

WILD RIVER PERCEPTION AND MANAGEMENT: A STUDY OF USERS AND
MANAGERS OF THE MIDDLE FORK OF THE SALMON RIVER

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ABSTRACT

Evidence indicates that foresters who manage the Middle Fork of the Salmon River are very much in tune with floaters in their personal outlook on river management. Middle Fork managers correctly predicted user reactions to more than three-fourths of the questionnaire statements presented in this study.

Sampling included 253 of 367 floaters and all Forest Service personnel questionnaires were returned. Eighty percent of the statements were correctly perceived by managers. Forest Service personnel, however, did not accurately perceive many of the characteristics of users. First, managers indicated that only 35% of the users would belong to conservation organizations while this study found that more than half (52%) of the users belonged to such organizations. Second, managers did not have a good indication of the educational level and income of floaters--managers indicated that only 49% of the users would have a college education or higher and an average income of \$15,000 while this study found that 69% of the users had a college degree or higher and an average income of \$26,000. Finally, managers did not have a good indication of the types of user floating the Middle Fork--managers indicated that 77% of the users fell into the commercial group while this study found that only 68% of the users fit into this category.

Managers did not feel as strongly about environmental issues as did users. Fifty percent of the users showed a definite "strong purist" attitude about the environmental statements presented while managers indicated a less intense purist attitude.

Users responded more intensely than managers to the importance of

solitude in the wild river experience. Eighty percent of the users felt solitude was "very important" to the floating experience while only 58% of the managers indicated solitude was "very important" to the wild river experience.

Managers appeared to be more development-oriented than did users. Ninety-two percent of the managers felt that users would be "bothered" at camping in places with no sanitary facilities or developed areas while 65% of the users indicated they would "enjoy" such areas.

Forest Service personnel stressed stronger feeling toward the need for controls on the Middle Fork than did users. All managers favored controlling use of the river at the present time while only 64% of the users were in favor of such action. In addition, all Forest Service personnel indicated that limiting the size of parties floating the river is necessary while only 73% of the users favored party size limitations.

The responses to management alternatives were not generally perceived by managers. Forest Service personnel indicated that users would oppose the restriction of limiting use to only those with prior river experience when in fact more than 20% of the users favored such action. In addition, approximately 80% of the Forest Service personnel responding felt users would favor the issuance of a limited number of permits on a first-come, first-served basis. A majority of the users (55%) indicated they were opposed to this alternative. Also, managers felt users would favor the assignment of campsites when in fact 59% of the users opposed this alternative.

Middle Fork managers appear to be similar in their responses to those of users which indicates knowledge of the Middle Fork user.

Needs include (1) additional information into all factors that may be a result of increasing use, (2) establishing guidelines that will determine when the maximum number of people is attained and controls imposed to correct it, and (3) continual information flow from users.

(110 pages)

INTRODUCTION

Today, land managers find themselves facing difficult decisions regarding the numbers and kinds of use an area can support while meeting institutional objectives (laws, regulations, policies, etc.). Furthermore, many decisions are made with little information regarding the public's reaction to such decisions. This has led to the growing use of the courts by groups dissatisfied with public land management practices. In some cases, the result of such court action has been detrimental to the future decision-making policies of land management agencies.

H. R. Glascock, Jr. (1972), Executive Vice President of the Society of American Foresters, admits that one of the biggest problems that land managers face today is determining what users of the public lands really want. Unlike trees, wildlife, and water, people reason, vocalize, exercise political and legal force, and otherwise influence management decisions. Reliable information from people using public lands is needed by public land managers concerning wants and desires. How can the public lands be managed to meet all the demands for use that are placed upon them is an "everyday" question being faced by managers.

Decisions that lack factual information can lead to irreparable damage of the physical environment as well as result in a less enjoyable experience to the user. This emphasizes the need for decisions that are founded upon the best information available. However, decision-making has never been easy or precise, especially when decisions must be made regarding preservation or use.

In the past, most of the public land decisions made usually did not involve choosing among competing uses of public land. Today, however, when the variety and intensity of possible uses is increasing, and when many of these uses are "public" in the most visible sense, decisions have to be supplanted by procedures that would allow them to meet the test of public acceptance (Hagenstein, 1971).¹ Every decision may not receive public approval before implementation because physical relationships often dictate certain management practices, regardless of public opinion. Clearcutting is an example--even though people may object to clearcutting, it may be the only "reasonable" means of harvesting some areas. The public, however, can exert its influence in regulating the location, size, and other aspects of the clear-cut operation.

Therefore, management of any natural resource depends upon the knowledge of the physical environment and public opinion. Most land managers are trained to understand and direct the use of the physical resource but their training, in general, includes little training in determining social desires. This knowledge would enable land managers to determine the public wants and their ability to satisfy them or, to explain why they cannot, or should not, meet these wants. In addition, the ability of land managers to communicate reasons for making certain decisions would insure that the public is aware of adminis-

¹The National Environmental Policy Act of 1969 made this a requirement by law. The act declares that agencies must "develop procedures to ensure the fullest practicable provision of timely public information and understanding of Federal plans and programs with environmental impact in order to obtain the views of interested parties."

trative action. This would also help develop administrators who are more receptive to the needs and wants of the public.

It is important, therefore, for public land managers to learn about their users--Who are they?, Where do they come from?, How do they feel about management alternatives?, Do they perceive any problems? Answers to these and similar questions have not, in general, been available to land managers in making resource decisions. More often than not, land managers must rely on their own perception of user values in making these decisions. The accuracy and precision of these perceptions may be critically questioned, however. Stone and Taves (1958) suggest that land managers do not perceive the resource the same as users.

Land managers, like all of us, do not have access to complete information and must depend on day-to-day informal samples of reality. When opinions and preferences of the user are gained from impressions through day-to-day experiences, the risk of forming biases is increased since we are all victims of limited exposure. The exposure to user preferences for many land managers seems to be heavily biased by vocal conservation groups and comfort seeking parties of users commanding their attention (Hendee and Harris, 1970).

Another source of management or perception bias is selective perception--the predisposition to experience events in certain and consistent ways (Bruner, 1958). In other words, men see what they look for and observe what they expect to see (Berelson, 1958).

Land managers' concern for the resource is their major responsibility,

part of their work, and a frequent source of problems. Most land managers reside in the out-of-doors and trained to understand and direct the use of resources. Users on the other hand, tend to be urban residents, probably well-educated professionals, and frequently engaged in social activity (e.g. doctors and lawyers) for a living, in contrast to the resource-oriented activity of the land manager. For example, a wilderness trip to many users is like a pilgrimage to a place viewed with reverence. To managers, such trips may mean diversion from other pressing duties and responsibilities, and hard work performed under difficult conditions. Thus, land managers might take wilderness and its values for granted, or appear to do so, and thus restrict their ability to gain information from users (Hendee and Harris, 1970).

Several authors provide empirical evidence that strongly suggest that land managers may not perceive the resource the same as users (Berelson, 1958; Bruner, 1958; Stone and Taves, 1958; and Hendee and Harris, 1970). More research, however, is needed to provide evidence which will support or reject these accusations.

OBJECTIVES AND JUSTIFICATION FOR RESEARCH

Objectives

Specific objectives of the study were:

1. To determine differences and similarities to certain questionnaire statements between Middle Fork floaters and the Forest Service personnel managing the Middle Fork of the Salmon River.
2. To analyze the management implications for these differences and similarities.
3. To hypothesize reasons for any differences or similarities found.

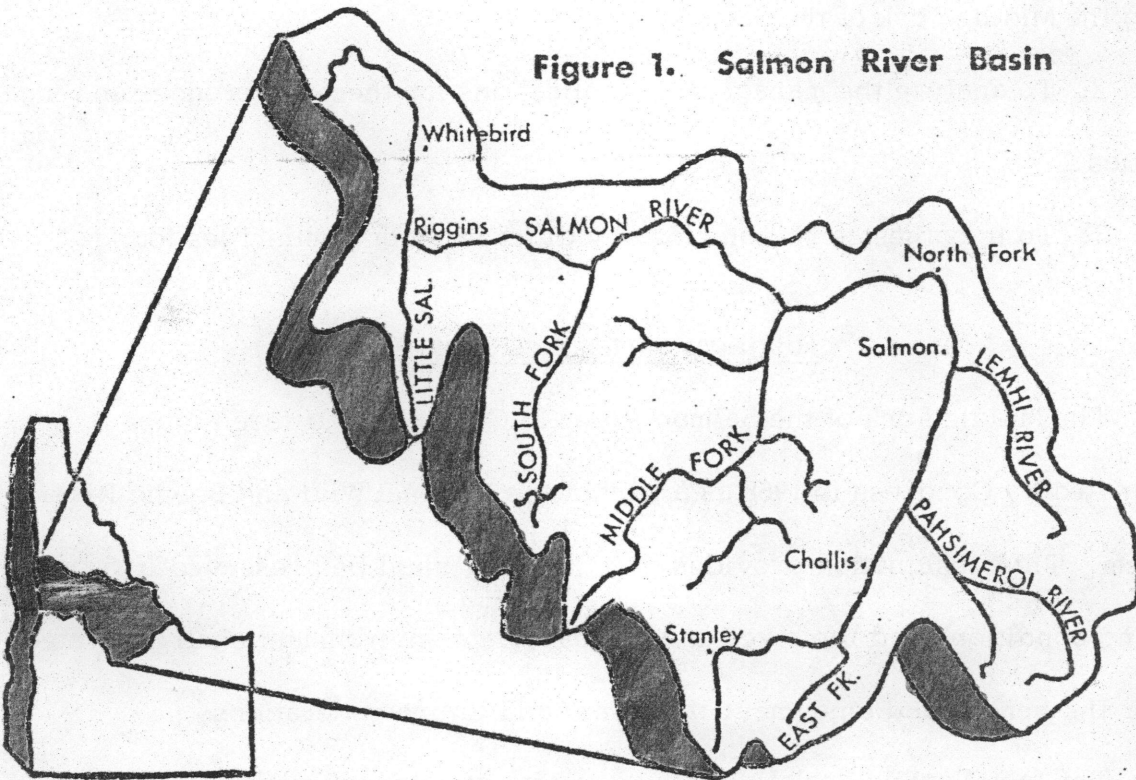
Justification for Research

The Middle Fork of the Salmon River in Central Idaho (see Figure 1) was designated by Congress in 1968 as a part of the National Wild and Scenic Rivers System. This designation provides that the river shall be preserved in a free-flowing condition, and the river and its immediate environment shall be protected for the benefit and enjoyment of present and future generations.²

The fast-flowing, relatively pure water, coupled with the primitive characteristics of the Middle Fork has made it a national attraction for recreationists. River runners, hunters, fishermen, sightseers, and backpackers commonly confront the rugged confines of the area during the short summer season when snow-

²Wild and Scenic Rivers Act (Public Law 90-542). Nationwide, eight rivers were selected in the Act to form the initial components of the National Wild and Scenic Rivers System. The Act designated the following as "instant" wild rivers: Clearwater, Middle Fork, Idaho; Eleven Point, Missouri; Feather, California; Rio Grande, New Mexico; Rogue, Oregon; Saint Croix, Minnesota and Wisconsin; Salmon, Middle Fork, Idaho; and the Wolf, Wisconsin. There were also designated 27 "study" rivers.

