BELIEFS AND ATTITUDES OF IDAHO WILDERNESS USERS

Undergraduate Research Project

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INTRODUCTION

The National Wilderness Preservation System (P.L. 88-577) was established for the primary purpose of preserving and protecting certain lands in a natural condition. The Wilderness Act recognizes appropriate uses of wilderness to be recreational, scenic, scientific, education, conservation, and historical. The Act further specifies that wilderness should provide "outstanding opportunities for solitude and a primitive and unconfined type of recreation" and "shall be administered for the use and enjoyment of the American people." Wilderness is thus managed to preserve natural conditions and processes while providing certain outdoor recreation opportunities.

Visitation to wilderness areas has increased about fifteen fold since Aldo Leopold's time in the 1940's (Lucas, 1973). Wilderness recreation is now at an all time high. Over 7 million visitor days were reported for U.S. Forest Service Wilderness and Primitive Areas for 1976. According to projections, use is expected to increase tenfold by the year 2000 (Nash, 1976). As wilderness use continues to increase, the conflict between use and preservation will intensify. Conflicts among users in search of solitude will also become critical. In general, management problems will become more difficult to solve.

The goals of protecting natural conditions in the wilderness are being increasingly challenged by the environmental impacts that result from heavy recreational use. Loss of vegetation and soils, water pollution, littering, vandalism, and conflicts with wildlife are all detrimental impacts on the wilderness caused by recreational users. Heavy use also defeats the "outstanding opportunities for solitude" that is specified in the Wilderness Act. In a 1970 study of four wilderness and primitive areas, Stankey found that from 11 to 33 percent of the users felt crowded. To simply increase

designation of wilderness areas is not the solution to preservation and crowding problems. Recreational use of wilderness will continue to increase and classification of additional wilderness areas will not be able to keep pace with the increase in use. A recent U.S. Forest Service assessment (1975) indicates that the total potential acres for wilderness in the United States is approximately 88 million acres. Lucas (1973) points out that it is a mistake to become preoccupied with the expanse of wilderness and neglect the intensive management of already designated areas.

In order to meet the problems and achieve the values specified by the Wilderness Act of 1964, it is necessary to make management a part of the wilderness concept. Management of wilderness is a paradox to some people, because wilderness implies the absence of human influence while the term "management" suggests control or manipulation. The primary focus of wilderness management is, however, the regulation and manipulation of human use and influence to preserve naturalness and solitude.

In order to maintain ecosystem integrity and visitor satisfaction, it is necessary to understand the behavior of wilderness users. Independency, spontaneity, and freedom from regimentation are major parts of the wilderness recreation experience. If the manager is to preserve these aspects of the experience and respect the visitors' freedom, a thorough understanding of users is needed.

Several management options are available to wilderness administrators who seek to preserve the environment while maintaining the feeling of solitude and freedom among the visitors. Two broad categories of management approaches have been identified: regulatory and manipulative (Gilbert, Peterson, and Lime, 1972). A regulatory control is one that defines where, when, or how

people may travel or camp. For example, requiring advance reservations for specific campsites is one way of guaranteeing that use levels will not exceed carrying capacity in a given area at any time. Such severe regulation seriously detracts from the quality of the wilderness experience, however. Manipulative controls are less obtrusive practices that control intensity of use without directly interfering with the user's perceived freedom of choice. User behavior is influenced by altering factors that the user considers when deciding where to go and how long to stay. Thus, thorough understanding of the underlying and influencing variables of behavior is necessary, if the manipulative approach is to be effective. A manipulative approach to wilderness management has been empirically evaluated in at least one study.

In a Colorado study, Schomaker (1975) attempted to change the itineraries of wilderness parties by giving them information about crowded conditions. The results demonstrated a relationship between the informational map and the dispersal of Rawah Wilderness users. Schomaker concluded that a better understanding of wilderness recreational behavior is needed if manipulative techniques are to be effective. The present study was designed as a first step in gaining a better understanding of the determinants of wilderness recreation behavior.

The following discussion includes a description of the theoretical framework used in this study as well as the study objectives. A description of the study areas, data collection, and data analysis precede the discussion of the results. Finally, the implications of this work are reviewed and extensions of this work are suggested.

A THEORETICAL FRAMEWORK

Several authors (Driver and Brown, 1975) have identified the need for a theoretical framework that would integrate behavioral data and currently isolated recreation concepts (Brown, et al., 1974; Driver and Brown, 1975). A theoretical model developed by Martin Fishbein shows considerable promise for fulfilling the need for integration of concepts. Fishbein's model provided the basis for this study. The model predicts behavioral intentions from a weighted combination of attitudinal and normative components. The model's equation in general form is:

$$\text{Behavioral intention} = \text{Attitudinal component } (w_1) + \text{Normative component } (w_2)$$

The attitudinal component is defined as the sum of a person's beliefs (B_i) about the consequences of performing a behavior multiplied by his subjective evaluation (a_i) of each consequent. Attitude in algebraic notation is:

$$A = \sum_{i=i}^{n} B_i \, a_i$$

where B_i is individual's belief about the likelihood that the behavior in question will result in the outcome i; a_i is the person's evaluation of outcome i; and n is the number of beliefs (Ajzen and Fishbein, 1973). The normative component, subjective norm (SN), of the theory deals with the influence of the social environment on behavior. The subjective norm is the person's perception of the approval or disapproval of people who are important to him regarding his behavior. Subjective norm in algebraic notation is represented

by:

$$SN = \sum_{i=i} b_i m_i$$

The normative belief (i.e. the person's belief that reference group or individual i thinks he should or should not perform behavior B) is represented by b_i; m_i is the motivation to comply with referent i; and n is the number of relevant referents (Fishbein and Ajzen, 1975, p. 302).

The equation form of the complete model is:

$$B \sim I = (A_B)\ w_1 + (SN)\ w_2$$

where B is overt behavior; I is the intention to perform behavior B; A_B is the attitude toward performing behavior B; SN is the subjective norm; and w_1 and w_2 are empirically determined weights. This formulation has several consequences. First, additional variables external to the model can influence intentions only indirectly by influencing either of the two components or their relative weights. Some of these external factors would be personality variables, situational influences, and attitudes toward objects. Second, the two components of the model predict intentions and not actual behavior. Certain factors tend to lower the correlation between intentions and actual behavior. Potential influencing factors include: distance in time from measurement of intention to measurement of behavior; exposure to new information; the necessity of occurrence of a sequence of prior events; lack of skills or means to perform the behavior; and intervening habits (Fishbein and Jaccard, 1973).

