y" and intersections. Educate new drivers. Make rules even for bikes and 4-wheeler.
- 86) Would like to see some trails marked so you can go self-guided.
- 87) Let's not put all the blame on 4-wheelers. Many mountain bikes use 4-wheeling trails to seek secluded camp site near trails. Much damage is done as each group goes further.
- 88) Charge higher grazing fees.
- 89) Drinking alcohol while on trails.
- 90) The 4-wheelers need to be prepared and able to get their rigs out if broken and not left on trails.
- 91) Stop trying to over-manage the area.
- 92) Get out the true story of actual reasons for land closures and closure of 4WD trails to vehicles.
- 93) Aggressive attitude of non-4-wheeler on trails (bicyclists and hikers) toward 4-wheel vehicles.
- 94) Large fees for litter, toilet paper, vandalism.
- 95) Keep the trails open. Provide new trails like the Golden Spike. Don't blade the 4WD trails. Clear landslides to keep the trail open but don't touch the rest of the trail with the blade.
- 96) Tread Lightly education, trail etiquette, mark the trails so we can stay on them.
- 97) The trails I have gone on by myself or with a group have been very organized. We all respect nature. There is already enough restrictions.
- 98) Try to teach mountain bikers manners.
- 99) The bikers and ATVs going off designated trails. Having access to all trails, not just a few, and not closing them down.
- 100) Have bikes let 4-wheelers pass and clean up after themselves.
- 101) Motorized dirt bikes, three-wheelers, and quads.

102) Mountain bikers who think they have exclusive rights to trails. On our trips to Moab, we have been on enough trails to meet maybe 300 mountain bikers total. Of this number, four gave us a bad time. We did nothing (other than being in a jeep) to antagonize them.

103) Organize community and/or volunteer programs to clean up bad areas/campsites. Provide education (unbiased) about land resources and their uses.

104) Mostly to educate public on care and respect for environment with good brochures and information -- not threats and closures. In every activity there will be the rare jackass. All off-roaders dislike this guy.

105) Low impact education for every one; 4-wheelers, bikers, hikers, and rock climbers.

106) I think the Tread Lightly program should be pushed harder.

107) Keeping open trails through mining leases.

108) Keep fees down. Bicycles need to adhere to trail laws and road laws.

109) Just remember, this land belongs to all of us. Let's all enjoy it but keep it clean.

110) I believe in congested roads, Like Fins-and-Things, direction signage may help.

111) No drinking alcohol when you are driving.

112) Alcohol abuse, noise control.

113) Keep up the good work.

114) Stop fee on Elephant Hill trail. Reopen Beef Basin trail.

APPENDIX E

- *Specific areas or trails that were primary inducement for Moab visit*
- *Other primary reason for Moab visit*
- *Other general four-wheel information sources*
- *Other Moab area four-wheel information sources*

NOTE: Number in parentheses indicates the frequency of survey respondents who wrote in that particular answer.

If four-wheeling was primary reason for Moab visit, the specific roads or areas respondents indicated as inducements for the visit.

Jeep Safari trails/events (37)
Golden Spike (13)
All Moab area (12)
Poison Spider (9)
Hard trails -- 4+ (8)
Sector 9 (7)
Sector 7 (7)
Sector 6 (7)
Hell's Revenge (6)
Moab Rim (5)
Pritchett Canyon (5)
Fins & Things (5)
Canyonlands area/Needles District (3)
Metal Masher (3)
Sector 1 (3)
Arches (2)
Kane Creek (2)
Gold Bar Rim (2)
Elephant Hill (2)
Sector 4 (2)
Lion's Back (1)
Potato Salad Hill (1)
3-D (1)
Behind the Rock (1)
White Rim (1)
Slickrock (1)
Beef Basin (1)
Arch's Canyon (1)
Rose Garden Hill (1)
Sector 8 (1)

Other primary reason for visit to Moab.

Photography (1)
Look at real estate (1)
All recreation activities (1)
Canyonlands (1)
Wife paints (1)
Hunting (1)
Locate new campsites (1)

Other four-wheel drive information sources in general.

Local people come in contact with (1)
Hands on (1)
Word of mouth (1)
Moab Jeep Safari paper (1)
Internet (1)
Maps (1)
Off-road shop (1)

Other information sources about Moab as a destination for four-wheeling.

Vacationed once and discovered 4WD opportunities (4)
Previously lived in area (3)
Word of mouth (2)
Video of Moab (1)
Going since childhood (1)
Known for years (1)
AAA tour book (1)

APPENDIX F

- *Open ended comments respondents written on the back of survey instrument*

1 It is very important to my family and friends to have public lands, such as the Moab area, left
2 open for multiple-use, i.e.; 4-wheeling, camping, hiking, sightseeing, etc.. We spend approximately
3 \$1500-\$2000 every year in the Moab area and if it were to be closed to 4-wheeling, we would likely
4 not visit the area, only occasionally.

5 I believe that a percentage of any group behaves irresponsibly. This includes all user groups. I
6 have seen vehicular damage at times, but I see a lot of new paths created by bikers. The sheer volume
7 of bikers guarantees a higher number of irresponsible ones. If the two biggest user groups, namely
8 bikers and four-wheelers, could be educated, perhaps the percentage of irresponsible ones would
9 decrease. Most of the damage seems to be done by people who are new to their respective sport and
10 simply do not know any better. I also feel that a fee could help discourage some of the casual users
11 who do not know what they should and shouldn't do. At any rate, a fee may cause some of the
12 volume to drop, but those who would not pay a fee are probably contributing the least to the economy
13 at any rate. I also believe that a tread lightly packet should be included with every new four-wheel or
14 all-wheel drive vehicle. This may help educate many different user groups. It would, of course, be
15 ideal if the manufacturer would provide this. Thank you for the opportunity.