Figure 1. Salmon River Basin



packs allow access.

Until the mid-1940's, only a limited number of hunters, trappers, prospectors, and fishermen used the area (Midmore, 1970). In 1959, the Forest Service constructed a road to the upper reaches of the river that increased accessibility of the Middle Fork and allowed a substantial increase in recreational use. For example, between 1962 and 1971 the number of Middle Fork floaters increased more than five fold (Table 1).

Table 1

Number of Middle Fork Floaters

Year	Number	Year	Number
1962	625	1967	1299
1963	580	1968	1396
1964	753	1969	1624
1965	1260	1970	3028
1966	1260	1971	3250

Source: U.S. Forest Service

The fact that more and more people are floating the Middle Fork is most important, especially when viewed from the problems these numbers are placing on resource managers and administrators. The large increase in recreational use on the Middle Fork has helped generate considerable interest on the part of the Forest Service regarding the impact this increased use has on the user and the environment. A Wild River Ranger position was created to cope

with the problems of increasing Middle Fork use and to explore and implement programs concerning use of the Middle Fork. In many cases, however, implementing programs regarding increased use of a resource usually involves regulating or restricting the users of that resource. Now the question has to be raised--how much use can we expect for the Middle Fork in 1972 or beyond?

There is a limit to just how many people can use the Middle Fork and still maintain the quality concepts inherent in the "wild river" classification.³ But where should the line be drawn in determining what constitutes an "acceptable" level of use for the Middle Fork? Before this acceptable level can be determined, information from the user is essential in arriving at a solution. For example, if users place importance in seeing "few people," then providing a quality experience for the user should be an important element in allocating use of the river.

Many decisions, however, may be made with little or no information from users and it is the intent of this study to determine how perceptive Middle Fork managers are about their users and the implications these results may have in the decision-making process concerning the Middle Fork.

³This classification refers to those rivers that are generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

PROCEDURES

Questionnaires

Personal interviews. Personal interviews (see Appendix) were conducted during the 1971 float season to obtain data concerning Middle Fork floaters. After field testing the questionnaire, however, it was found that it would not meet the objectives of the study. For this reason, a mail questionnaire was proposed since it was impossible to completely change the interview questionnaire in time for the 1971 float season. The mail questionnaire was to integrate personal interview data and the knowledge gained through user encounters. In this way, time and money would be saved from waiting until the next float season to use another interview questionnaire. A total of 118 interviews were taken during the 1971 float season.

Mail questionnaires. A self-registration station was placed at Dagger Falls, the primary access and only road to the Middle Fork, during the 1971 float season to procure names and addresses of floaters. The station had a sign indicating that a research study was being conducted and asking for cooperation. The sign stated:

ATTENTION FLOATERS

PLEASE REGISTER BEFORE ENTERING THE RIVER

In order to protect and manage the Middle Fork, we need to know more about you, the wild river user--what you do and what you think.

Please write your name and address on a card from the box and drop it through the slot.

Some of you will be picked as sample visitors and mailed a questionnaire. If so, please complete it and send it back.

Thank you. Wild and Scenic Rivers Study Unit, University of Idaho, Moscow, Idaho 83843.

Dagger Falls was chosen as the site for the registration station because of the relative ease of checking and collecting registration cards throughout the float season. From the cards collected a total of 367 persons were contacted. This number represented approximately 12% of the total floating population. All persons over the age of 15 were mailed a questionnaire (see Appendix).

A questionnaire was mailed to 367 self-registered floaters which in turn provided information from 253 Middle Fork users. The questionnaire contained statements that would stress the user's attitude (Likert attitude scale) to various management issues and use parameters (e.g. importance and satisfaction of the floating experience). In addition, user characteristics such as age and income were also included.

Manager questionnaires. A similar questionnaire (see Appendix) was sent to 21 Forest Service personnel familiar with the problems and administration of the Middle Fork. This list included Forest Supervisors, Recreation Staff Officers, District Rangers, River Rangers, and other Forest Service personnel

from the Boise, Challis, Payette, and Salmon National Forests. A total of 21 questionnaires were returned.

Forest Service personnel were asked to indicate how they felt users would respond to various management issues and use parameters. Managers were also asked to indicate their own attitude to statements concerning their position on environmental issues. In addition, managers were to give their responses to user characteristic statements as the percent of users they felt fit into these categories.

Sampling Procedures

The basic distinction in modern sampling theory is between probability and nonprobability sampling. The essential characteristic of probability sampling is that one can specify for each element of the population the probability that it will be included in the sample, and for each element there must be some specifiable probability that it will be included. In nonprobability sampling, there is no way of estimating the probability that each element has of being included in the sample, and no assurance that every element has some chance of being included (Selltiz, et al., 1959).

This study used two forms of nonprobability sampling--accidental samples (personal interviews and mail questionnaires) and purposive samples (manager questionnaires).⁴

⁴The reader should be warned that "accidental sampling" and "purposive sampling" are technical terms, as defined in the text. The words "accidental" and "purposive" may have quite different connotations in everyday usage. These meanings should not be confused with those assumed in the technical usage. Thus, it may be no accident (everyday usage) that a sampler picks the cases he does in an accidental sample (technical usage) (Selltiz, et al., 1968, p. 515).

In accidental sampling, one simply reaches out and takes the cases that fall at hand, continuing the process until the sample reaches a desired size. Thus, all Middle Fork floaters that were met and were willing to be interviewed were sampled. A similar sample was taken from registration cards in that all heads of households and other usable cards were mailed a questionnaire.

A major disadvantage of accidental sampling is that there is no known way (other than doing a parallel study with a probability sample or with a complete census) of evaluating the biases⁵ introduces in such samples (Selltiz, et al., 1968).

The basic assumption behind purposive sampling is that with good judgment and an appropriate strategy one can hand-pick cases to be included in the sample and thus develop samples that are satisfactory to one's needs (Selltiz, et al., 1968).

Forest Service personnel were selected based on their knowledge or experience concerning the Middle Fork. It is these people who make the decisions. As personnel changes are made, however, a new group of managers would be involved, who may respond differently to the questions than present managers. These personnel changes represent a weakness of the approach (purposive sampling) used in this study.

Likert Attitude Scale

Attitude scales are simply a series of attitude statements with which the

⁵Bias refers to the difference between the average of the estimates of a population value that would be obtained from a very large number of samples selected by a given procedure and the actual population value, assuming identical measurement processes (Selltiz, et al., 1968, p. 516).

respondent is asked to rank himself in terms of the order of his agreement or disagreement (Oppenheim, 1966).

A Likert attitude scale was used in this study to determine user and manager attitudes to various management issues, use parameters, and environmental issues. Respondents placed themselves on an attitude continuum for each attitude statement--running from "strongly agree" to "agree," "no opinion," "disagree," and "strongly disagree."⁶ These five positions were given numbers of 1, 2, 3, 4, and 5 (Oppenheim, 1966).

The most serious criticism against this type of scale is its lack of reproducibility: the same total score may be obtained in many different ways. Thus, scores cannot be comparable to other studies and often, for this reason, results of the study can be questioned. Another criticism has been that the Likert scale offers no metric or interval measures, and it lacks a neutral point, so that one does not know where scores in the middle ranges change from mildly positive to mildly negative. It should be pointed out, however, that percentile norms or standard-deviation norms can be calculated if a sample of sufficient size is available. With regard to the neutral point on the scale, we must agree that this is not necessarily the midpoint between two extreme scores; moreover, scores in the middle region could be due to lukewarm response, lack of knowledge, or lack of attitude in the respondent (leading to "uncertain" responses), or to the presence of both strongly positive and strongly negative responses, which would more or less balance each other, suggesting that the scale is not unidi-

⁶In this study, the following attitude positions were used: favor-oppose, agree-disagree, important-unimportant, and enjoy-both.

mensional (Oppenheim, 1966) .

In practice, if we remember that equal score intervals do not permit us to make assertions about the equality of underlying attitude differences and that identical scores may have different meanings, Likert scales tend to perform very well when it comes to a reliable, rough ordering of people with regard to a particular attitude (Oppenheim, 1966) .

Analysis

Chi-square. Identifying the responses of Forest Service personnel and Middle Fork floaters and determine differences and similarities to questionnaire statements required some measure that would yield some indication of the relative differences of each group. The measure used in this study was a chi-square. (Snedecor and Cochran, 1956) .

Chi-square determines whether or not an observed frequency distribution differs significantly from the distribution we would expect by chance. The chi-square procedure tests the null hypothesis about frequency distributions as a total entity only. In other words, the significant chi-square tells us that this distribution differs significantly from the chance distribution. Results that are statistically significant provide a basis only for concluding that the distributions being tested are different (Snedecor and Cochran, 1956) . The null hypothesis to be tested in this study is that there are no significant differences in the perceptions of Forest Service personnel to those of Middle Fork floaters.

Due to the small number of Forest Service personnel (n 200) , an adjusted chi-square was used to increase the goodness of fit (Sokal and Rohlf, 1969,

p.566) . In addition, for ease of tabulation and to obtain the largest cell frequency possible, data was combined and a chi-square test performed on 2 x 2 tables.