The theory implies that in order to measure an attitude toward an act (A_B) or a subjective norm (SN), it is necessary to identify all of the beliefs that a person holds about a given behavior. Although a person may have many beliefs, research on attention span, comprehension, and information

processing implies that a person is capable of attending to or processing only a small number of beliefs about an object or behavior at a given time (Miller, 1956). It is probably impossible to identify and measure all of the beliefs that a person holds about the consequences of a wilderness backpacking trip. Still, the number of dominant beliefs that determine an intention for a given trip should be relatively small and capable of measurement (Fishbein and Ajzen, 1975, p. 218).

OBJECTIVES

The previous discussion may be summarized in three key points:

1) Wilderness management is necessary.
2) Manipulative management is best.
3) **One needs an understanding of user** to manage with manipulative approach.

Thus, in this exploratory and methodological development study, the general goal was to develop an understanding of components influencing wilderness recreation.

More specifically, the objectives were to:

1) Identify modal salient beliefs of wilderness users.
2) Identify modal salient reference groups of wilderness users.
3) Quantitatively relate beliefs and reference groups to activities, behaviors, and characteristics of wilderness users.

STUDY AREAS

Users were contacted at trailheads of Idaho's Selway-Bitterroot Wilderness and Idaho Primitive Area. The general location of each is shown in Figure 1.

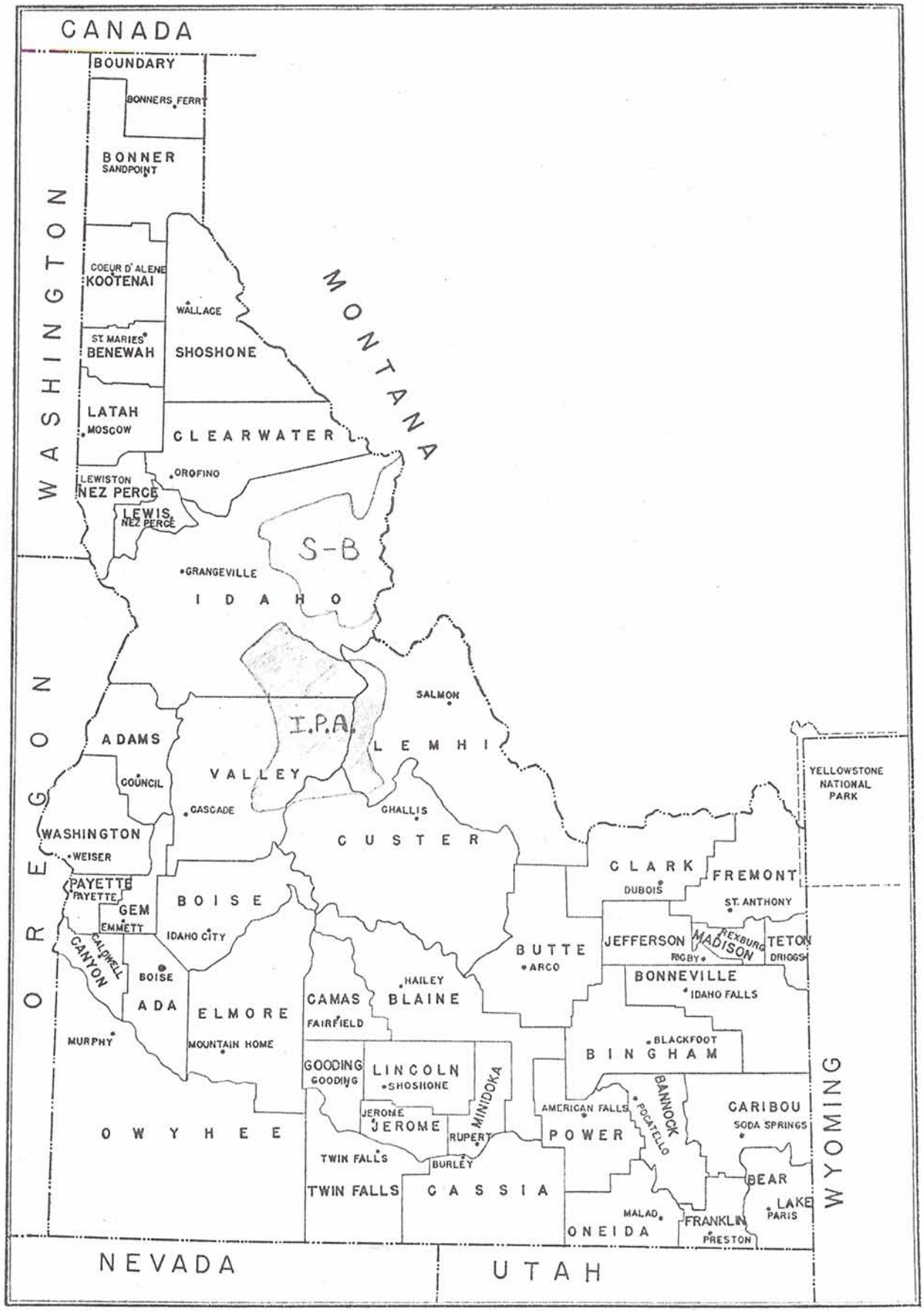
SELWAY-BITTERROOT WILDERNESS

The Selway-Bitterroot Wilderness, 1,243,659 acres, is located on the Nezperce, Clearwater, Bitterroot, and Lolo National Forests. The area lies on both sides of the Bitterroot Mountain Range, the boundary between Idaho and Montana.

Many of the peaks in this area exceed 8000 feet, with a few exceeding 9000 feet. Above tree line, the terrain is relatively steep, barren, and rocky.

The Selway-Bitterroot Wilderness receives its heaviest recreational use during the months of July and August. Although hunting is a popular sport in this area during the fall, there is little recreational use in winter months due to very cold temperatures and problems of access into the more remote areas.