16 In response to the question of fees for four-wheeling, I would be opposed to any fees that
17 singled out 4-wheelers and excluded other user groups, unless such trails were only for 4-wheeling,
18 which I would also oppose. I am a strong supporter of multiple use of public lands.

19 Though I enjoy the challenging 4WD roads in Moab, my favorite part of going 4-wheeling is
20 the adventure of exploring or getting lost. "Getting lost" is not the best term for it as I carry USGS
21 topo map, Forest Service maps, and a few BLM maps when I go out. It's the feeling of the unknown
22 when you go to a new place you have not been to before. Scenery and history add a lot, but the
23 adventure is in the journey.

24 We need to protect our 4-wheel roads from closure. If there is a problem, let the 4-wheel
25 groups help you solve the problem. Perhaps more law enforcement to catch and punish the 1% of
26 users that are responsible for causing most of the adverse impacts on the land. If we had more trails
27 there would be less people on any given trail. Far too many roads are being closed now. Only a small
28 percentage of forest users are physically able to enjoy "closed to motor vehicle" areas. My wife is
29 handicapped and the 4WD is our only option to explore our forests.

30 Dear Doug: I apologize for the delay in returning the questionnaire. Unfortunately the original
31 was misplaced--not because of lack of interest. Personally, I am pleased to know that there is special
32 attention placed on the Moab area. The Moab area is very special to me. I first visited the area as a
33 young 5 year old boy with my family at a camping/motorcycling outing. I have very vivid memories
34 of the huge rock formations--there was a cave in the campground formed by several fallen rocks.
35 Unfortunately, I did not return to area until I was 21 years old. I am interested in helping with
36 prudent management of the Moab area. Unfortunately I only have a limited amount of time available.
37 Please let me know what I can do to help. You can reach me at the above address, or evenings at
38 [phone #] or days at [phone #]. Sincerely, [signature].

39 I believe that any decisions being made for the Moab area should first be made by county
40 officials, second the people of Utah, not the federal government. Please make sure of this.

41 The land usage problem is a difficult subject. We love to 4-wheel and use all the trails, but I
42 also feel strongly about preserving the area somewhat. Good luck!

43 Four-wheelers take a bad rap in [the] public eye and it's not right. Four-wheelers make up
44 volunteer search and rescue organizations that rescue lost or hurt hikers, backpackers, rock climbers,
45 bicyclists, etc.. Four-wheel drive clubs also do a lot of trail maintenance, bridge repairs, clean-up
46 days, etc.. When our family group takes to the trails, as I'm sure most other four-wheelers do, we
47 stick to established trails and pack out more garbage than we brought in. We are able to do this
48 because of the vehicles we drive. Nine times out of ten, the trash we pick up is left by hikers and
49 backpackers, bicyclists; water bottles, candy wrappers, "Power Bar", bicycle parts, handgrips, a tube
50 one time. They don't have a way to carry this trash back or they don't want to because of the weight.
51 Hikers or bicyclists seldom stick to established trails, they cut corners on switchback trails. I don't
52 believe the problem lies with only the four-wheel drive owners, as you can see. With Moab, I believe
53 a lot of the problems stem from the spring break kids that show up just to party and trash the place.
54 When we attend the Safari, almost all of the jeeps are off the streets in town after 10:00 pm because
55 they have trails to run the next morning. Everyone else has no business except to cause mischief =
56 Spring Break Partiers.

57 In my view, the biggest threat to the environment of the Moab area comes from: 1) Damage
58 caused by mountain bikes that don't stay on roads, trails, and slickrock (the tires cut deep into the
59 desert soil); and 2) Cattle (they are the single largest cause of destruction to the fragile desert
60 ecosystem there is). Cattle trails cut deep into the soil. They destroy everything from plant life to
61 cultural artifacts. Their waste piles take away a natural sense of beauty everywhere they live. Thank
62 you.

63 I've attended the last 15 annual Jeep Safari's and don't usually go anymore unless a friend asks
64 me to attend. They are too crowded for me. However, the majority of the people are learning about
65 how to 4-wheel responsibly and the amazing beauty of Moab. When I first started to attend, the
66 majority of the group were "hell raisers". Now it has shifted to more of a family affair. I still enjoy
67 the Elephant Hill trail when accompanied by a park ranger. The history they can describe to the group
68 is a true learning experience. I've noticed on last year's Jeep Safari how responsible the drivers are
69 with respect to soil erosion, animal life, general cleanup of eating area which, I feel, is created from
70 the leaders' roles on minimal impact travel. The Red Rockers do a difficult job in controlling all these
71 people. I can't imagine if there wasn't an organization like this to help protect the public lands. One
72 other thought. Several years ago there were rumors that some of the trails might be closed to
73 motorized vehicles (street legal), especially Elephant Hill and the Maze section. I wrote letters to all
74 of the current politicians indicating that my father enjoyed going back into these places [even though]
75 he was on oxygen. I used to pack up the Land Cruiser with tents, camping gear, and several oxygen
76 bottles so he could enjoy the Devil's Kitchen, Horseshoe Canyon, and Beef Basin. Every time we
77 were camping in these remote places, backpackers asked us for water. I was a little hesitant because
78 these people are the ones trying to restrict our backcountry travel. I gave them more water than they
79 needed and I carry plenty to give to people enjoying the same thing I do. I wonder why we can't
80 operate as a team instead of foes and maybe we will all benefit. PS: I also enjoy backpacking
81 everywhere. [signature].