RESULTS AND DISCUSSION

Middle Fork floaters were sampled to determine their attitudes to various management issues and use parameters. Forest Service personnel, familiar with the Middle Fork's problems and administration, were sampled to determine their perception of user responses to the various management issues and use parameters. In addition, managers and users were asked to indicate their own attitude to several environmental statements.

Each questionnaire statement was analyzed by a chi-square test and the differences or similarities were used to hypothesize reasons for these differences or similarities.

User Characteristics

Six statements were presented to Middle Fork floaters in order to obtain data concerning user characteristics. Forest Service personnel were asked to give their responses to user characteristic statements as the percent of the users they felt fit into these categories (Table 2). This study was concerned with determining whether or not Forest Service personnel accurately perceived user characteristics and the implications that can be gained from differences or similarities.

Table 2 User characteristics

<u>Category</u>	<u>Forest Service personnel</u>	<u>Middle Fork floaters</u>
1. Types of user:		
Commercial ⁷	77%	68%
"Do-it-yourselfer" ⁷	23	32
2. Where do users reside:		
Rural	6	8
5,000 or less population	5	5
5,000 - 10,000	6	8
10,000 - 25,000	15	10
25,000 - 50,000	13	14
50,000 - 100,000	18	12
100,000 - 250,000	19	13
250,000+	18	28
3. What is the education level of users:		
Grade 0-8	4	2
Grade 9-11	6	6
High School diploma	17	8
Some college or additional schooling	24	14
College graduate	37	31
Advanced degree	12	38
4. What percent of the users belong to a conservation/outdoor organization:	35	52
5. What is the average income of users per family:	\$15,000	\$26,000
6. What is the average age of users:	41 years	37 years

⁷Commercial are those users paying for the services of a guide and/or outfitter. "Do-it-yourselfers" are users who prefer to float with their own equipment and do not enlist the services of a guide or outfitter.

⁸Responses of all Forest Service personnel were tallied and the averages used for each category.

Types of user. Forest Service personnel appear to have a good indication with respect to the types of user floating the Middle Fork (Table 2). Managers' estimation of the commercial group, however, was higher than actually found in this study which may indicate that these users are commanding the attention of Middle Fork managers. One reason for this may be the fact that commercial parties are generally large, which in turn, may cause impact problems for the Middle Fork's environment (e.g. sanitation and water quality problems, garbage accumulation, and overuse of campsites). "Do-it-yourselfers," on the other hand, are generally inexperienced and this may create management problems, too (e.g. loss of equipment and injury which may require emergency procedures).

Knowledge of the types of user floating the Middle Fork will help determine user patterns which may be manipulated by managers in arriving at a desired management goal for the Middle Fork (e.g. reducing the size of commercial parties may prevent overuse of campsites or implementing a "white water experience" regulation would eliminate the inexperienced "do-it-yourselfer").

Residence of users. From Table 2, the responses of Forest Service personnel and users are similar. Data indicates that a majority of the users (53%) reside in areas with a population of 50,000 or more people. This factor may be important in the fact that the Middle Fork is relatively remote from most major population centers.

The ORRRC (1962) study of wilderness users revealed that users to such areas were more likely to reside in urban areas. This may be important from the standpoint of management since the urban culture may produce persons that

are motivated to use wilderness or wilderness-type recreation areas.

Conservation/outdoor organizations. Middle Fork managers felt that only 35% of the users would belong to an organization that was primarily concerned with conservation and/or outdoor recreation (Table 2). This study shows that more than half (52%) of the users responding belong to such organizations.

The study failed to determine the affiliation of Middle Fork users in national, regional, and local conservation groups. Hendee, et al., (1958), found that membership in conservation groups was concentrated among smaller regional and local activity-oriented groups rather than the larger politically powerful national groups. It may be unlikely that membership in the national groups occurs spontaneously. Such memberships may stem from a steppingstone type of process, whereby persons first join an activity-oriented group, learn the appropriate values, and subsequently expand their involvement in the conservation movement by joining one of the larger national organizations. If such a steppingstone process is plausible, then membership in the larger groups is likely to expand greatly in the future, since the smaller activity-oriented groups now encompass a majority of the persons affiliated with organized groups. This topic deserves serious study considering its implications for Middle Fork management.

Education and Income. Forest Service personnel did not accurately perceive the educational categories of Middle Fork users, especially the higher education levels (Table 2). Middle Fork managers indicated that 49% of the users had a college education or beyond while this study found that

69%⁹ of the users had a college degree or higher indicating a highly educated user floating the Middle Fork.

Also, managers did not have a good idea of the average income of users. Managers indicated an average income for floaters to be \$15,000 while this study found the average income of floaters to be \$26,000.¹⁰ This high figure may reflect the higher education levels achieved by floaters.

Education and income may be important to Middle Fork management since floating the Middle Fork appears to be a "rich man's" type of activity. Some authors, however, believe that high incomes are not related to taste preferences (Wildland Research Center, 1962; Lucas, 1964; and Burch and Wenger, 1969) and their findings show that any group of users appear to be influenced more by the particular desires and preferences of the individuals than by their incomes.

Preference information and changes in preferences are not clearly understood at this time and studies should be initiated to provide evidence on this topic. This study shows, however, that Middle Fork use may be a function of income. In fact, income may be an underlying causal factor in choosing to float the Middle Fork.

Age. Forest Service personnel indicated the average age of users to be 41 years which was close to the average age of 37 years found in this study.

⁹According to the 1970 census, only 11.0% of the nation's population has 4 or more years of college.

¹⁰This study found that 70% of the floaters made \$15,000 or more per year. In a 1969 census, only 19.3% of the nation's people made \$15,000 or more per year.

This indicates a relatively young user floating the Middle Fork. Age appears to pose no real problems with respect to Middle Fork management, but the Middle fork's "wildness" may be more appealing to the more adventuresome, younger users.

Use Parameters

Four statements were presented to Middle fork managers and users in order to determine the perceptions of Forest Service personnel to various use parameters concerning Middle Fork use (Table 3). Questionnaire statements were concerned with "first timers," repeat users, and the months and days of the week use occurred.

First timers. From Table 3, Forest Service personnel indicated that 67% of the users were floating the Middle Fork for the first time, when in fact, 79% of the users responding were "first timers." This may be significant since of the questionnaire statements presented in this study might be viewed differently by first timers and "seasoned rivers."¹¹ For example, restrictions on use might be favored by most first timers unfamiliar with the Middle Fork while most seasoned river runners might resist such action. In addition, a majority of the seasoned river runners appear to be do-it-yourselfers--89% indicated they had floated the Middle Fork before as compared with only 32% of the users in the commercial group.

Basic information such as this will minimize biases of one major group or type of user from commanding the attention of Middle Fork managers and deci-

¹¹Those users who have floated the Middle Fork before.

Table 3. Use parameters

<u>Category</u>	<u>Forest Service personnel</u>	<u>Middle Fork floaters</u>
1. What percent of the users are floating the Middle Fork for the first time:	67%	79%
2. What percent of the users plan to float the Middle Fork again:	40	58
3. What percent of use occurred during the following months:		
June	6	1
July	46	80
August	44	16
September	4	3
4. What percent of use occurred during the following days:		
Saturday	20	9
Sunday	30	13
Monday	22	17
Tuesday	8	12
Other	20	22

sions made will complement all groups.

Repeat use. Fifty-eight percent of the users responding indicated they planned to float the Middle Fork again (Table 3). Forest Service personnel indicated that only 40% of the users would be "repeaters." This is important from the standpoint of management since Middle Fork use is increasing each year and

¹² Responses of all Forest Service personnel were tallied and the averages used for each category.

just how much do repeat users contribute to this annual increase.

In addition, many users indicated they would not float the Middle Fork again due to two primary reasons: (1) The river was too crowded, and (2) There were other "wild rivers" to float. These factors may contribute significantly to an ultimate capacity or maximum number of people for the Middle Fork since people may go elsewhere if use of the Middle Fork becomes too heavy and as other "wild rivers" gain recognition for floating.

At this time, however, it is difficult to say what impact repeat users have on the Middle Fork.

Days and months use occurs. Middle Fork managers did not have a good indication of the amount of use that was occurring by months or by days of the week. For example, this study found that more than three-fourths (80%) of all float trips occurred during the month of July. In addition, 42% of these float trips started on three consecutive days of the week--Sunday, Monday, and Tuesday. Managers indicated 60% of all starts occurred on these days.

Knowledge of the volume of float trips on the Middle Fork is basic to management. Volume of use will dictate some appropriate action from management to either restrict or control use when it becomes too heavy, or, encourage use during slack periods. Reliable information, however, is needed to determine the patterns of use during the float season.

Attitudes about the Environment

Middle Fork managers and users were asked to respond to nine attitude statements concerning the environment. Each respondent was to indicate how he felt about each attitude statement (Table 4).

The attitude statements developed in this study were designed to focus on the position of users and managers to various views and issues dealing with the environment. A five-point scale was provided for each attitude statement ranging from "strongly agree" to "strongly disagree." Scoring was arranged so that managers and users who held strong "purist" ideas for the environment would score high while those with less intense ideas would score low. The possible range of scores for the attitude statements was between 45 and 9.

Forest Service personnel and Middle Fork floaters were classified into groups based on the "purism score" (Table 5). Four groups were established: Strong purist, persons who scored between 37 and 45 on the scale; moderate purist, persons with scores from 28 to 36; neutralists, scoring from 19 to 27; and non-purists, persons scoring less than 19. Table 5 shows the distribution of these "purist" groups for managers and users. All attitude statements were included to evaluate the total value placed on the environment by managers and users.