Figure 1. Study Areas
(S-B: Selway-Bitterroot, IPA:
Idaho Primitive Area)



IDAHO PRIMITIVE AREA

The Idaho Primitive Area is located in nearly the geographic center of the State of Idaho. It is fairly compact but slightly elongated unit of 1,087,744 acres. It consists of a vast timbered area with great potential for recreational use.

Mount McGuire is the highest point within the area with an elevation of over 10,000 feet. Heavy snowstorms begin around the middle of October and usually prevent access to the higher areas until July.

There are about fifty small mountain lakes varying in size from 10 to 100 acres within the area. The rugged mountains and numerous lakes and streams allow for various types of outdoor activities including climbing, hiking, fishing, hunting, and camping.

DATA COLLECTION AND ANALYSIS

Questionnaire (Appendix C)

Users of the Selway-Bitterroot Wilderness and the Idaho Primitive Area were sampled in this study. A total of 152 questionnaires were completed during the summer of 1977 between the months of June and September.

A self-administered questionnaire was given to the party leader and other willing members of the party at each trailhead while entering or leaving the area. The first and last part of the questionnaire sought information about the party leader and the group. The information sought consisted of method of travel, activities participated in, previous experience, and general background information such as age, education, and what type of area they were raised in.

The main body of the questionnaire listed experiences or activities that might occur during a wilderness trip. The first part of each open-ended item asked for perceived characteristics, qualities, and attributes for each experience or activity. The second part of each item asked the visitor who would approve or disapprove of their ideas with respect to this particular activity.

Two forms of the questionnaire were used in this study. Two alternate forms of page four were developed and interchanged on every other questionnaire (see questionnaire in Appendix C). This was done so that more experiences and activities could be evaluated while keeping the completion time of the questionnaire to ten minutes or less. On the average, approximately 300 responses were collected for each item on page three and about 120 to 150 for each item on page four. Also, the questionnaires were worded to deal distinctly

with the Selway-Bitterroot Wilderness or the Idaho Primitive Area.

Sampling

The busiest trailheads of the two areas were randomly sampled throughout the summer of 1977. Although only one party member was asked to complete the questionnaire, usually all of the members of a party expressed a desire to complete a questionnaire and did so. No one refused to complete the questionnaire. Most visitors expressed an interest in the study and asked how the results would be applied to wilderness management.

Data Analysis

The responses for each activity or experience item were grouped into categories. Responses were grouped together if they had essentially the same meaning. Thus, for viewing wildlife-awesome, a joyful realization, and lifts the spirit were placed into the same group labeled "A Spiritual Experience". The responses to the normative items of the questionnaire fell into the following categories:

1) Friends
2) Instructors at school
3) Immediate family
4) Extended family
5) Fellow workers
6) Acquaintances
7) Self
8) Scouts
9) Forest Service
10) Conservation Organizations

The remaining portions of the questionnaire were coded according to routine conventions. The data were transferred from the questionnaires to Opscan sheets and cards punched from the sheets.

The Statistical Package for the Social Sciences (SPSS) (Nie, et al., 1975) was employed in data analysis. Descriptive statistics constituted the bulk of data analysis.

SUMMARY OF USER AND TRIP CHARACTERISTICS

The following narrative is a brief summary of characteristics of users sampled in this study. More complete data are presented in Tables 1 to 16 and Tables 37 to 41 in Appendix A.

Approximately 39 weekdays, 8 holiday weekend days, and 28 normal weekend days were sampled. Forty-five visitors were encountered on weekdays, 22 on holiday weekend days, and 84 visitors on normal weekend days. Although this study was administered at seven different trailheads, Big Creek and Corn Creek in the Idaho Primitive Area yielded the most respondents to the questionnaire.

Of the visitors sampled, 17.8 percent had taken at least two wilderness trips in the last 3 years and 21.1 percent were repeat visitors to the wilderness area that they were now entering (Selway-Bitterroot Wilderness or Idaho Primitive Area). Also, 77.6 percent of the respondents had visited wilderness type areas other than the Selway-Bitterroot Wilderness or the Idaho Primitive Area. Of these visitors, 30.9 percent had visited only one other wilderness type area. Of the visitors responding, 57.9 percent stated that their reasons for visiting the other areas were pretty much the same as their reasons for visiting the Idaho Primitive Area or the Selway-Bitterroot Wilderness.

Most users were 10, 12, 18 or 20 years of age when they experienced their first trip into the backcountry and 44.7 percent were introduced to the wilderness by a member or members of their immediate family. Almost one-third of the visitors had participated in outdoor adventure programs and 22.4 percent had previous experience with outfitters.

About one third of the respondents grew up in cities consisting of 100,000 or more people. About 38 percent of the respondents currently live in cities with a population of 10,000 to 100,000 while only 2.6 percent presently live in areas with a population of 100 to 2500. A majority of the visitors sampled, 55.9 percent, had at least some college or vocational training. Of the wilderness users responding, 60.5 percent were male and 38.2 percent were female. Two persons did not respond to this question.

Most of the groups surveyed were traveling with family or friends (42.1 percent and 40.1 percent, respectively). Of the visitors traveling through the wilderness, 87.5 percent were hiking and only 7.9 percent were on horseback. A summary of group types surveyed is depicted in Tables 4 and 5.

The most popular activities checked by the visitors were: hiking, camping, watching wildlife, and studying nature. A negligible portion of the sample listed hunting and floatboating as their activities. Most of the users encountered were staying two to four nights on their trip.

About half of the respondents completed the questionnaires as they entered the areas, the others completed the questionnaire as they were leaving. Only one person expressed dissatisfaction with the trip as they were leaving the area.

SUMMARY OF THE BELIEFS AND ATTITUDES

The following is a brief summary of the beliefs and attitudes of Idaho wilderness users sampled in this study. More complete information is presented in Table 17 to 35 in Appendix A.