82 Moab area is a great vacation spot. We are pleased to see the clean-up and improvements in
83 the Sand Flats area. Most four-wheelers respect Tread Lightly and do their part to protect lands. We do

84 not mind paying for use of trails. However, [we] feel all users should. Mountain bike tracks can be
85 seen everywhere. They need education on Tread Lightly just as the 4-wheelers have. We pay
86 registration and gas fees and taxes. Bikes do not! That needs to change. I feel if we all work together,
87 we can enjoy the Moab area and also protect it. We are very careful when we lead Safari trails. We
88 inform other Jeepers about Tread Lightly and educate on soil damage. The federal and state lands
89 belong to the citizens of the U.S.. We need access to it but need to protect it also. I vote for any plan
90 that does both. Stopping use of trails is not the solution!!! Thank you, [signature].

91 The only problem, pertaining to four-wheeling in the Moab area, is a lack of consideration by
92 a small minority of land users. They lack consideration for fellow 4-wheelers, hikers, bikers,
93 photographers, "tree huggers", the land, the vegetation, our posterity, etc.. It seems that the small
94 minority of idiots are ruining it for us, the majority of law abiding people and land respecting land-
95 users. Thank you.

96 The trail motorbikes and 3 & 4-wheel motorbikes are the worst offenders for going [off] of
97 trails. The mountain bikers throw trash anywhere and are a problem on jeep trails. Need more people
98 to patrol and ticket offenders. [signature].

99 My friend owns a cabin in La Sal Mountains. He got me interested in 4-wheeling in Moab in
100 1995 when I was a passenger on Crystal Geysers. I have been back every year and plan to continue to
101 do so. I thoroughly enjoy the Moab area and would be willing to do my part to help maintain the
102 area. [signature].

103 Thank you for your concern. Signed: Moab Lover.

104 We originally visited Moab for the 4-wheeling. While that is still extremely important, we
105 have fallen in love with the area for other reasons as well such as the small town atmosphere and
106 lifestyle, the weather, the people we know, and the scenery. In fact, we plan on moving to Moab in
107 1999.

108 I would like to see the Moab area stay open for people to four-wheel. I would not like to see
109 any roads closed to the public.

110 Doug, there was an instance [incidence] where we were coming of the Hole in the Rock trail
111 when two Sierra Club members were yelling at us and said we were tearing up the landscape as one
112 of the men threw a crushed beer can over his shoulder. This is not the kind of behavior I would
113 expect to see from someone representing a group such as the Sierra Club. The other matter I would
114 like to address is [that] our club has adopted a policy, as I told you on the phone, of picking up trash
115 on trails we are on, whether as a group or as individuals. On recent trips to Moab, we have been
116 charged to dump this trash. Our group will continue to gather trash on trails whether we are charged
117 or not. But we feel that the impact of trash on trails, especially during the Jeep Safari, would be
118 considerably reduced if people could dump for free. Thank you for your efforts Doug and I would
119 love to guide you on a Labor Day activity as we talked about on the phone. Sincerely, [signature,
120 address, and phone #].

121 Every time I go to Southern Utah, I see more and more people. I am concerned about the
122 growing impact on the environment, but want to see the area left open to all forms of activity. I think

123 if people were more educated on how to limit their impact, it would help alleviate some of the stress
124 on the area. I love the Southern Utah area and particularly Moab. I want to see the area left open so
125 that someday I can show my children that area.

126 I probably wasn't a great help on the map section of this survey since I enjoy the whole area of
127 Moab. I believe if someone has to do difficult trails or even if all they like to do is easy trails, then
128 they shouldn't be there or anywhere. People should mix it up with hard, easy, and scenic. I also
129 believe people should take responsibility for themselves and no one else, but I really don't know how
130 we should control the way we use the land. Thanks.

131 I hope the land will remain as open and free as it has been. Thank you. Smart "4-Wheeler".

132 I never received the first survey, but [I'm] very glad that I finally got it in the mail. Hopefully,
133 this survey will go a long way to keep trails and areas open for all to enjoy. Not just 4-wheelers but
134 all vehicles, ATV's, dirt bikes, dune buggies, etc.. I've spent over \$25,000 to make my Jeep a very
135 capable off-road vehicle and drive 19 hours every year to get to Moab and spend \$1,000+ in the area
136 once I'm there. If it wasn't for the area's vast numbers of trails, I most likely [would not] had visited
137 Moab. Moab has become, to me, an annual vacation that I and my family look forward to every year.
138 But if trails and areas keep closing, then I may just have to stay closer to home to enjoy my Jeep.
139 Thanks for the survey and let me know if off-road.com can help you. [signature] Editor of www.off-
140 road.com; e-mail: jeepsterman@off-road.com.

141 I am very much for responsibly building new trails for this type of recreation. I am strongly
142 opposed to paving access and building "pay camp" areas. Any place that I have seen this type of
143 "improvement" has only made the area overused and has destroyed the integrity of the area. This
144 leads to a "looking glass" environment. It seems that if there is a dirt road, far fewer people are
145 willing to go there. However, those who strive to enjoy the country are willing to make the effort.
146 These are people who appreciate and who want to come back because of the privacy and the beauty.
147 Go to any paved access campground and you will see overuse, lack of respect, and more trash than
148 you can imagine. The result is more effort to maintain, usually resulting in imposed fees and
149 government interference which then multiplies to the opposite of what you're going there for. In some
150 areas this has become so bad that you now have to actually make reservations 3-4 weeks in advance to
151 stay in a "campsite" in the Uintas. I don't want to see this happen **ANYWHERE!!**

152 I believe that this survey will help the land management. As far as the four-wheelers, not a lot
153 of money [goes directly] to land management. This may be true. But we do add a very large amount
154 to the economy!