It should be pointed out that these "purist" categories are arbitrary and subject to change depending on the data required. In classifying respondents as "strong purists," for example, the intent was to group those persons who showed a consistently high level of agreement on the attitude statements presented. "Neutralists," on the other hand, tended to cluster around the midpoint of the scale. Although this classification scheme is somewhat arbitrary and variations in the establishment of categories will be reflected in the results, it provides a basis for comparing attitudes of users and managers. Several studies have shown that a gradient of preferences for environmental experiences

Table 4. Number of responses to "Please indicate if you agree or disagree with the following statements"

	Taxes should not be increased to provide a quality environment		A beautiful view is just as beautiful from a roadside overlook as from a trail deep in a forest		Satisfactory recreation activity must be near towns and cities		Rivers should be harnessed to provide electricity, irrigation, and water		Enough land has been set aside for wilderness, wildlife protection, and recreation use		The forests of the nation are not being cut in a manner and at a rate that will harm the environment		Meeting a large number of people on recreational outing makes the trip more rewarding		All forms of recreation should be made easily accessible to everyone		Historical or archeological artifacts should be kept by those who find them	
	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr
Strongly Agree	30 (12)	1 (5)	3 (1)	3 (14)	16 (6)	2 (10)	-	-	13 (5)	2 (10)	5 (2)	4 (19)	-	-	10 (4)	1 (5)	3 (1)	-
Agree	29 (11)	2 (10)	16 (6)	7 (33)	21 (8)	1 (5)	6 (28)	21 (8)	12 (5)	1 (5)	15 (6)	4 (19)	7 (3)	1 (5)	28 (11)	1 (5)	15 (6)	-
No Opinion	49 (19)	3 (14)	14 (6)	2 (10)	12 (5)	3 (14)	3 (14)	29 (11)	12 (5)	5 (24)	70 (29)	5 (24)	25 (10)	6 (28)	22 (9)	3 (14)	16 (6)	2 (10)
Disagree	79 (31)	8 (38)	75 (30)	6 (28)	77 (30)	10 (48)	4 (19)	41 (17)	63 (25)	6 (28)	58 (23)	5 (24)	91 (35)	6 (28)	86 (34)	10 (48)	56 (22)	7 (33)
Strongly Disagree	61 (24)	4 (19)	143 (56)	3 (14)	125 (49)	5 (24)	7 (33)	151 (60)	151 (60)	5 (24)	101 (40)	2 (10)	130 (51)	7 (33)	107 (42)	6 (29)	160 (63)	11 (52)
No Response	6 (2)	3 (14)	2 (1)	-	2 (1)	-	1 (5)	0 (3)	2 (1)	2 (10)	4 (2)	1 (5)	-	1 (5)	-	-	3 (1)	1 (5)
Total	253	21	253	21	253	21	253	21	253	21	253	21	253	21	253	21	253	21

() Indicates percent

exist among wilderness users (Wildland Research Center, 1962; Lucas, 1964; Hendee, et al., 1968; and Stankey, 1971) and groupings used in this study were intended to provide a framework for accommodating this gradient for purpose of analysis. The results, however, are not comparable with the above studies since they deal with different attitude parameters and conclusions drawn would be invalid.

Table 5

Distribution of Purist Groups Among Forest Service Personnel
and Middle Fork Floaters

<u>Purist Groups</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Strong Purists (37-45)	5	25	126	50	131
Moderate Purists (28-36)	7	32	71	28	78
Neutralists (19-27)	4	17	25	10	29
Non-Purists (18 or less)	5	25	31	12	36
Total	21		253		274

Chi-square = 4.980 ns, 3 degrees of freedom (df)

ns Non-significant

From Table 5, Middle Fork managers appear to have less intense feelings concerning the environment than did users--50% of the users indicated a "strong purist" attitude. One possible reason for this is that a forester's concern for the environment is his responsibility, part of his work, and a frequent source of problems. Thus, foresters may take environmental values for granted or at

least appear to do so, whereas, for most users the environment is a stage for play and a source of appreciation. Problems may occur when the philosophy of managers runs contrary to the philosophy of users in establishing Middle Fork policy. For example, if user attitudes oppose some policy, then implementing such a policy in all probability would cause a decline in aggregate user satisfaction. The resource manager, however, may feel that existing policies leave him no other option than to undertake this action, but at least an understanding of how it might affect the user can lessen its impact and could even change existing, obsolete policies.

It should be noted, however, there is no significant difference between managers and users statistically (chi-square is less than 7.815). In addition, it is difficult to say whether or not the attitude statements relate to the respondent's own attitude about the environment or whether he is responding to what he believes is correct based on his membership in conservation organizations or receiving unfactual information concerning environmental issues. This study found that 52% of the users belong to a conservation and/or outdoor organization. Also, the inherent weaknesses in the attitude statements themselves may bias the results. For example, the way in which the attitude statements were worded may have led many respondents to a "desired" response wanted by the author, or, forced users to react "negatively" and managers "positively."

Urban versus rural may have contributed to the high number of "strong purists." Urban residents may hold and revere the environment above the rural resident and therefore, may have more intense feelings towards the environment. Also, geographical region may influence purist categories (East versus

West). In the East, primitive-type areas are scarce and persons from the East may regard the Middle Fork floating experience with great reverence while Western users may not regard the floating experience in quite the same manner, where there are relatively abundant primitive-type areas.

Although the attitude statements presented in this study may have shortcomings, it can provide managers with an indicator of user attitudes to management decisions as well as an accurate picture of how management programs might optimize the benefits from the resource (e.g. developing campsites may meet resistance from strong purists since development may not be an integral part of the wild river experience).

Importance of the Wild River Experience

The importance of the "wild river" experience was perceived about the same by users and managers (Table 6). However, there are some issues on which Forest Service personnel did not feel as strongly as did users. Managers and users were asked to indicate how important or unimportant they as individuals felt nine statements were to the "wild river" experience. Results would determine the differences or similarities between users and managers in showing what each group holds as "important" to the floating experience and hypothesize reasons for these differences or similarities in their application to Middle Fork management.

It is questionable, however, that the categories presented in the "importance" section might have influenced the results. If something is "unimportant" how can it be "very unimportant." Future research efforts may want to note this inconsistency.

Solitude. The importance of "solitude" was more important to users than managers (Table 7). Perhaps one of the reasons for this response is that foresters work and live in the outdoors and may take the Middle Fork for granted and feel it is not as important to them as it would be for someone floating the Middle Fork for the first time. This study found that 79% of the users were floating the Middle Fork for the first time. This may account for 80% of the responses indicating that solitude was "very important" to the floating experience for users. Also, this study found that 78% of the users fit into the moderate to strong purist groups which may account for the high value placed upon solitude. Middle Fork managers, on the other hand, live in the outdoors and probably very familiar with the resource. They may not hold solitude as "very important" since their job requires them to be associated with the Middle Fork everyday and therefore, may not revere its solitude as users floating the Middle Fork for the first time.

Table 7. Number of responses to "the importance of solitude, uncrowded areas, and being away from the rush of civilization to a 'wild river' experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Very Important	11	58	200	80	211
Important	8	48	49	20	57
Total	19		249		268

Chi-square = 4.045*, 1 df

*Significant at the .05 level

This factor may be important from the standpoint of management since most users desire a float trip that will provide them with solitude, uncrowded areas, and being away from the rush of civilization. If this be the case, restricting use of the river may be in order since users want solitude and increasing use would only detract from the primitive experience they seek.

White water adventure. Middle Fork managers and users were similar in their responses to the importance of "white water" in the floating experience (Table 8). This is not surprising since many outfitters, TV specials, and river publicity expound the "thrill" of running the Middle Fork's white water. Therefore, nearly all managers and users felt that white water adventure is an "important" factor to the wild river trip.

Table 8. Number of responses to "The importance of 'white water adventure' to a wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Very Important	11	61	162	66	173
Important	7	39	83	34	90
Total	18		245		263

Chi-square = 0.184 ns, 1 df

ns Non-significant

The Middle Fork is fortunate to have an abundance of white water thrills for users and managers alike and this could possibly be one reason why the Mid-

dle Fork is so popular with floaters. The Middle Fork may continue to enjoy increased use each year from the fact that it is "one" of the nation's wildest rivers.

Camping experience. Table 9 shows that Forest Service personnel and Middle Fork floaters were similar in their responses to the importance of the "camping experience" to the wild river experience. Camping is an integral part of the float trip and this is perhaps why nearly all the respondents felt that camping was an "important" factor to the wild river experience.

Table 9. Number of responses to "The importance of the 'camping experience' to the wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Very Important	4	22	78	38	82
Important	14	78	125	62	139
Total	18		203		221

Chi-square = 1.590 ns, 1 df

ns Non-significant

From the standpoint of management, the camping experience does not pose any management problems as long as users met their expectations of what the camping experience should have been. However, increased use of the Middle Fork may create overused campsites or several parties having to camp at a single campsite may give the user an unsatisfactory camping experience. Thus,

managers may want to control or restrict use of the river in order to prevent overuse of campsites or two or more parties sharing one campsite.

Family enjoyment. Eighty percent of the users responding felt family enjoyment was "important" to the wild river experience while only 63% of the Middle Fork managers indicated that family enjoyment was "important" to the floating experience (Table 10). Interview data from the 1971 float season shows that 53% of those sampled made the float trip with the entire family.

It should be noted, however, that 25% of the users and 14% of the managers (Table 6) did not respond to the question. One possible reason for this may be in the fact that many may not be married or have a family and therefore, could not respond to the question.

Table 10. Number of responses to "The importance of 'family enjoyment' to the wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Important	10	63	140	80	150
Unimportant	6	37	36	20	42
Total	16		176		192

Chi-square = 2.301 ns, 1 df

ns Non-significant

This may be an important factor to consider in managing the Middle Fork since the make-up of the family may require certain management considerations.

For example, women may want sanitary facilities provided while men may not care if the Forest Service provided them or not. Information such as this from the user would provide managers with a better idea of the wants and desires of the user.

History and scientific interest. Sixty-nine percent of the Forest Service responding indicated that history and scientific interest was an "important" factor in the wild river experience while 83% of the users responding felt that history and scientific interest was "important" to the floating experience (Table 11).

Table 11. Number of responses to "The importance of 'history and scientific interest' to the wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Important	11	69	143	83	154
Unimportant	5	31	30	17	35
Total	16		173		189

Chi-square = 1.956 ns, 1 df

ns Non-significant

This may be important from the standpoint of management since little information concerning the history and/or scientific aspects of the Middle Fork is available to users. To provide such materials or promote private individuals to do so may add greatly to the satisfaction of the float trip.