Respondents often did not give the desired type of response to the open-ended items. An evaluative response such as "good", "bad", "great", was typical rather than a response with substantive characteristics, qualities, or attributes. The tendency to give evaluative responses was noted early in the field season. The importance of listing characteristics was then stressed in oral instructions when a visitor was handed a questionnaire. Many respondents still gave evaluative responses. In hindsight, an interview technique in which answers could have been probed and clarified may have yielded better responses. Most of the modal beliefs were probably identified in this study. Interviewing would have permitted a better estimation of the distribution of beliefs among visitors and elimination of the "noise" caused by the evaluations. The following discussion includes both beliefs and evaluations. The tables in the appendix deal primarily with beliefs. Generally, only the modal categories are included in the discussion.

Almost half of the visitors listed "Seeing Litter in the Wilderness" as totally degrading. The most popular response (24.3 percent) to "Hiking in the Wilderness" was that it was under "good for health". "Camping near others"was listed as a negative experience by 28.8 percent of the visitors and 3 percent said that is was an interesting phenomenon. The visitors were about equally split on their reaction to horse use in wilderness. Responses varied from primitivism to disgusting and lazy. Aircraft use in the

wilderness was listed as useful for management practices by 31.5 percent of the visitors while 30.7 percent said aircraft use in the wilderness was a negative experience.

All respondents were given the above items, because two different questionnaire forms were used only half the sample responded to each of the following items. Form A lists studying nature in the wilderness. 41.2 percent of the visitors said that this activity was of educational value. Overall, 41.1 percent replied that having a wilderness experience was a "peak, unique experience." Watching wildlife was listed as an "interesting experience" by 46.8 percent of the visitors.

When asked how encountering large parties in the wilderness affected them, 53.1 percent of the respondents listed it as a negative experience and 3.9 percent listed it as a positive experience. Hunting in the wilderness was said to be unethical by 35.9 percent of the people. Using motorized equipment in the wilderness was said to be a negative experience by 53.5 percent of the wilderness users. Finding impacted campsites received the same response from 43.4 percent of the visitors.

The first different statement on form B of the questionnaire was "camping without leaving evidence". Of the respondents, 32.8 percent agreed that this preserves the high quality of the wilderness. 14.3 percent said that it was very difficult to do. Fishing in the wilderness is a very rewarding and enjoyable experience according to 35.7 percent of the visitors and only one person found it undesirable.

When asked how encountering others on the trail affected them, many visitors said that it was a friendly, enjoyable experience. 30.8 percent of the users said that taking pictures in the wilderness was a rewarding,

enjoyable experience. Several users, 42.8 percent, said that having a campfire in the wilderness was warm and comfortable. Due to the high impact that fires have in the wilderness, 19.5 percent of the visitors noted that caution must be exercised.

About half (48.5 percent) of the visitors said that mountain climbing was exhilarating and provided a challenge, although not all of the visitors participated in this activity. Not seeing any other parties on their trip was a peaceful, quiet relieving experience for 54.7 percent of the visitors.

IMPLICATIONS

The goal of wilderness management is to maintain the integrity of the ecosystem while preserving the independence and freedom of wilderness visitors. Less obtrusive, manipulative management can control the intensity of use without directly interfering with the user's freedom. Wilderness users in this study reported that they seek freedom of movement in the wilderness on their own terms, confirming the importance of the manipulative approach. Users generally agree with the policies emanating from the Wilderness Act of 1964. This general agreement between users and policy should facilitate wilderness management in the future.

For example, managers seek to discourage overcrowding and overuse of wilderness type areas. Users also indicated that large, noisy parties interfered with their wilderness experience. The use of motorized vehicles is prohibited by the Wilderness Act of 1964. The respondents to this study were very supportive of this law and expressed a desire that the prohibition of motorized vehicles continue.

The responses given to the open-ended items were compared with the item pool developed by B. L. Driver (1977). It is interesting that nearly all of the characteristics and attributes listed by the respondents reflected one of Driver's scales. It thus appears that Driver's scales may be good ones to use in measuring beliefs of wilderness users. The advantage of using Driver's scales is that he has refined the scales through reliability testing and factor analysis. The work reported here is valuable because it confirms the relative completeness of Driver's scale. The categories used by Driver might be used in the Fishbein model as outcomes to be evaluated and rated. The potential exists to use beliefs to identify behavioral motives in a more quantitative study using the Fishbein model.

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APPENDIX A

Table 1. Trailheads sampled in the Idaho Primitive Area and Selway-Bitterroot Wilderness in the summer of 1977.

Trailhead	Absolute Frequency	Relative Frequency
Big Fog Mountain	23	15.1
Wilderness Gateway	9	5.9
Jerry Johnson Hot Springs	24	15.8
Elk Summit	23	15.1
Race Creek	6	3.9
Corn Creek	32	21.1
Big Creek	35	23.0

Table 2. Day-type use in the Idaho Primitive Area and Selway-Bitterroot Wilderness in the summer of 1977.

Day-Type Use	Absolute Frequency	Relative Frequency
Holiday Weekend	22	14.5
Normal Weekend	84	55.3
Weekday	45	29.6
Missing	1	0.7

Table 3. The type of group activity sampled in the Idaho Primitive Area and the Selway-Bitterroot Wilderness in the summer of 1977.

Dichotomy Label	Count	Percent of Responses
Hiking	141	18.1
Horseback Riding	17	2.2
Camping	135	17.4
Fishing	92	11.8
Taking Photographs	106	13.6
Mountain Clumbing	34	4.4
Nature Study	110	14.2
Watching Wildlife	114	14.7
Hunting	4	0.5
Floatboating	4	0.5
Other	20	2.6

Table 4. The type of group sampled in the Idaho Primitive Area and Selway-Bitterroot Wilderness in the summer of 1977.

Group Type	Absolute Frequency	Relative Frequency
One Person	26	17.1
Family	64	42.1
Friends	61	40.1
Organization	1	0.7
TOTAL	152	100.0

Table 5. The method of travel used by groups sampled in the Idaho Primitive Area and the Selway-Bitterroot Wilderness in the summer of 1977.

	Absolute Frequency	Relative Frequency
Hiking	133	87.5
Riding horseback	12	7.9
Riding with stock	4	2.6
Missing	3	2.0

Table 6. Number of trips taken into the wilderness in the previous three years by sampled visitors to the Idaho Primitive Area and Selway-Bitterroot Wilderness in the summer of 1977.