155 I strongly agree with land management. I think it's necessary because people have a tendency
156 to be irresponsible. I believe that we should preserve the environment. However, make the
157 environment accessible so we all can continue to enjoy it. Paying a small fee so that the roads,
158 campsites, etc. stay clean, updated, and in good shape is not a concern of mine as long as the money
159 goes back into the area we are paying to enter. However, I would hate or regret to see the time when
160 an entrance fee becomes so high that a person can't afford or will refuse to pay! [signature].

161 [What] people need to realize is that there are many other impacts to land other than four-
162 wheeling. Mountain bikers think they can ride anywhere and are not hurting anything [and] that the

163 four-wheelers will get blamed for all the damage. Four-wheeling is on existing roads from mining and
164 other past endeavors. Mountain bikers are the ones making their own trails and [that] needs to be
165 addressed. Thanks.

166 I wouldn't mind paying a little fee to help maintain the area. It is too beautiful to let [it be]
167 ruined. I have enjoyed all (every) experience/trip to Moab. No complaints.

168 I have driven in Moab with the Red Rock Four Wheelers for some time now and I thought
169 they did a good job at telling people they care for their land and its uses that it has. They showed me
170 that both type of people can get along, either environmentalist or a land user. The Central Water
171 Project closed a lot of land I lived in most of my life. Environmentalists are happy now but they never
172 saw the other side of the story. Now, 4-5 years later, we still have road closures and just barely a
173 Central Utah Water Project. [In] one or two years we will still have road closures, no Central Utah
174 Water Project, and still not learned anything from government agencies. We could talk about
175 Escalante Grand Staircase Monument, but that's another story. Thanks Clinton. I hope
176 environmentalists and land users can [for] once work out a well suited compromise for both sides. I
177 stand on the land users' side because I've always been one.

178 Comments on area. Destruction of petroglyphs and vegetation deeply concern my wife and I.
179 Also, moderate littering. Best personal solution; have other concerned individuals take video or
180 pictures of violators for proof and enact [extract?] heavy fines. Although we (my family) are 4-
181 wheelers, this is the best way for [my] wife and child to see areas in general. We see an equal number
182 of locals as well as outsiders being negligent. Four-wheelers, mountain bikers, hikers, ATV's, etc..
183 We hope that each trip we may see change in these areas, so far we haven't. We hope this survey
184 does some real good. Our thanks for being able to participate. Keeping our name confidential is
185 alright, but my wife and I would express these concerns public or private. Thank you, [signature].

186 As an avid outdoorsman and 4-wheeler, and also an environmentally concerned person, I think
187 some limits should be set to: A) preserve existing hiking, biking, and 4-wheeling opportunities; and
188 B) preserve existing wilderness and wildlife habitat and also set aside certain areas as no travel zones.
189 I believe all sides to these issues could come to a reasonable compromise by working together rather
190 than finding fault in each other's interests. This is accomplished by communication, respect for
191 different ideas and interests, and simple common sense. We all need to realize that environmentalists
192 are not tree huggers or freaks and us 4-wheelers are not beer drinking slobs or losers with no concern
193 about things around them. Of course, there are exceptions on both sides, that's where the common
194 sense part comes in. The majority on both sides, I believe, would be happy to work together for a
195 reasonable compromise, that's where the communication part comes in. And finally, let's not
196 condemn each other for our different views. Instead, let's work together to better understand each
197 other's viewpoint, that where the respect part comes in. Let's remember folks, we are all different
198 with different interests and individual dislikes and likes. But with compromise, communication,
199 common sense, and respect, we can achieve a reasonable, uniform goal.

200 Encourage a decrease in alcohol on trails, primarily drivers. Possible checks on drivers of
201 vehicles on Jeep Safari. Driver forfeits ability [opportunity?] to go on trail if drinking alcohol.

202 The Moab area offers much of the best opportunities for off-highway recreation in the country.
203 Although I believe most four-wheelers use commercial campgrounds, it is obvious that a lot of people

204 need to camp at a minimum cost. Land managers should concentrate on providing low cost facilities
205 for these people. Toilets and trash-removal are the most important facilities. The trails need very little
206 money. Development usually means restrictions and vandalism. Minimum signage is useful, plus
207 maps.

208 Doug, sorry it took so long to get this back to you. We relocated to Phoenix last May and the
209 Post Office had to forward this to me. Glad I could be of service. Best wishes, [signature, address,
210 phone #, e-mail address].

211 I believe Utah has more publicly accessible motorized off-road trails than most other states in
212 general. I believe this is a good thing. You challenge your young people with the outdoors, rather
213 than hit the streets of your small towns and cities with no exciting things to do but drugs, drinking,
214 and crime. This is a definite plus for the state of Utah. I hope this does not change with restrictions
215 on off-road use, as other states have made that drastic mistake. I have paid substantial taxes for the
216 last forty years. My taxes, and others of my age, have bought and paid for all these public lands.
217 Now that my legs are not as good as they were where when I was earning the money and paying the
218 taxes to buy these public lands for the younger and environmentally-extreme taught [educated
219 generation?], they now want to close these lands to those of us who have paid for them and keep them
220 for themselves to just walk on or bike on. I want to keep the land free and open to everyone, not close
221 them down as many of the park service and government leadership want to do, so they can sit on their
222 cans, draw their wages, doing nothing but some ridiculous wildlife study, spending money on that.
223 One other thing that irritates and confuses me greatly is that we have a let-burn policy for our forests,
224 claiming that fire is good and yet, on the other side of their faces, these same people claim that
225 burning the rain forest is bad. They need to make up their extreme environmental minds--either fire is
226 good or bad. It can't be both in two different parts of the world. [signature, address].