Floating a wild river. From Table 12, managers and users indicate that

floating one of the nation's wild rivers was an "important" factor to the floating experience. One possible reason for this response may be in the fact that after floating the Middle Fork, the "importance" of floating a wild river may be characteristic to any floating experience.

Table 12. Number of responses to "The importance of 'floating one of the nation's wild rivers' to the wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Important	16	94	208	95	224
Unimportant	1	6	12	5	13
Total	17		220		237

Chi-square = 0.042 ns, 1 df

ns Non-significant

Floating a wild river may be an important factor to consider in managing the Middle Fork since nearly all users feel it is important to float a "wild river." Also, the factor may account for other responses (e.g. solitude, family enjoyment, and camping experience). Therefore, managers may want to keep the river "wild" and determine how this "wildness" affects total user satisfaction.

Observing and being part of nature. A majority of the users responding (56%) indicated that observing and being part of nature was "very important to the floating experience while only 35% of the Forest Service personnel responding indicated that observing and being part of nature was "very impor-

tant" to the wild river experience (Table 13). One possible reason for this response is that Middle Fork managers work in the outdoors and close to nature much of the time while many users live in cities and do not have the opportunity to be close to nature and therefore, managers might not hold being close to nature as highly as would users living in urban areas.

Table 13. Number of responses to "The importance of 'observing and being part of nature' to a wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Very Important	6	35	135	56	141
Important	11	65	105	44	116
Total	17		240		257

Chi-square = 2.042 ns, 1 df

ns Non-significant

Users appear to desire a place where they can see and be part of nature. At this time, however, what the user expects to see during the float trip and what types or aspects of nature would add or detract from the floating experience is not known. Basic information such as this could provide managers with a better understanding of the relationship between the user and the environment and environment and the user.

Personal enrichment. From Table 14, 61% of the users responding felt that personal enrichment was "very important" to the wild river experience

while only 44% of the managers responding indicated that personal enrichment was "very important" to the floating experience. One possible reason for this response may be that managers are probably very familiar with the river and floating may not "enrich" their lives as much as it would for users who are floating the Middle Fork for the first time.

Table 14. Number of responses to "The importance of 'personal enrichment' to the wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Very Important	7	44	138	61	145
Important	9	56	88	39	97
Total	16		226		242

Chi-square = 1.122 ns, 1 df

ns Non-significant

Personal enrichment is difficult to quantify and therefore, the importance of this parameter or feeling will need more research to determine how important personal enrichment is to user satisfaction and the affects when this feeling is not achieved during the float trip.

Recreation. Middle Fork managers and users appear to be similar in their responses to the importance of "recreation" in a wild river experience (Table 15). It should be pointed out, however, that recreation may have been a poor choice for a questionnaire statement since when a user floats the river he

is recreating. This questionnaire statement may have confused many respondents.

Table 15. Number of responses to "The importance of 'recreation' to the wild river experience"

<u>Importance</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Very Important	9	47	114	52	123
Important	10	53	106	48	116
Total	19		220		239

Chi-square = 0.141 ns, 1 df

ns Non-significant

Nearly all respondents, however, indicated that recreation was important to the floating experience which may indicate that the Middle Fork may have some "unique recreational opportunities (e.g. solitude, family enjoyment, history and scientific interest, etc.).

Satisfaction of the Float Trip to Various Situations

Eight Statements were presented to Middle Fork floaters to determine how various situations would affect users during the float trip (Table 16). Forest Service personnel were asked how they thought the following situations would affect floaters: litter, camping at a place with no sanitary facilities, meeting no other parties, seeing man-made features while floating, camping at a place that shows substantial amounts of use, seeing other people who are not floating,

camping at a place where several other parties are camped, and noise from airplanes or other man-caused disturbances (Table 16). Middle Fork managers, generally, correctly perceived the response of the user.

Litter. As might be expected, all persons responding indicated that it would bother them to find litter along the river or at campsites. Findings indicate a definite dislike for litter which may be a characteristic attitude of most people (Burgess, Clark, and Hendee, 1971; and Clark, Hendee, and Washburne, 1972). Data obtained from personal interviews, however, indicate that most users did not encounter significant (perceptible) amounts of litter during the float trip. Perhaps the Forest Service has been successful in educating the user to "pack-out" all non-burnable garbage.¹³ Further evidence indicates this to be the case as indicated by the decrease in the total pounds of garbage collected by Forest Service boat patrols during the 1971 float season (Table 17).

Developed areas. Forest Service personnel appeared to be more development-oriented than were floaters. More than 90% of the managers responding felt floaters would be bothered by camping at areas with no facilities. Sixty-five percent of the users responding, however, indicated they would enjoy camping at areas with no facilities (Table 18). It is important to note that 44% of the managers and 33% of the users did not respond to the question (Table 16). One possible reason for this may be in the fact that a float trip is viewed by many users as a "primitive" experience and developed areas are not included

¹³In 1969, the Forest Service became concerned over the rapidly increasing amount of garbage that was being brought out of the Middle Fork each year. It seemed garbage was increasing at a faster rate than recreational use. A concerted effort was launched to educate the user, to make him aware of the problem and to get his help in protecting the naturalness of the Middle Fork.

Table 16. Number of responses to "How would the following situation effect you on your Middle Fork trip"

	Finding litter along the river or at campsites		Camping at a place with no sanitary facilities or developed areas		Meeting no other parties		Seeing man-made features while floating		Camping at a place that shows substantial amounts of use		Seeing other people who are not floating		Camping at a place where several other parties are camped		Noise from aircraft or other man-caused disturbances	
	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr
I would Enjoy It A Lot	-	-	76 (30)	1 (5)	149 (59)	14 (57)	1 (-)	-	-	-	21 (8)	2 (10)	1 (-)	-	-	-
I Would Enjoy It a Little	-	-	17 (7)	-	47 (18)	-	11 (4)	1 (5)	4 (2)	-	45 (18)	1 (5)	7 (3)	-	1 (-)	-
Doesn't Matter	-	-	111 (44)	7 (33)	45 (18)	4 (19)	25 (10)	6 (28)	45 (18)	6 (28)	135 (53)	14 (67)	26 (10)	3 (14)	48 (19)	3 (14)
It Would Bother Me A Little	17 (7)	4 (19)	37 (15)	8 (38)	9 (4)	1 (5)	107 (42)	12 (57)	127 (50)	11 (52)	43 (17)	2 (10)	82 (32)	7 (33)	101 (40)	12 (57)
It Would Bother Me a Lot	236 (93)	15 (71)	12 (5)	3 (14)	3 (1)	-	108 (43)	-	76 (30)	2 (10)	9 (4)	-	136 (54)	11 (52)	102 (40)	4 (19)
No Response	-	2 (10)	-	2 (10)	-	2 (10)	1 (-)	2 (10)	1 (-)	2 (10)	-	2 (10)	1 (-)	-	1 (-)	2 (10)
Total	253	21	253	21	253	21	253	21	253	21	253	21	253	21	253	21

() Indicates percent
 (-) Less than one-half of 1 percent

Table 17

Number of Floaters and Pounds of Garbage Collected
by Forest Service Boat Patrols

Year	Number of floaters	Pounds of Garbage collected
1967	1299	1375
1968	1396	1736
1969	1624	2633
1970	3028	4189
1971	3250	2565

Source: U. S. Forest Service

in this primitiveness. Personal interviews provide empirical evidence to support this premise with 59% of those interviewed indicating they did not want facilities provided. On the other hand, users may have used facilities if they were provided.¹⁴

One might question what constitutes development--picnic tables, concrete fireplaces with metal grates, toilets, or what? For example, many sandbars are cluttered with numerous fire rings that are the result of users not utilizing the fire rings of previous users and constructing new ones. Perhaps forcing users to use developed concrete fireplace would eliminate this and keep the beaches

¹⁴Interviews indicated that women were more critical about having sanitary facilities provided than were men (e.g. of the 52 women interviewed, 77% indicated they would prefer having sanitary facilities. However, only 28% of the 69 men interviewed indicated they would prefer sanitary facilities be provided.

Table 18, Number of responses to "Camping at an area with no sanitary facilities or developed areas"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoyed	1	8	93	65	94
Bothered	11	92	49	35	60
Total	12		142		154

Chi-square = 12.892**, 1 df

**Significant at the .01 level

clean for the enjoyment of everyone. In addition, the Forest Service has been constructing pit toilets in an effort to protect water quality from human wastes. The extent of contamination from this source of pollution is not known at this time and studies should be initiated to determine if there is a threat to water quality from increased use of the Middle Fork (Watts, 1971). Perhaps the strongest single argument for building sanitary facilities on the Middle Fork is the lack of space in which to dissipate human wastes and the adverse effects that might result (e.g. odor).

These are examples in which managers may have to go against user desires. For example, if water quality is threatened from too much use, then, restricting use is the only course of action open to managers in hopes of preserving water quality. In addition, as use continues to increase it may become necessary to develop the more heavily used areas to some degree (even when the majority of the users are against any form of development) in order to pro-

tect the health and satisfaction of the user as well as the Middle Fork's environment.

Meeting no other parties. All Forest Service personnel responding felt users would "enjoy it a lot" at meeting no other parties during the float trip when in fact, 76% of the users responding indicated they would "enjoy it a lot" at the prospect of meeting no other parties on the float trip (Table 19).

Table 19. Number of responses to "Meeting no other parties during the float trip"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoy It A Lot	14	100	149	76	163
Enjoy It A Little	--		47	24	24
Total	14		196		210

Chi-square = 3.008 ns, 1 df

ns Non-significant

If the user desires meeting no other parties during the float trip, then, management must consider methods to achieve this goal. For example, implementing controls to regulate launch time may spread floaters far enough apart to minimize the possibilities of encounters without reducing the number of users. This type of control would probably meet less resistance than a control that would physically reduce the number of people that could float the Middle Fork.

Seeing man-made features. A majority of the users responding (95%) indicated that they would be "bothered" at seeing man-made features while floating while 92% of the managers responding felt that users would be "bothered" at seeing man-made features (Table 20).