Number of Trips	Absolute Frequency	Relative Frequency
0	11	7.2
1	14	9.2
2	27	17.8
3	16	10.5
4	17	11.2
5	12	7.9
6-10	33	21.7
>10	22	14.5
TOTAL	152	100.0

Table 7. Number of previous trips taken in the Idaho Primitive Area and Selway-Bitterroot Wilderness prior to 1977.

Number of Total Trips Into the Area	Absolute Frequency	Relative Frequency
0	24	15.8
1	32	21.1
2	28	18.4
3	17	11.2
4	8	5.3
5	9	5.9
6-10	21	13.8
>10	11	7.1
Uncodable Response	1	0.7
Missing	1	0.7
TOTAL	152	100.0

Table 8. Other wilderness type areas visited other than the Idaho Primitive Area and Selway-Bitterroot Wilderness sampled in the summer of 1977.

Other Areas Visited	Absolute Frequency	Relative Frequency
No	32	21.1
Yes	118	77.6
Missing	2	1.3
TOTAL	152	100.0

Table 9. Number of other wilderness-type areas visited prior to visiting the Idaho Primitive Area and Selway-Bitterroot Wilderness in 1977.

Number of Other Areas Visited	Absolute Frequency	Relative Frequency
1	47	30.9
2	32	21.1
3	21	13.8
4	3	2.0
5	3	2.0
6-10	7	4.7
>10	2	1.4
Uncodable Response	3	2.0
Missing	34	22.4
TOTAL	152	100.0

Table 10. Reasons for visiting other wilderness areas.

Reasons for Visiting Area	Absolute Frequency	Relative Frequency
Reasons were pretty much the same	88	57.9
Reasons were the same with minor differences	48	31.6
Reasons were different	2	1.3
Missing	14	9.3
TOTAL	152	100.0

Table 11. Total number of nights in Idaho Primitive Area and Selway-Bitterroot Wilderness in the summer of 1977.

Number of Nights	Absolute Frequency	Relative Frequency
0	14	9.2
1	11	7.2
2	38	25.0
3	27	17.8
4	34	22.4
5	7	4.6
6-10	16	10.5
>10	4	2.8
Missing	1	0.7
TOTAL	152	100.0

Table 12. Trip satisfaction in the Idaho Primitive Area and Selway-Bitterroot Wilderness for 1977.

Trip Satisfaction	Absolute Frequency	Relative Frequency
Yes	72	47.4
No	1	0.7
Just Entering Wilderness	74	48.7
Missing	5	3.3
TOTAL	152	100.0

Table 13. Age of respondent when first on a wilderness trip.

Age at First Trip	Absolute Frequency	Relative Frequency
<10	15	9.9
10-15	45	29.6
16-20	48	31.6
21-25	15	9.9
26-30	13	8.6
>30	10	6.6
Missing	6	3.9
TOTAL	152	100.0

Table 14. Person responsible for introducing respondent to wilderness.

Person Responsible For Introduction to Wilderness	Absolute Frequency	Relative Frequency
Scouts	12	7.9
Extended Family	4	2.6
Self	11	7.2
Friends	43	28.3
NAPA (organization)	1	0.7
Immediate Family	68	44.7
Reading Literature	8	5.2
Forest Service	1	0.7
Missing	4	2.6
TOTAL	152	100.0

Table 15. *Participation in outdoor-adventure programs by respondents.

Participation in Programs	Absolute Frequency	Relative Frequency
No	104	68.4
Yes	46	30.3
Missing	2	1.3
TOTAL	152	100.0

*See Appendix B.

Table 16. *Previous experience with outfitters by respondents.

Experience With Outfitters	Absolute Frequency	Relative Frequency
No	116	76.3
Yes	34	22.4
Missing	2	1.3
TOTAL	152	100.0

*See Appendix B.

Table 17. Response to seeing litter in the wilderness.

Seeing Litter in the Wilderness	Count	Percent of Responses
Totally degrading	149	49.7
Negates atmosphere	6	2.0
Detracts from natural surroundings	31	10.3
Alters the experience	4	1.3
Negative experience	110	36.7
TOTAL RESPONSES	300	100.0

Table 18. Response to hiking in the wilderness.

Hiking in the Wilderness	Count	Percent of Responses
Hard work	13	3.9
Peaceful and removed	25	7.4
Beautiful and scenic	51	15.1
Good for one's health	82	24.3
Rejuvenating	31	9.2
Enjoy different scenery	119	5.6
Difficult and tedious	8	2.4
Pleasant and enjoyable	18	5.3
Challenging and Exciting	21	6.2
Family vacations	8	2.4
Closeness to nature	9	2.7
Chance to get away from it all	7	2.1
Pioneer feeling	3	0.9
Wet	1	0.3
Transportation through the wilderness	3	0.9
Spiritual satisfaction	21	6.2
Fresh air, beautiful mountains	8	2.4
Self-sufficient	3	0.9
Religious experience	6	1.8
Total	337	100.0

Table 19. Response to camping near others in the wilderness.

Camping Near Others in the Wilderness	Count	Percent of Responses
Mixed feelings	26	8.6
Negative experience	96	31.8
Positive social experience	54	17.9
Inhibits positive wilderness experience	37	12.3
Destroys solitude	71	23.5
Inevitable	9	3.0
Interesting phenomena	9	3.0
Total Responses	302	100.0

Table 20. Response to riding horseback in the wilderness.

Riding Horseback in the Wilderness	Count	Percent of Responses
Caution is a must	16	5.6
Horses are utilitarian	43	15.1
You get to experience horses	16	5.6
A wilderness experience	16	5.6
Physical recreation activity	52	18.2
Primitivism	8	2.8
Conflicts with hikers	50	17.5
Horses are detrimental to the resource and experience	57	20.0
Disgusting and lazy	27	9.5
Total Responses	285	100.0

Table 21. Response to aircraft use in the wilderness.

Aircraft Use in the Wilderness	Count	Percent of Responses
Legal description	6	2.2
Aircraft are tuilitarian	18	6.7
Aircraft interfere with wilderness experience	59	22.1
Useful for management practices	84	31.5
Negative experience	82	30.7
Good idea	2	0.7
Associated negatively with money	16	6.0
Total Responses	267	100.0

Table 22. Response to studying nature in the wilderness.