227 Moab is a great place to go and relax and get away from everything. The people are good. The
228 4-wheeling is great. People have respect for the land and animals! The trails are not used heavy
229 except during the main events. There's no litter, just people having a good time.

230 Moab is the best!!!

231 I feel that the Moab area is one of the greatest places to visit, 4-wheel, play, etc.. If you start
232 to add fees [for] every little thing we do, then we will find other places to do it. I think this is a very
233 good survey and should be offered to everybody, not just a small group, because everybody has a
234 different opinion. Thanks for your support. Sincerely [signature].

235 I hope this survey is not for considering closures in the Moab area!!

236 To whom it may concern, to go four-wheeling with the Moab Jeep Safari, we have to pay a
237 fee. The Red Rock 4-Wheelers, who run the event, have to pay a fee to the state for use of our public
238 lands. We pay a fee to enter our National and State Parks, and now they are talking about an entrance
239 fee to get into our National Forests! Don't you think it's time to stop "Feeing" and charging the
240 American public to death. It is nearing the time when people can't afford to pay the fees and if it
241 keeps going the way it is, the American people will not tolerate it any more!

242 Most of the wheeling I've done in the Moab area has been for the Easter Jeep Safari and I

243 don't see many wheeling violations--or what I consider violations. I am very strict when out on a trail
244 anywhere and believe most ORGANIZED WHEELERS are the same. The problem wheeler is the
245 individual who is out yeh-hooing with 1 or 2 buddies. I don't want to see Moab area shut down to
246 wheeling or limited in any way and if a fee is inevitable, then I would not want to see my funds not
247 used [ed. note: probably meant "used" rather than "not used"] against wheeling. The club I belong to
248 in Colorado has a well known reputation for courtesy, environmentalism, low impact, clean wheeling.
249 We have cleaned up others' oil deposits where breakdowns have taken place. I get very defensive
250 when I think I'm being probed to find out whether I am a good 4-wheeler or one of those idiots who
251 give the majority a bad name. I understand the need for things like education, Tread Lightly, for sure.
252 Maybe marking trails so people don't make a wrong turn which leads them off a trail, but marking
253 every inch is not necessary. What happened to maps??? Campgrounds??? Sorry, I could go on and
254 on. Respectfully submitted [signature].

255 Again, too much emphasis here on management and maintenance. I do prefer clean areas and
256 safe areas but I don't need or want Disneyland or a managed zoo. Leave some roads alone and quit
257 trying to pave them or make them as good as paved roads. So what if it is bouncy! Restrictions should
258 not include number of vehicles or size of camp groups. For every mile of road closed, a new mile
259 should be opened. I would support funds for new roads and would support some roads being
260 restricted, particularly to protect historic sites. No problem with permits and/or fees for permits and
261 no problem with some areas restricting camping to certain areas and fees for camping. We do not
262 need to create jobs for managers, planners, and road building/repair crews. If it washes out and/or is
263 unsafe, OK, repair it [or] otherwise, leave it alone. I also have no problem with heavy fines for
264 abuse, littering, damaging, or rules requiring vehicles and bikes to stay on established trails, perhaps
265 with the exception of Lion's Back.

266 I have been attending the Jeep Safari for 7 years. When I first started attending, the problems
267 with land or conservationists were small. Now they have begun to threaten something I love to do.
268 The largest cause of your land problems is not coming from 4-wheelers, it is coming from bikers and
269 campers who ride anywhere. They want [to] and camp anywhere they want. The Red Rock 4-
270 Wheelers make strong commitments to keep the vehicles in their groups, on the trails, not going off
271 anywhere they please like your bikers and campers. I agree there is damage done to the earth by
272 going off trails, but I think the 4-wheel drive people are taking the blunt of the cause [blame] when in
273 reality, it is not them. I have personally watched hikers/bikers/campers drop trash, ride everywhere,
274 and not give a damn. I have also picked up trash, and such, and watched other 4-wheelers in our
275 group pick up trash behind those other groups. Please, do not put the blame on the 4-wheelers. I am a
276 firm believer in groups that are guided by an experienced trail leader. This way it will control some
277 of the problems of going off trails. This includes mountain bikes and hiking. The last area I'd like to
278 cover is the camping-anywhere-you-please problem. Every year as we leave to go on the trail, we
279 have to drive by campsites that are filthy with trash. People set up their camp anywhere they please. I
280 feel this does more harm to the land than any 4-wheel vehicle staying on the trail will ever do. The
281 land managers should control the camping areas first, mountain bikers second, 4-wheelers third,
282 hikers fourth. [signature] Concerned 4-Wheeler.

283 I believe the Moab area has been well managed, in general, considering the diverse activities
284 that are available. In my different trips to the area, I have never had that much information made
285 available to me about low impact 4-wheeling in the Moab area. Most information comes from groups
286 such as "Tread Lightly" and magazines. I would very much welcome any information that was made

287 available by the management in Moab.