Table 20. Number of responses to "Seeing man-made features while floating"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoyed	1	8	12	5	13
Bothered	12	92	215	95	227
Total	12		227		240

Chi-square = 0.143 ns, 1 df

ns Non-significant

This may be important from the standpoint of management since development would leave man's mark in the area. In previous discussions, many users indicated they would oppose any development of the Middle Fork. Also, commercial development in the Middle Fork area may grow in the future and how this growth might affect floaters cannot be predicted but at this time, all indicators seem to promote solitude, undeveloped areas, and not seeing man-made features while floating.

Camping at a place that is overused. From Table 21, Forest Service personnel and Middle Fork floaters were similar in their responses to camping at a place that shows substantial amounts of use. Nearly all those responding

indicated they would be "bothered" at camping at an overused campsite.

Table 21. Number of responses to "Camping at a place that shows substantial amounts of use"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoyed	-		4	2	4
Bothered	13	100	203	98	216
Total	13		207		220

Chi-square = 0.305 ns, 1 df

ns Non-significant

There are numerous campsites along the Middle Fork that are very popular with floaters and consequently, face possible overuse and deterioration. It may be possible to assign campsites before float parties enter the river and in this way distribute use to all campsites rather than to just a few. Also, it would enable managers to assign areas which could sustain the number of persons in a float party.

In the near future, it may come to "hardening" the heavily used areas through the use of rock, cement, or asphalt in order to protect the site from further destruction through overuse and to protect the health and safety of the user. This type of action may go against the wants and desires of the user but increased use of the Middle Fork may force managers to resort to this course of action regardless of user desires.

Seeing other people. Those managers and users responding appear to be similar in their responses to seeing other people who are not floating (Table 22). It is important to note, however, that 53% of the users and 67% of the managers indicated that seeing other people who are not floating the river would not matter (Table 16).

Table 22. Number of responses to "Seeing other people who are not floating"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoyed	3	60	66	56	69
Bothered	2	40	52	44	54
Total	5		118		123

Chi-square = 0.034 ns, 1 df

ns Non-significant

This may be important to management since the floating experience does not appear to exclude other types of users (e.g. backpackers, salmon fishermen, and horseback riders).

This response might have been predicted since floaters and other types of users usually do not compete with one another and the visual effects of the encounter is only momentary.

Camping with other parties. From Table 23, all Forest Service personnel responding and 96% of the users responding indicated they would be "bothered" at camping at a place where several other parties were camped.

Table 23. Number of responses to "Camping at a place where several other parties were camped"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoyed	--		8	4	8
Bothered	18	100	218	96	236
Total	18		226		244

Chi-square = 0.153 ns, 1 df

ns Non-significant

This is important from the standpoint of management since it appears that users desire solitude and meeting no others and would be bothered at camping with other float parties.

The distribution of campsites, however, may be the problem. Campsites are located in such a manner that a majority of the floaters may tend to camp at certain sites at the end of any given day. Most float trips usually begin when the sun hits the water and ends when it leaves the water. Depending on the speed of each float party, at the end of the day a large number of users may become confined to a relatively small section of the river. This may be the essence of the problem of campsite overuse, camping with other parties, since the number of campsites within certain sections of the river is usually limited and a number of parties may find themselves sharing a campsite. This is especially true below Bernard Ranch. One possible solution would assign campsites to each party and this way distribute use to all campsites while providing for us-

er desires. In addition, campsite overuse would be prevented by assigning campsites based on party size the area could sustain.

Noise. Forest Service personnel and Middle Fork floaters were similar in their responses to noise from airplanes or other man-caused disturbances (Table 24).

Table 24. Number of responses to "Noise from airplanes or other man-caused disturbances"

<u>Satisfaction</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Enjoyed	--		1	1	1
Bothered	16	100	203	99	219
Total	16		204		220

Chi-square = 0.756 ns, 1 df

ns Non-significant

The major noise problem comes from airplanes; the only legitimate means of getting supplies to many landowners in the area as well as recreationists. If the main objective of the Forest Service is to maximize visitor satisfaction, then, regulation of airplane travel in the Middle Fork area must be realized. Studies will have to be undertaken to determine the extent airplanes utilize the area and arrive at some optimum solution that will maximize user satisfaction while permitting supplies and recreationists to be flown into the area. Perhaps restricting plane traffic to one or two days during the week may alleviate much of the

Table 25. Number of responses to "Do you feel the Middle Fork should be regulated:"

	At the present time		In the future		With more stringent controls on party size	
	User	Mgr	User	Mgr	User	Mgr
Yes	147 (58)	18 (86)	161 (64)	15 (71)	158 (63)	18 (86)
No	82 (32)	-	14 (5)	-	59 (23)	-
No Opinion	-	1 (5)	-	4 (19)	-	1 (5)
No Response	24 (10)	2 (10)	78 (31)	2 (10)	36 (14)	2 (10)
Total	253	21	253	21	253	21

noise caused from this means.

Other man-caused disturbances, chain saws, vehicles, etc., are not major sources of noise and should not concern the Forest Service since these noises are momentary and occur at relatively infrequent intervals.

Need for Regulation

Forest Service personnel and Middle Fork floaters were presented with three regulation statements in order to determine how closely managers and users agreed on these three issues (Table 25). Each respondent was to indicate his own feelings toward each statement. Forest Service personnel, generally, stressed stronger feelings toward the need for regulating the Middle Fork than did users.

Present regulation. All Forest Service personnel responding favored controlling use of the Middle Fork at the present time while only 64% of the users responding favored such action (Table 26).

With use of the Middle Fork increasing each year, it may be intuitively obvious to the Forest Service that some regulation of float use is necessary to alleviate some of the problems they now experience (e.g. campsite overuse, possible water quality problems, and administration of this increasing use each year). This is further complicated by the many ramifications of use which may or may not be the cause of management problems on the Middle Fork.

Before any regulation or control of float use can be instigated on the Middle Fork, a basic knowledge of use patterns must be made. For example, a majority of use seems to be occurring during the month of July and on three days of the week--Sunday, Monday, and Tuesday. When these patterns are known,

Table 26. Number of responses to "Do you feel that float use on the Middle Fork should be regulated at the present time"

<u>Category</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Yes	18	100	147	64	165
No	--		82	36	82
Total	18		229		247

Chi-square = 8.098**, 1 df

**Significant at the .01 level

a better understanding of float use will result which in turn will accommodate the greatest number of floaters possible without destroying the environment or the enjoyment of its users.

Future regulation. In contrast to present regulation of the Middle Fork, 92% of the users responding and all Forest Service personnel responding agreed with the necessity for regulating future use of the river (Table 27). It must be pointed out, however, that approximately 30% of the managers and users did not respond to the question (Table 25). This may indicate that respondents have little idea of what the future holds in store for the Middle Fork, or, just didn't care.

Those who responded indicated a concern about the future use of the Middle Fork. Perhaps many users who responded negatively to the present regulation statement saw themselves excluded from floating the river once this regulation was instigated. On the other hand, many users float the Middle Fork

only once and therefore, might care less about controls present or future. Furthermore, the types of users that will be affected by regulations becomes an important management issue (e.g. commercial vs. "do-it-yourselfers").

Table 27. Number of responses to "Do you feel float use on the Middle Fork should be regulated in the future"

<u>Category</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Yes	15	100	161	92	176
No	--		14	8	14
Total	15		175		190

Chi-square = 0.387 ns, 1 df

ns Non-significant

Party size. When the question of limiting the size of parties floating the Middle Fork was raised, all Forest Service personnel responding favored such action while only 73% of the users responding were in favor of party size limitations (Table 28).

It has been shown that an important characteristic of a primitive-type recreational experience is "few people" (Merriam and Ammons, 1967; and Hendee, et al., 1968), and that increasing numbers of people have a definite affect on the user's total satisfaction of the experience (U.S. Forest Service, 1959; Lucas, 1964; Wagar, 1964; and Stankey, 1968). In a recreation survey conducted in 1969 on the Middle Fork, 50% of those interviewed expected to find "fewer

Table 28. Number of responses to "Do you feel there should be more stringent controls or limits placed on the size of parties floating the Middle Fork"

<u>Category</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Yes	18	100	158	73	176
No	--		59	27	59
Total	18		217		235

Chi-square = 5.167*, 1 df

*Significant at the .05 level

people," and 30% felt the river was "too crowded." The remaining 20% of those interviewed indicated the river was just right or "not crowded" at all (Kirkland, 1970). Personal interviews taken during the 1971 float season also provide evidence that seeing other people reduces the satisfaction of the floating experience--60% of those interviewed were "bothered" at seeing other parties floating the river. This study also sheds light in this direction when 90% of the users responding indicated that solitude was an "important" characteristic of the float trip. In light of this evidence, providing a "quality" experience may be an important consideration in allocating use on the Middle Fork. For example, if maximizing user satisfaction of a small number of users is the desired management goal, then, this high quality recreation will require some type of regulation to reduce the number of users.

One regulation that might be considered is a reduction in the size of par-

ties floating the river. Many of the management problems created are directly linked to party size. For example, in 1970, one party consisted of 77 persons. No one can determine the affect this party had on the other users floating the river at the same time. In addition, there are not many campsites along the river capable of sustaining 77 persons--overuse may result and possible damage to the ecology of the area may result (e.g. water quality problems related to sanitation and garbage accumulation).

Also, party size limitation may have a definite affect on the livelihood of the commercial outfitter. A reduction in the number of people per party may reduce the income of outfitters who depend on the short float season to sustain their operation. In addition, many organized groups float the Middle Fork and some of these groups can be quite large (e.g. Boy Scouts and White Water Clubs) and putting a ceiling on the number of people that can float at any point in time may meet resistance from these groups.

Before party size limitations are considered as a remedy an examination of other possible means should be explored. Perhaps a better distribution of users would eliminate "bunching up" and give the user a more primitive experience and prevent large parties from encountering other users on the river. Implementing regulations of this type might benefit all users regardless of the number of people in a float party.