Studying Nature in the Wilderness	Count	Percent of Responses
Educational value	56	41.2
Builds appreciation	8	5.9
Satisfying	34	25.0
Allows for seeing beauty	35	25.7
Challenging	2	1.5
Other	1	0.7
	136	100.0

Table 23. Response to having a wilderness experience.

Having a wilderness Experience	Count	Percent of Responses
Romantic definition	1	0.8
Provides good recall experience	3	2.3
Contact with nature	15	11.7
Mental and physical renewal	14	10.9
Spiritual satisfaction	37	28.9
Peak, unique experience	53	41.4
Primitivism	3	2.3
Socially rewarding	1	0.8
Escape	1	0.8
Total Responses	128	100.0

Table 24. Response to watching wildlife in the wilderness.

Watching Wildlife in the Wilderness	Count	Percent of Responses
Interesting	59	46.8
Examples of life	3	2.4
Spiritual experience	12	9.5
Arousing, tense situation	15	11.9
Increase environmental awareness	9	7.1
Beautiful	19	15.1
Educational	9	7.1
Total Responses	126	100.0

Table 25. Response to encountering large parties in the wilderness.

Encountering Large Parties in the Wilderness	Count	Percent of Responses
Requires certain management	8	6.3
Has a negative effect on wilderness environment	8	6.3
Positive experience	5	3.9
Not totally positive but acceptable	12	9.4
Negative experience	68	53.1
Diminishes solitude experience	27	21.1
Total Responses	128	100.0

Table 26. Response to hunting in the wilderness.

Hunting in the Wilderness	Count	Percent of Responses
Incompatible with wilderness	7	6.0
Enjoyable	12	10.3
Fine, with qualifications	30	25,6
Challenging	3	2.6
Unethical	42	35.9
Dangerous	23	19.7
Total Responses	117	100.0

Table 27. Response to using motorized equipment in the wilderness.

Using Motorized Equipment in the Wilderness	Count	Percent of Responses
Incompatible with wilderness	41	31.8
Fine, with qualifications	3	2.3
Negative experience	69	53.5
Dangerous	2	1.6
Illegal	14	10.9
Total Responses	129	100.0

Table 28. Response to finding impacted campsites in the wilderness.

Finding Impacted Campsites in the Wilderness	Count	Percent of Responses
Necessitates management	8	6.2
Detracts from wilderness experience	21	16.3
Detrimental to environment	34	26.4
Negative experience	56	43.4
Must be expected	9	7.0
Other	1	0.8
Total Responses	129	100.0

Table 29. Response to camping without leaving evidence in the wilderness.

Camping Without Leaving Evidence in the Wilderness	Count	Percent of Responses
Almost impossible	3	2.5
Thoughtful, responsible	25	21.0
Must be removed	4	3.4
Preserves high quality wilderness	39	32.8
Very difficult	17	14.3
Absolutely necessary	31	26.1
Total Responses	119	100.0

Table 30. Response to fishing in the wilderness.

Fishing in the Wilderness	Count	Percent of Responses
Undesirable	1	0.7
Peaceful and relaxing	41	29.3
Food supply	21	15.0
Requires patience	14	10.0
Beautiful and scenic	2	1.4
Rewarding and enjoyable	50	35.7
Best location to fish	6	4.3
Worthwhile	3	2.1
Renewable	2	1.4
Total Responses	140	100.0

Table 31. Response to encountering other parties on the trail in the wilderness.

Encountering Other Parties on the Trail	Count	Percent of Responses
Friendly	33	26.4
Interesting	21	16.8
Large parties interfere with solitude	12	9.6
Excessive contact with people	14	11.2
Sometimes annoying	20	16.0
Tolerable if minimal	15	12.0
All people have the right to use the trail	2	1.6
Inevitable	8	6.4
Total Responses	125	100.0

Table 32. Response to taking pictures in the wilderness.

Taking Pictures in the Wilderness	Count	Percent of Responses
Best pictures taken are in the wilderness	6	4.6
Beautiful memories	35	26.9
Rewarding and enjoyable	40	30.8
Great for studying nature at home	6	4.6
No harm to wildlife	17	13.1
Capture once-in-a-lifetime pictures	26	20.0
Total responses	130	100.0

Table 33. Response to having a campfire in the wilderness.

Having a Campfire in the Wilderness	Count	Percent of Responses
Expected completion of trip	1	0.6
Warm and comfortable	68	42.8
Necessary to dry clothes, keep warm and cook	21	13.2
High impact, exercise caution	31	19.5
Only for emergencies	13	8.2
Campfire talks and socials	13	8.2
Scars wilderness	4	2.5
Abundant firewood	1	0.6
Sometimes annoying	1	0.6
Prefer the reliability and safety of a stove	6	3.8
Total responses	159	100.0

Table 34. Response to mountain climbing in the wilderness.

Mountain Climbing in the Wilderness	Count	Percent of Responses
Requires skill and endurance	4	3.1
Exhilarating, a challenge	63	48.5
That's what the hills are there for	2	1.5
Beautiful rocks and cliffs	4	3.1
Difficult, strenuous and tiring	48	36.9
Spacey feeling	4	3.1
Prefer safety of trails	5	3.8
Total responses	130	100.0

Table 35. Response to not seeing any other parties on the trail in the wilderness.

Not Seeing Any Other Parties on the Trail in the Wilderness	Count	Percent of Responses
Lonely, desolate	8	5.3
A relief, peaceful, quiet	82	54.7
Closeness with nature	21	14.0
Helpful	7	4.0
Wilderness solitude all to yourself	22	14.7
Desirable, but seldom occurs	10	6.7
Total Responses	150	100.0

Table 36. Reference groups cited as important for beliefs about activities or experiences in the wilderness.