288 I believe in a balance. I don't need to go everywhere, but I do want to be able to go [to]
289 enough places to have variety. Also, I believe the permit rules used in raft[ing?] canyons should be
290 enforced everywhere.

291 Page 3) Driving off established trails--what does this mean? Page 8, Q.23) Fragility of
292 cryptogamic soil is a myth of spotted owl type spin. It does not take 100 years to recover.

293 I graduated from USU in 1974. I still have many friends in the Logan area. Most of those are
294 college graduates and [are] 4WD and ATV enthusiasts. I feel that we get a bad name due to the
295 actions of a few careless 4WD users. The group that I sometimes go with, Cache Rangers, is service
296 and preservation oriented. We always leave a camp site cleaner than how we found it. Moab is a
297 beautiful part of the state. The 4WD trails should remain open. I know there is a push from the
298 environmentalists to close down almost 25% of the state. But I think carefully managed access by all
299 wheeled vehicles is a better solution to the problem of harmful impact than complete closure.
300 Environmental impact due to wheeled vehicles is not a problem unless it is concentrated and
301 continuing. If more areas were opened, it would relieve the load on the existing areas. Bottom line?
302 More population, more impact. This was not a problem in 1974. Thanks for sending me this survey.

303 We have been going for years, as you can see. A lot has changed, [also a lot has changed?] for
304 the BLM. We have always carried out what we bring and thoroughly enjoy Moab, the town, history,
305 pleasure, and relaxation. I've seen prices change and always thought this went to upgrade things.
306 Moab has been a tradition for years and we plan for it to be for years to come. I really get upset with
307 the BLM and government about our land we pay taxes on. It's them and the drinker who cause any
308 problems, not us who want to enjoy!

309 I think that this survey is great. I am happy that someone has taken an interest in our opinions
310 of what is happening in Southern Utah. I would like to think that the same type of survey is being
311 given to the other types of land users in this area. I realize that the four-wheelers and the other users
312 have notoriously not been able to peacefully coincide [coexist]. However, we need to join together in
313 an effort to protect this land we so love. My hope is that the results of this survey will reach the
314 "powers that be" and have a positive effect on what happens in this area in the future. Thank you for
315 your consideration [signature].

316 I hope that this survey does not affect the fun our family has down in Moab. Thanks.

317 I appreciate being selected for this survey. Hey, I appreciate this survey. I would like land
318 managers to leave existing roads alone. Period. No improvements. No closures. No reclassifications
319 or re-definitions of what constitutes a road or debate over by what means a road was made. I don't
320 want to be protected from myself. I refuse to pay more to use what is already mine. I don't like
321 paying what I already pay (in taxes). I would like land managers to recognize "adopt-a-trail"
322 programs and agreements to let volunteers do what land managers claim they can't afford to do.
323 Rather than close a trail, seek out clubs and organizations to help out. "Land manager" refers to NPS,
324 BLM, and FS. I like challenging routes. I like scenic routes. To get them together is a bonus. Leave
325 challenging parts challenging. There are plenty of paved highways and graded roads for those who
326 choose to not prepare for challenging routes and obstacles. There are trails that I/my vehicle is unable

327 to traverse. Do I want them paved or made easier? NO! I want them left open so that someday I may
328 still have access and try my luck (and find a challenge). Best regards [signature, phone #].

329 Should you be conducting this survey for study on erosion and damage done to land, to
330 EQUALLY evaluate, you must send the same survey to all Moab visitors; bikers, backpackers,
331 hikers, all [outdoor recreation resource?] use visitors. Four-wheel drivers are not the only land users.
332 Without any other information, from other groups, I feel this is a very one-sided study. I would like
333 to see the results as well as know what you plan to do with the information gathered. [signature].

334 I feel a lot of your questions are too personal for this type of study. I am not a politician, but I
335 feel a good way to raise monies for needed access should be partially paid by federal funds, BLM,
336 partially by taxes from hotels and restaurants who cater to people wanting to explore this area. I also
337 feel heavy fines for violators of rules and regulations, or wilful destruction of property, littering, etc.
338 should go directly to helping fund this. The people who use and care for these areas should be
339 allowed to use these areas with a minimum amount of cost. Only what is needed to maintain order for
340 violators. Do not make it an amusement park to attract other activities besides the outdoors.

341 We really enjoy the Moab Jeep Safari. It is managed very well. We especially like one leader
342 in particular, K.C. Kay. He took the time to have fun at lunch with everyone parked in a circle and
343 was very personable. We also enjoy Mountain Biking in the Moab area.

344 Please don't close trails. The harder the trail, the less trash and destruction you see.

345 In the past ten years, 4-wheeling has become an important part of my recreational endeavors. I
346 have visited Southeastern Utah on average twice a year and have explored off-road and dirt road
347 accessible areas extensively in established National Parks and other areas. This led me to explore
348 other Utah areas including the Wasatch Mountains, Uintas, desert areas west and south of Salt Lake
349 (and Highway 15), Escalante (including Grand Staircase, Escalante, Suislyly[?] Mountain). I have
350 given talks and showed hundreds of slides to interested groups, etc.. I love that country (and Arizona
351 Ship) and eagerly look forward to my visits in the spring and fall.

352 The Red Rockers and Easter & Memorial Jeep Safaris is the best educational and safest way to
353 go to Moab. The trails are led [safely for] safety is top concern and everyone is cared for in all
354 aspects. The only problem in Moab is [that] the mountain bikers don't think the four-wheelers should
355 be in their "all natural world". Often four-wheelers give bikers water and help them out of the
356 backcountry if they are too tired. But, they still don't want us there.