Management Alternatives

Eight management alternatives were considered in this study. Forest Service personnel were to indicate how users would respond concerning management policies on controls if the Middle Fork becomes too heavily used. The

Table 29. Number of responses to "How would you feel about the following controls if use of a wild river was heavy"

	Limit use by restricting use to those with prior river experience		Limit use by issuing a limited number of permits through a mail reservation system		Limit use by allowing only one float trip in a lifetime		Limit use by issuing a limited number of permits on a first-come first-served basis		Limit use by only those with proper equipment for floating white water rivers		Regulated launch time		Charge an entrance fee		Assign camp-sites prior to launch	
	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr	User	Mgr
Strongly Favor	31 (12)	-	43 (17)	3 (14)	1 (-)	-	28 (11)	5 (24)	130 (51)	8 (38)	102 (40)	12 (57)	38 (15)	3 (14)	29 (11)	7 (33)
Favor	19 (8)	-	118 (47)	10 (48)	4 (2)	-	73 (29)	9 (43)	75 (30)	7 (33)	104 (41)	5 (24)	54 (21)	5 (24)	61 (24)	10 (48)
No Opinion	9 (4)	2 (10)	19 (8)	2 (10)	2 (1)	1 (5)	19 (8)	2 (10)	15 (6)	1 (5)	14 (6)	3 (14)	57 (22)	2 (10)	23 (9)	2 (10)
Oppose	86 (34)	9 (43)	37 (15)	3 (14)	52 (20)	7 (33)	86 (34)	3 (14)	13 (5)	3 (14)	18 (7)	-	52 (20)	6 (28)	79 (31)	-
Strongly Oppose	104 (41)	10 (48)	23 (9)	1 (5)	190 (75)	11 (52)	37 (15)	1 (5)	12 (5)	-	10 (4)	1 (5)	45 (18)	2 (10)	49 (13)	-
No Response	4 (2)	-	13 (5)	2 (10)	4 (2)	2 (10)	10 (4)	1 (5)	8 (3)	2 (10)	5 (2)	-	7 (3)	3 (14)	12 (5)	2 (10)
Total	253	21	253	21	253	21	253	21	253	21	253	21	253	21	253	21

() Indicates percent
 (-) Less than one-half of 1 percent

acceptability of these alternatives were not generally perceived by Forest Service personnel (Table 29).

Prior experience. Forest Service personnel indicated that users would oppose this type of policy when in fact more than 20% of the users responding favored this alternative (Table 30). From the standpoint of management, however, previous white water experience or using qualified guides would save the Forest Service many hours of work created by the inexperienced floater ("do-it-yourselfer").

Thirty-two percent of the Middle Fork floaters are "do-it-yourselfers" and many of these users are floating the Middle Fork and white water for the first time. These users may derive satisfaction in knowing they conquered "one" of the wildest rivers in the country. Therefore, limiting use to only those users with prior white water experience would deprive many users of the personal gratification that comes from floating the Middle Fork and white water for the first time. On the other hand, there are those who feel that a certain risk is involved in floating the Middle Fork, especially during high water, and feel that a competent guide or previous white experience essential for floating the river.

Before any such limitation such as prior experience is considered, other possible means should be explored such as education, maps showing how to "run the rapids," and making sure users have the "proper" equipment for floating the Middle Fork. This would enable the inexperienced "do-it-yourselfer" an opportunity to safely enjoy the floating experience.

Mail reservation. A majority of the Forest Service personnel respond-

Table 30. Number of responses to "Limiting the number of people entering the river by restricting the use to only those with prior river experience."

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	--		50	21	50
Oppose	18	100	190	79	208
Total	18		240		258

Chi-square = 3.912*, 1 df

*Significant at the .05 level

ing indicated that users would favor limiting use by issuing a limited number of permits through a mail reservation system. Seventy-three percent of the users responding favored this alternative (Table 31).

Table 31. Number of responses to "Limiting the number of people entering the river by issuing a limited number of permits through a mail reservation system"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	13	77	161	73	174
Oppose	4	23	60	27	64
Total	17		221		238

Chi-square = 0.014 ns, 1 df

ns Non-significant

This alternative would provide managers with advance knowledge of how many who would be floating the Middle Fork. In addition, float use might be increased through a better distribution of use throughout the entire float season instead of allowing the majority of use to occur during certain months or days of the week. For example, use could be proportioned evenly over all the months of the float season as well as the days of the week.

One trip. Forest Service personnel and Middle Fork floaters were similar in their responses to limiting use by allowing only one float trip in a lifetime (Table 32). This study found that 58% of the users planned to float the Middle Fork again. If this is the case, repeat users may create additional problems for managers and add to an already increasing use rate. The impact of repeat users is not known and studies should be initiated to determine what effect repeat users have on the over-all use picture of the Middle Fork and until this factor is known, limiting a user to only one float trip in his lifetime appears to be a harsh regulation to impose on him at this time.

Table 32. Number of responses to "Limiting use by allowing only one float trip in a lifetime"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	--		5	2	5
Oppose	18	100	242	98	260
Total	18		247		265

Chi-square = 0.081 ns, 1 df
ns Non-significant

First-come, first-served. Approximately 80% of the Forest Service personnel responding felt users would favor the issuance of a limited number of permits on a first-come, first-served basis. Fifty-five percent of the users responding, however, indicated they were opposed to such an alternative (Table 33). One possible reason for this response may be in the fact that many users would have to be turned away in favor of those users who got there first.

Table 33. Number of responses to "Limiting the number people entering the river by issuing a limited number of permits on a first-come, first-served basis"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	14	78	101	45	115
Oppose	4	22	123	55	127
Total	18		224		242

Chi-square = 5.887*, 1 df

*Significant at the .05 level

For example, on one weekend during the 1971 float season, the author counted more than 600 persons waiting to get on the river from Dagger Falls. If the Forest Service was to issue only so many permits on a first-come, first-served basis, it may be a week before some of these users would be able to enter the river. Perhaps this is why users would favor a permit system through a mail reservation setup since the user would know exactly when he could enter the river and not wonder whether or not he would get to the river on time to be in-

cluded in the number of permits the Forest Service was issuing for that particular day. In addition, it would require considerable man-power to administer the permit system on a first-come, first-served basis since it would require a man at all entrance points to see the system was adhered to by users.

A permit system of some kind would benefit the manager in that he would be able to regulate and distribute users to the Middle Fork. The mail reservation system appears to receive more favor from users than the first-come, first-served system. In addition, the cost of the mail system may be less than having personnel administering the first-come, first-served method.

Proper equipment. From Table 34, managers and users were similar in their responses to limiting use to only those with proper equipment for floating white water rivers.

Table 34. Number of responses to "Limit use to only those with proper equipment for floating white water rivers"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	15	83	205	89	220
Oppose	3	17	25	11	28
Total	18		230		248

Chi-square = 0.565 ns, 1 df

ns Non-significant

This is important from the standpoint of management since many injuries and possibly death could result from improper floating equipment. At this time, the Forest Service does not inspect to see if float parties have the proper equipment for floating the Middle Fork. If inspections were done, perhaps many hours of hard work could be saved (e.g. transporting injured users out of the Middle Fork).

Regulated launch time. Forest Service personnel and Middle Fork floaters were in agreement concerning regulated launch time (Table 35). A regulation such as this would provide managers with a beneficial tool to spread users out and eliminate many of the encounters that come from indiscriminate launching. The example of observing 600 persons in one weekend trying to get on the river exemplifies this indiscriminate launching. Furthermore, many of these parties will be competing for campsites down river in addition to encounters they will make with other parties on the trip.

Table 35. Number of responses to "Regulated launch time"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	17	94	206	88	223
Oppose	1	6	28	12	29
Total	18		234		252

Chi-square = 0.194 ns, 1 df

ns Non-significant

To have an effective regulation, however, each party must be far enough apart so that the experience will not be disrupted by another party. By arbitrarily establishing an interval of distance or time and assuming the maintenance of even spacing, speed, etc., each party should not be significantly affected by the party in front or by the one following them. In addition, this type of regulation could ultimately lead to an increase in the total amount of use the Middle Fork could withstand.

It is also important to note that any interval is strictly arbitrary and established to maximize total satisfaction of the user. Changes will undoubtedly occur and revisions will have to be made but regulating launch times will help achieve solutions to some of the problems concerning Middle Fork management.

Charge an entrance fee. Users and managers appear to be evenly split in their responses to charging an entrance fee to float the Middle Fork (Table 36). This was perhaps a poor question since it would be difficult to assign an "admissions" fee for the Middle Fork. Also, the income of floaters is high enough that an entrance fee would pose no difficulty for most of them. Again, additional man-power is needed to administer the fees and collect them which may create more management problems in the process (e.g. user complaints and waiting to pay lines). The charge itself would not deter any less use of the river unless the fee charged was so exorbitant that only the "very rich" could float and therefore, has no value in a management scheme for the Middle Fork.

Assigning campsites. All Forest Service personnel responding felt users would favor the assignment of campsites prior to launch. Fifty-nine per-

Table 36. Number of responses to "Charge an entrance fee"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	8	50	92	49	100
Oppose	8	50	97	51	105
Total	16		189		205

Chi-square = 0.010 ns, 1 df

ns Non-significant

cent of the users responding, however, opposed this alternative (Table 37). Many users feel that this type of restriction forces them to float a prescribed portion of the river each day. Not all users float the river at the same rate of speed--some users will stop and "case out" every rapid before going through while other parties do not. Some users have sufficient time to stop frequently and fish or just relax while other users cannot afford such a leisurely pace.

Table 37. Number of responses to "Assigning campsites prior to launch"

<u>Agreement</u>	<u>Forest Service personnel</u>		<u>Middle Fork floaters</u>		<u>Total</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Favor	17	100	90	41	107
Oppose	--		128	59	128
Total	17		218		235

Chi-square = 19.617**, 1 df

**Significant at the .01 level

From the standpoint of management, assigning campsites would distribute use to all campsites along the river rather than resulting in heavy use on a select few. Also, large parties could be assigned areas capable of sustaining the number of people in the party and preventing overuse in the process.

SUMMARY AND CONCLUSIONS

Today, land managers need to know more about user attitudes, opinions, and preferences in making decisions affecting public lands. Many authors suggest that land managers have little knowledge about their users and therefore, run the risk of meeting the public's wrath on decisions affecting the use of public resources. It was the intent of this study to provide evidence that Middle Fork managers accurately perceive the attitudes, opinions, and preferences of the users floating the Middle Fork of the Salmon River.