Group/Activity Experience	Hiking		Camping near others		Horseback Riding		Aircraft Use		Studying Nature		Having a Wilderness Experience		Watching Wildlife		Encountering Large Parties		Hunting		Using Motorized Vehicles		Finding Impacted Campsites		Camping Without Leaving Evidence		Fishing		Encountering Other Parties on Trail		Taking Pictures		Having a Campfire		Mountain Climbing		Not Seeing Any Other Parties	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Friends	84	44.0	77	44.0	71	42.0	64	38.8	35	36.5	39	44.8	35	42.7	33	39.8	34	39.1	34	38.2	35	41.2	43	43.0	46	43.8	39	48.1	43	43.9	37	37.4	47	58.8	41	45.6
Instructors at school	--	---	--	---	--	---	--	---	19	19.8	--	---	1	1.2	--	---	--	---	--	---	--	---	--	---	--	---	--	---	2	2.0	--	---	--	---	--	---
Immediate Family	68	35.6	62	35.4	62	36.7	51	30.9	28	29.2	30	34.5	32	39.0	26	31.3	36	41.4	31	34.8	32	37.6	31	31.0	39	37.1	21	25.9	37	37.8	35	35.4	17	21.3	28	31.1
Extended Family	7	3.7	4	2.3	5	3.0	4	2.4	1	1.0	1	1.1	1	1.2	2	2.4	3	3.4	2	2.2	1	1.2	3	3.0	4	3.8	3	3.7	3	3.1	3	3.0	1	1.3	3	3.3
Fellow Workers	--	---	--	---	--	---	1	0.6	1	1.0	--	---	1	1.2	--	---	1	1.1	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---
Acquaintances	13	6.8	5	2.9	5	3.0	8	4.8	3	3.1	5	5.7	5	6.1	4	4.8	3	3.4	7	7.9	5	5.9	8	8.0	5	4.8	5	6.2	5	5.1	6	6.1	3	3.8	4	4.4
Self	17	8.9	26	14.9	25	14.8	22	13.3	9	9.4	12	13.8	7	8.5	14	16.9	9	10.3	10	11.2	10	11.8	10	10.0	9	8.6	3	16.0	8	8.2	9	9.1	11	13.8	14	15.6
Scouts	1	0.5	--	---	--	---	1	0.6	--	---	--	---	--	---	1	1.2	--	---	--	---	1	1.2	2	2.0	--	---	--	---	--	---	--	---	--	---	--	---
Forest Service	--	---	1	0.6	1	0.6	11	6.7	--	---	--	---	--	---	--	---	--	---	5	5.6	1	1.2	3	3.0	1	1.0	--	---	--	---	9	9.1	1	1.3	--	---
Conservation Organization	1	0.5	--	---	--	---	3	1.8	--	---	--	---	--	---	3	3.6	1	1.1	--	---	--	---	--	---	1	1.0	--	---	--	---	--	---	--	---	--	---
TOTAL*	191		175		169		165		96		87		82		83		87		89		85		100		105		81		98		99		80		90	

*Multiple responses were possible, therefore total varies for each item for the 152 questionnaires completed.

Table 37. Type of area respondent grew up in.

Type of Area	Absolute Frequency	Relative Frequency
On a farm or ranch	23	15.1
In a rural area but not farm or ranch	13	8.6
In an urban area sized 100-2499 population	16	10.5
In an urban area sized 2500-9999 population	16	10.5
In an urban area sized 10,000-99,999 population	31	20.4
In an urban area sized 100,000 or more population	52	34.2
Missing	1	0.7
Total	152	100.0

Table. 38. Type of area respondent presently lives in.

Type of Area	Absolute Frequency	Relative Frequency
On a farm or ranch	14	9.2
In a rural area but not a farm or ranch	20	13.2
In an urban area sized 100-2499 population	4	2.6
In an urban area sized 2500-9999 population	11	7.2
In an urban area sized 10,000-99,999 population	57	37.5
In an urban area sized 100,000 or more population	45	29.6
Missing	1	0.7
Total	152	100.0

Table 39. Education level completed by respondents.

Education Level	Absolute Frequency	Relative Frequency
Elementary	1	0.7
Junior high school	1	0.7
Some high school	4	2.6
High school graduate	17	11.2
Some college or vocational training	85	55.9
College graduate	30	19.7
Advanced degree	13	8.6
Missing	1	0.7
Total	152	100.0

Table 40. Present age of the respondents sampled.

Present Age	Absolute Frequency	Relative Frequency
<20	24	15.8
20-24	64	42.1
25-29	23	15.1
30-39	19	12.5
40-49	17	11.2
>50		2.6
Missing	1	0.7
TOTAL	152	100.0

Table 41. Sex of the respondent sampled.

Sex	Absolute Frequency	Relative Frequency
Female	58	38.2
Male	92	60.5
Missing	2	1.3
Total	152	100.0

APPENDIX B

OUTDOOR-ADVENTURE PROGRAMS PARTICIPATED IN
BY VISITORS TO THE IDAHO PRIMITIVE AREA
AND SELWAY-BITTERROOT WILDERNESS

University of Montana Outdoor Club

University of Colorado Wilderness Study Group

Forest Service

University of Idaho Outdoor Program

University of Alaska Outdoor Club

Explorer Post 999

Outward Bound

University of Wisconsin Outdoor Club

High School Mountaineering Club

Idaho Mountain Search and Rescue Unit

Pocatello Parks and Recreation Wilderness Program

Day Camp

Biology Club

Summer Camp

Horse Outfitter Trip

Camps and Ranger Instruction

Sawtooth Mountaineering

PREVIOUS EXPERIENCE WITH OUTFITTED OR GUIDED TRIPS BY VISITORS TO THE IDAHO PRIMITIVE AREA AND SELWAY-BITTERROOT WILDERNESS

Pagsang Falls - Phillipines
National Student Exchange
Hunting Group
Outfitted Pack Trip to the Bob Marshall Wilderness
Brooks Range, Alaska
Australian Outback
Colorado Raft Trip
Nampa High School Science Club
Salmon River Raft Trip
Middle Fork Float Trip
Hells Canyon Float Trip
Pocatello Parks and Recreation
Outfit in Quetico-Superior Wilderness
National Forest
Allagash River Trip
Adirondacks
White Mountains
Hunting and Fishing Outfit
Seven Devils Trip
Sierra Club
Outdoor Recreation Club

APPENDIX C

QUESTIONNAIRE

TEACHING/RESEARCH/SERVICE
Wildland Recreation Management
(208) 885-7911

University of Idaho
College of Forestry,
Wildlife and Range Sciences
Moscow, Idaho 83843

BELIEFS AND ATTITUDES OF IDAHO WILDERNESS USERS

The purpose of this questionnaire is to learn about your travel party and plans for today's trip into the Selway-Bitterroot Wilderness. This study, when completed, will help guide management of the area so that users of the Selway-Bitterroot Wilderness will continue to have satisfying experiences.