357 We have lived in Moab since 1971. We both visited Moab as children with our families. The
358 first of those visits were before uranium [mining] and certainly before the National Parks. We did not
359 go out as much this last year because we were saving[?] for elderly parents. One thing this survey
360 fails to take into account is that jeeping is a family sport. Most groups are couples and couples with
361 children.

362 A fee on the sale of vehicles would be great. I have always felt registration of mountain bikes-
363 -like motorcycles, boats, sailboats, etc.--would be right. The bikes now cost as much as many
364 motorcycles. They impact areas greatly (due to their numbers) with their bikes and their camping.
365 They ride on paved roads, dirt roads, and 4WD roads. Tax bikes once a year [with] a property tax

366 and registration. Let bikers share the burden. By the way, I own a bike and would be willing to pay. I
367 pay on my vehicles and boat already. This way to raise money lets us go on our trips without seeing
368 toll booths everywhere we go!

369 As the trails deteriorate with use, they become self-regulating. Area managers should limit
370 trail maintenance to county roads and as needed for mining and ranch access. Attempts to micro-
371 manage the Moab area will result in overuse of trails. The challenge of the difficult trails and the
372 undeveloped nature of the Moab area are fundamental to the appeal of Moab. There are plenty of
373 places for people who want "easy" trails. Don't pave Moab like has been done on Elephant Hill. If
374 people want that, they will go to Canyonlands and pay use fees. I don't want to pay for services that I
375 go to Moab to avoid. [signature].

376 Moab area must be maintained as it is. Roads/trails must remain accessible. I have not heard
377 of any adverse effects for the Safari or other activities. Moab is a rich opportunity for a diversity of
378 activities. I do not wish it to develop into a resort center, suburb, housing development, regulated-to-
379 death area, curb and gutter, etc.. I want it to stay as it is. If we are seeing an impact (crowds that are
380 ruining the area), those areas must be restricted until restorative work can be completed or shut down
381 until repaired. I fear for the culture of the Ancient Ones being destroyed. I fear for the impact of man,
382 yet I want to have access to the whole of it. I am poor, and therefore may be forced out, where only
383 the wealthy may encroach. Moab is a wonderful area. Family loves it. Tracks we have travelled have
384 been well supervised and organized. Just keep everything as it is. It is our land. Government should
385 not regulate it, restrict it, or reserve it. It must be maintained, it must be accessible, it must be clean,
386 it must be cared for. We can do that. We will do that: with care, caution, consideration, and thoughts
387 for future use.

388 Naturally I am very concerned about 4WD trail closures and the favoritism shown [toward]
389 horseback, hikers, mountain bikers, ATV's, and backpackers across the country. This survey does not
390 provide an adequate forum to argue the issues, but in short, I feel 99.9% of four-wheelers do no more
391 damage to the environment than these other groups. After all, most trails used by other groups were
392 4WD trails initially. We can't really go off a trail without serious consequences (except dry washes)
393 to our vehicles. The environment will be used and eventually damaged--either by recreation or
394 development. The world is getting smaller and more populated. "Even closed course racing should be
395 stopped due to pollution from race cars and the crowds that attend" if you want to carry the issue to
396 the extreme (or all spectator recreation using vehicles). Four wheel drive does not have good PR. The
397 dedicated liberal "do gooder" organizations cannot save the world. But, they make the public think
398 so--until they want a new subdivision. All politics. I am also interested in astronomy. The earth is
399 very temporary. We should all be able to enjoy it for the nanosecond we are around. Also, many
400 people who like 4WD (and NASCAR) are not Rednecks with IQ's of 90.

401 Four-wheelers are just a part of the users of the outdoors. There are mostly good members of
402 each group of users with the usual mix of bad individuals. I can't see why we need to set 5.7 million
403 acres aside for just hikers and horses. Private reserve for a very small group of hikers. Let's be fair.
404 Everyone has always been able to enjoy most public land. We don't need more restrictions. Land of
405 the free and the brave. I think everyone can coexist or maybe should learn to. Thanks [signature].

406 [Respondent attached copies of two letters and an article which were forwarded to the BLM
407 Moab District offices].

408 Dear Mr. Reiter, I would hope that this survey will be used to help keep these roads and
409 recreational trails and areas open for us and future generations to use. I hope this survey will not be
410 used against us. Thanks, A Recreational User.

411 The times I have been in the Moab area have been very enjoyable. I have been on organized
412 rides and restricted limited vehicle rides, like Angel Arch. We paid an extra fee on both. We already
413 pay enough money. It just needs to be managed better.

414 I feel all existing roads should stay open so the elderly and disabled can see [the Moab area?].
415 The roads should not be closed at all for any reason. God made this earth for us all to see, explore,
416 and enjoy. If you close it, who will see it? Most trails are too long there are a lot of us not up to a 6,
417 7, or 8 mile hike or less. Especially in the Needles District like Davis Canyon. A marvelous canyon
418 my grandchildren will not be able to see because of closing. What's the point??? I've been going to
419 Moab and the Needles District since 1970; 27 years on motorcycles, dune buggies, Broncos, and now
420 jeeps. The rangers act like they are brainwashed into thinking closing is the way. [Of] course [if] they
421 close much more, he'll be out of a job, the last laugh will be on him. I just can't stand the closing of
422 roads, it's not fair. But then life is not fair. That's what you tell your kids. But we're supposed to be
423 adults in making these decisions. Stop! these road closures. [signature].

424 I very strongly oppose the EXTREME actions of several "environmental" groups. Public lands
425 are just that; the property of the public! Therefore, the lands should remain open to the public for
426 public use, whether that access is through paved roads or challenging trails. Since I am involved with
427 a very important group, our handicapped public. I understand how it is depressing to see that our own
428 government has no concern for this part of the community. Many physically and mentally challenged
429 people have absolutely no way to appreciate our country's natural beauty except through the use of
430 four-wheel drive vehicles. Closing of these public lands is a "slap in the face" to our handicap
431 population and should not be permitted. There are a lot of "four-wheelers" that are environmentalists
432 too. They, including myself, are responsible in their four-wheeling adventures and go to great
433 measures to preserve the environment. **FOUR-WHEELING NEEDS TO BE MANAGE...NOT**
434 **BANNED! WE ALL NEED TO WORK TOGETHER!**

435 I have been 4-wheeling for quite some time now. I have noticed [that] the trails get abused. I
436 blame, most all, land and trail destruction on three-wheeler, quads, and dirt bikes. They feel it a thrill
437 to go wherever they please (on or off) the trails and they do it with excessive speed. I and most other
438 jeepers (4-wheelers) usually drive slow and remain on existing trails. We usually leave a trail cleaner
439 then it was. Most 4-wheelers will pick up trash left behind by others. We (4-wheelers) respect the
440 land and try not to degrade, destroy, or abuse it in any way. Most any, if not all, 4-wheel clubs have
441 an adopted trail to maintain, and we will take care of it anyway. I am against our government trying
442 to take over and regulate the people in every aspect of life.

443 1) Land managers "must" emphasize land management as though people matter. 2) Land
444 managers "must" participate in "all" the activities the public practices for their recreational "needs"
445 on public land to deepen the managers' understanding. 3) Although I am not a member of an official
446 4x4 club, I am, what I consider to be, a modern 4-wheeler i.e; "always" stay on the designated trail,
447 pack out more than you pack in, use finesse vs. power, treat all other user groups with respect (even
448 if some deserve otherwise), run low tire pressure to reduce impacts, look but don't touch
449 historical/cultural resources and artifacts, assist those in need, and always tread lightly. 4) From what

450 I have actually witnessed, the Red Rock 4-Wheelers are extremely responsible individuals who care
451 about Moab and its recreational opportunities. 5) I live in Montana. Winters are extremely
452 (subjective) long. Aside from the unique and remarkable scenery, Moab provides a dose of early
453 spring (March/April) that relieves a major case of cabin fever.

454 Land use has been on our minds for some time. We belong to Blue Ribbon Coalition and
455 believe it is very important to keep our trails open and accessible. Far too often, families are
456 prohibited from using recreational land and only hard core hunters ever get to enjoy the landscape.
457 [The] Forest Service should involve themselves in guiding trails or hold seminars for trail goers to
458 help them find what they would enjoy and let them know the results of misuse. Oil companies, mines,
459 and other interests have their place on the landscape. So should the unrepresentative trail goer. It is a
460 sad day when land gets sold off or appointed to some restricted use after years of closure to the
461 public. Many newcomers to the Moab Scene have brought bad habits with them and there are a lot of
462 trail abuses and campsite trappings during Jeep Week (Easter). Most of these are not the registered
463 4x4 trail jeepers. Spring Break partiers should not be confused with 4-wheel drive enthusiasts. They
464 are hard to separate, but easy to spot. I fully support the Red Rock 4-Wheelers. Their views and
465 concerns should be considered in any new agenda. Their membership includes out of state as well as
466 locals. Thank you.

467 I'm retired now, but I've been doing this back country experience all of my life as have my
468 parents and grandparents when thing were simple, the country was not overpopulated. I believe that
469 people today respect the environment much more than they have in the past. Due to the tremendous
470 population explosion, there is a much higher demand for recreational use of public lands and the
471 public lands must be made readily available for public use. I further believe the BLM, Park Service,
472 and other public and private agencies have an obligation to educate the public on how to respect and
473 protect the natural properties of the land--not by the use of closures and the attitude of "this is mine
474 now, stay out". The most far reaching education [source] today is, of course, TV programs. Let's all
475 use and protect what we have. My wife and I can no longer backpack or horseback [ride] into remote
476 areas and the motor vehicle is our only access. We don't want to give up the experience. [signature].

477 Our family and friends love the Moab area along with all of Southern Utah and would do what
478 is needed to help keep it open for everyone to enjoy.

479 Really enjoy the Western States. I really like travelling through the Utah area of Moab and
480 south towards Lake Powell (usually dirt roads). I feel it is wrong to close off land that is public land
481 for no real reason, as was done in 1996. People who are employed by the public should remembers
482 who writes the check. More service is needed in the term "Public Servant". [signature, address].

483 I see a need to balance the needs of All users without antagonizing any one group. Also, don't
484 overdevelop. The beauty of the area is its natural state, not in a lot of facilities. This also tends to
485 keep the crowds down.

486 We have too many government restrictions and taxes. Believe it or not, a lot of us people are
487 responsible and can take care of ourselves and the environment. We need less government in our
488 lives!

489 With most of the people I four-wheel with, our group is very responsible and always practices

490 tread lightly, especially in the Moab area because of the crypto-biotic soil everywhere. But every time
491 I attend Jeep Safari, I am witness to many destructive acts and people. So in general, I think there is
492 high impact on the land and it's caused by uneducated four-wheelers, not the responsible ones.