You are one of a small group of people in this area being asked to discuss your trip and your views of wilderness. Your honest answers are absolutely essential to the successful completion of the study. Please help us by participating in the survey and carefully answering all the questions. Your answers will remain confidential and will be used only for the purposes of this study.

If you have questions, or you are interested in the results of the study, please write to Stacy Young, Wildland Recreation Management Program, College of Forestry, University of Idaho, Moscow, Idaho 83843. We will be glad to respond.

Thank you very much for your help.

First we need some information about you and your party.

1. What type of group are you traveling with? (circle one number)

   1. ONE PERSON
   2. FAMILY WITH OR WITHOUT FRIENDS
   3. FRIENDS
   4. ORGANIZATION (name of organization: _____)
   5. OTHER (describe: _____)

2. What method of travel are you using? (circle one number)

   1. HIKING
   2. RIDING HORSEBACK
   3. RIDING WITH STOCK

3. Please indicate which of the following activities you and your party are participating in during this trip to the Selway-Bitterroot Wilderness. (Check all that apply)

   ___ HIKING
   ___ HORSEBACK RIDING
   ___ CAMPING
   ___ FISHING
   ___ TAKING PHOTOGRAPHS
   ___ MOUNTAIN CLIMBING
   ___ NATURE STUDY
   ___ WATCHING WILDLIFE
   ___ HUNTING
   ___ FLOAT BOATING
   ___ OTHER (describe: _____)

4. About how many trips have you taken into the wilderness in the last 3 years?

_____

5. How many (total) times have you been to the Selway-Bitterroot Wilderness?

_____

6. Have you visited other wilderness type areas besides the Selway-Bitterroot Wilderness? (circle one)

   1. NO
   2. YES (If yes, how many? _____)

7. If you have visited other areas, were your reasons for going there the same as your reasons for visiting the Selway-Bitterroot Wilderness? (circle one number)

   1. MY REASONS WERE PRETTY MUCH THE SAME
   2. THERE WERE SOME MINOR DIFFERENCES BUT MY MAIN REASONS WERE THE SAME
   3. MY REASONS WERE PRETTY DIFFERENT

8. How many nights do you plan to stay this trip?

_____

9. If you are leaving the wilderness now, were you satisfied with your present trip? (circle one number)

   1. YES
   2. NO
   3. JUST ENTERING THE WILDERNESS

10. How old were you when you made your first trip to the wilderness?

_____

11. Who was most influencial in introducing you to the wilderness? _____

_____

12. Have you participated in any educational or outdoor - adventure programs dealing with wilderness?

   ___ NO
   ___ YES (If yes, what were they? _____)

13. Have you had any previous experience with outfitted or guided trips?

   ___ NO
   ___ YES (If yes, please list them: _____)

In this next section, we would like to ask you about some of your beliefs about wilderness. We have listed several experiences that you might have in wilderness. We would like you to tell us two things about each of these experiences. First, WHAT ARE THE CHARACTERISTICS, QUALITIES, AND ATTRIBUTES OF EACH EXPERIENCE? That is, what do you like or dislike about each experience? Second, WHO WOULD APPROVE OR DISAPPROVE OF YOUR IDEAS ABOUT THIS EXPERIENCE? That is, who influenced your thoughts about this experience? This might include friends, family members, or anyone else.

EXAMPLE:

Sightseeing in wilderness:

CHARACTERISTICS, QUALITIES, ATTRIBUTES usually beautiful, unique, rocky

WHO WOULD APPROVE OR DISAPPROVE? wife, guys at work

Please answer each question , even if you haven't had the experience mentioned.

14. Seeing litter in wilderness:

CHARACTERISTICS, QUALITIES, ATTRIBUTES _____

WHO WOULD APPROVE OR DISAPPROVE? _____

15. Hiking in wilderness:

CHARACTERISTICS, QUALITIES, ATTRIBUTES _____

WHO WOULD APPROVE OR DISAPPROVE? _____

16. Camping near others in wilderness:

CHARACTERISTICS, QUALITIES, ATTRIBUTES _____

WHO WOULD APPROVE OR DISAPPROVE? _____

17. Horseback riding in wilderness:

CHARACTERISTICS, QUALITIES, ATTRIBUTES _____

WHO WOULD APPROVE OR DISAPPROVE? _____

18. Aircraft use in wilderness:

CHARACTERISTICS, QUALITIES, ATTRIBUTES _____

WHO WOULD APPROVE OR DISAPPROVE? _____

Finally, for the purposes of statistical analysis, we would like to ask a few background questions.

26. Which of the following best describes where you grew up? (circle one number)

1. ON A FARM OR RANCH
2. IN A RURAL AREA BUT NOT ON A FARM OR RANCH
3. IN AN URBAN AREA SIZED 100-2499 POPULATION
4. IN AN URBAN AREA SIZED 2500-9999 POPULATION
5. IN AN URBAN AREA SIZED 10,000-99,999 POPULATION
6. IN AN URBAN AREA SIZED 100,000 OR MORE

27. Which of the following best describes where you live now? (circle one number)

1. ON A FARM OR RANCH
2. IN A RURAL AREA BUT NOT ON A FARM OR RANCH
3. IN AN URBAN AREA SIZED 100-2499 POPULATION
4. IN AN URBAN AREA SIZED 2500-9999 POPULATION
5. IN AN URBAN AREA SIZED 10,000-99,999 POPULATION
6. IN AN URBAN AREA SIZED 100,000 OR MORE

28. What is the highest grade that you completed in school? (circle one number)

1. ELEMENTARY SCHOOL
2. JUNIOR HIGH SCHOOL
3. SOME HIGH SCHOOL
4. HIGH SCHOOL GRADUATE
5. SOME COLLEGE OR VOCATIONAL TRAINING
6. COLLEGE GRADUATE
7. ADVANCED DEGREE

29. What is your age? _____

30. What is your sex? (circle one number)

1. FEMALE
2. MALE