Mail questionnaires provided data from 253 Middle Fork floaters and 21 Forest Service personnel familiar with Middle Fork management. Comparison of group attitudes indicates that Middle Fork managers and users tended to view features, preferences, problems, and benefits about the same. In their personal outlook on river management, the Forest Service was very much in tune with river users. Forest Service personnel were able to correctly predict Middle Fork floater reactions to more than three-fourths of the questionnaire statements presented in this study.

User Characteristics

Middle Fork managers misperceived many of the characteristics of the user. First, managers overestimated the types of user floating the Middle Fork. Managers indicated that 77% of the users were in the commercial group while this study found that only 68% of the users fell into this group. This indicates that the commercial group may be commanding the attention of the manager. Second, managers appear to have a good indication of where Middle Fork users

reside. A majority of the users live in urban areas and generally a considerable distance from the remote Middle Fork area. Third, Forest Service personnel indicated that only 35% of the users would belong to a conservation organization when in fact 52% of the users belonged to such an organization. Managers may have underestimated "purist" philosophies adhered to by many users floating the Middle Fork. Fourth, managers were low in their evaluation of the average income of floaters. Managers indicated an average income for floaters to be only \$15,000 while this study found the average income for floaters to be \$26,000. In addition, managers underestimated the level of education attained by floaters. Managers indicated that only 49% of the users had a college education or beyond while this study found that 69% of the users surveyed had a college education or higher. This indicates that floating the Middle Fork may be more a function of education and income than many other types of recreation activity.

Finally, Middle Fork managers indicated the average age of users to be 41 years while this study found the average age of users to be 37 years. This indicates a relatively young user floating the Middle Fork.

Use Parameters

Middle Fork managers did not correctly perceive the use parameter statements presented in this study. First, Forest Service personnel indicated that 67% of the users were floating the Middle Fork for the "first time" while this study found that 79% of the users were floating the river for the first time. This indicates that there are "few" repeat users at this time. Second, managers felt that about 40% of the users would float the Middle Fork again while this study

found that 58% of the users indicated they would float the Middle Fork again. This indicates that repeat use could add substantially to the increasing use of the Middle Fork in subsequent years to come.

Finally, managers did not have a good indication of the amount of use that was occurring by months or by days of the week. Managers indicated that only 46% of all use occurs in July. This study found that 80% of all use occurred in July. In addition, managers indicated that 60% of all float trips start on Sunday, Monday, and Tuesday while this study found that only 42% of all float trips start on these three days.

Attitudes About the Environment

Middle Fork floaters show a definite "strong purist" view of the environment while Forest Service personnel appear to have less intense purist feelings about the environment.

Importance of the Wild River Experience

Statements that related to the importance of the "wild river" experience were perceived about the same by managers and users.

Solitude. Forest Service personnel did not feel as strongly as users about the importance of "solitude" in the wild river experience. This may indicate a "strong purist" philosophy among users.

White water adventure. Middle Fork managers and users were similar in their responses to the importance of "white water" in the floating experience. The Middle Fork is fortunate to have an abundance of white water and this fact may continue to contribute to the increasing number of floaters each year.

Camping experience. Managers and users were similar in their responses to the importance of the "camping experience" to the wild river experience. This is not surprising since camping is an integral part of the wild river trip.

Family enjoyment. A majority of managers and users indicated that "family enjoyment" was an important factor to the wild river experience. Family make-up, however, may pose management problems to managers (e.g. women appear to want sanitary facilities provided while men don't seem to care).

History and scientific interest. Users appear to feel that history and scientific interest is more "important" than did managers. Little information exists concerning the history and scientific aspects of the Middle Fork and users may derive more satisfaction from the float trip if they know more about the history and scientific interests of the area.

Floating a wild river. Nearly all managers and users indicated that floating one of the nation's wild rivers was an "important" factor to the floating experience. This indicates that the designation "wild river" may hold the same connotation as "National Park."

Observing and being part of nature. Forest Service personnel and Middle Fork floaters were in agreement with respect to the importance of observing and being part of nature to the wild river experience. This indicates that users desire to see and be part of the area.

Personal enrichment. Users tended to view personal enrichment as "very important" while managers did not. This indicates that floating the Middle Fork enriches the lives of the user. To what extent is not known, however.

Recreation. Middle Fork managers and users appear to be similar in

their responses to the importance of "recreation" in a wild river experience. This indicates that floating the Middle Fork is an important recreational activity.

Satisfaction of the Float Trip to Various Situations

Statements that related to situations a user may or may not have encountered were presented in order to determine how these situations would affect the users. Middle Fork managers, generally, correctly perceived the response of the user.

Litter. All persons responding indicated it would "bother" them to find litter along the river or at campsites. This is probably a characteristic attitude of most people.

Developed areas. Forest Service personnel appeared to be more development-oriented than were users. More than 90% of the Forest Service personnel responding felt that users would be "bothered" by camping at areas with no sanitary facilities or developed areas. Sixty-five percent of the users responding, however, indicated they would "enjoy" camping at areas with no facilities. Interviews indicate that women were more critical about having facilities provided than were men.

Meeting no other parties. Managers and users were similar in their responses to meeting no other parties on the float trip. This may indicate a "strong purist" attitude among many users.

Seeing man-made features. A majority of users and managers indicate that they would be "bothered" at seeing man-made features while floating. This may indicate that managers cannot develop the area without meeting resistance from the user population.

Camping at a place that is overused. Forest Service personnel and Middle Fork floaters were similar in their responses to camping at a place that shows substantial amounts of use. This may indicate that Middle Fork managers take stock in the use of many of its campsites and initiate preventive measures to stop overuse of its campsites.

Seeing other people. A majority of the users and managers indicate that seeing other people who are not floating the river doesn't really matter.

Camping with other parties. Nearly all persons responding indicated they would be "bothered" at camping at a place where several other parties were camped. This may indicate that users want solitude or the company of their own group.

Noise. Nearly all persons responding indicated that noise would "bother" them. This indicates that some type of noise control is necessary, especially from airplanes.

Need for Regulation

Statements that were related to the regulation of the Middle Fork were presented. Forest Service personnel, generally, stressed stronger feeling toward the need for regulating the Middle Fork than did users.

Present regulation. All managers responding favored controlling the Middle Fork at the present time while only 64% of the users responding favored such action. This indicates that the Forest Service favors regulation in hopes it may alleviate some of the problems it is plagued with concerning Middle Fork management.

Future regulation. In contrast with present regulation, nearly all re-

spondents indicate the need for future regulation of the river. This may indicate that many users sense the river is becoming too popular and restrictions on use may be necessary in the future.

Party size. Seventy-three percent of the users responding indicated they would favor limiting the size of parties floating the Middle Fork while all Forest Service personnel responding favored such action. This indicates that a majority of users would go along with a reduction in the size of parties floating the Middle Fork. This factor could also give the user a more primitive experience which may be an important consideration in floating the Middle Fork.

Management Alternatives

Statements relating to management alternatives were presented to determine how respondents would respond to alternatives if use of the river became too heavy. The acceptability of these alternatives were not generally perceived by Forest Service personnel.

Prior experience. Managers indicated that users would oppose this type of policy when in fact more than 20% of the users responding favored this alternative. This alternative would eliminate some of the problems in managing the Middle Fork (e.g. eliminate the inexperienced "do-it-yourselfer").

Mail reservation. A majority of managers and users indicated they favored limiting use by issuing a limited number of permits on a mail reservation system. This indicates a management tool that could provide managers with knowledge of the users floating the river and would enable them to distribute use throughout the entire float season rather than have occur in the first weeks of the float season.

One trip. Managers and users were similar in their responses to limiting a user to one float trip in a lifetime. As use increases on the Middle Fork, it may come to this but at the present time it appears to be unpracticable.

First-come, first-served. Fifty-five percent of the users responding indicated they were opposed to limiting use by issuing a limited number of permits on a first-come, first-served basis. Seventy-eight percent of the managers felt users would favor such action. This indicates that users may not be willing to have their float trip stopped just because they were not one of the first ones there to get a permit to float the Middle Fork.

Proper equipment. Forest Service personnel and Middle Fork users were similar in their responses to limiting use to only those with proper equipment for floating white water rivers. This indicates that users are safety conscious and that the Forest Service should take the initiative to check to see that floaters have the proper equipment for floating the Middle Fork.

Regulated launch time. Managers and users were in agreement concerning regulated launch time. This indicates that users might not mind waiting to get on the river if it meant a more pleasurable experience and less encounters from other parties.

Charge an entrance fee. Users and managers appeared to be evenly split in their responses to charging an entrance fee. This alternative has some serious problems involved though (e.g. administering the fee system and manpower problems).

Assigning campsites. All Forest Service personnel responding felt users would favor the assignment of campsites prior to launch. Fifty-nine percent

of the users responding, however, opposed this alternative. This indicates that underlying factors should be explored before such action is implemented as part of policy for the Middle Fork.

In conclusion, the intent of this study was to determine how accurately Forest Service personnel perceived the responses of Middle Fork floaters to various questionnaire statements. Responses by Forest Service personnel were intended to give their overall view of the various domains of floaters and determine if they were different or similar. Reasons for these differences or similarities were analyzed and presented. Thus, Forest Service personnel could readily see those areas in which they misperceived typical responses of users and the implications that can be gained from them in making decisions affecting the Middle Fork.

From the discussion presented, Middle Fork managers appear to have a good indication of the attitudes, preferences, and opinions of its user.

Suggestions for Future Research

Hopefully, this study will stimulate further studies that will add greater clarity and substance to these findings. Several broad areas of study could add substantially to the spectrum of use of the Middle Fork:

- (1) Inventory of all factors that may be the result of increasing use (e.g. campsite overuse, crowding at launching sites, satisfaction of the float trip, etc.).
- (2) Establish guidelines that will ultimately lead to a maximum number of people that the Middle Fork can sustain based on criteria in Number 1.
- (3) Continually gain information from the user since changes in user attitudes,

preferences, and opinions will cause revision of management goals, policies, and alternatives.

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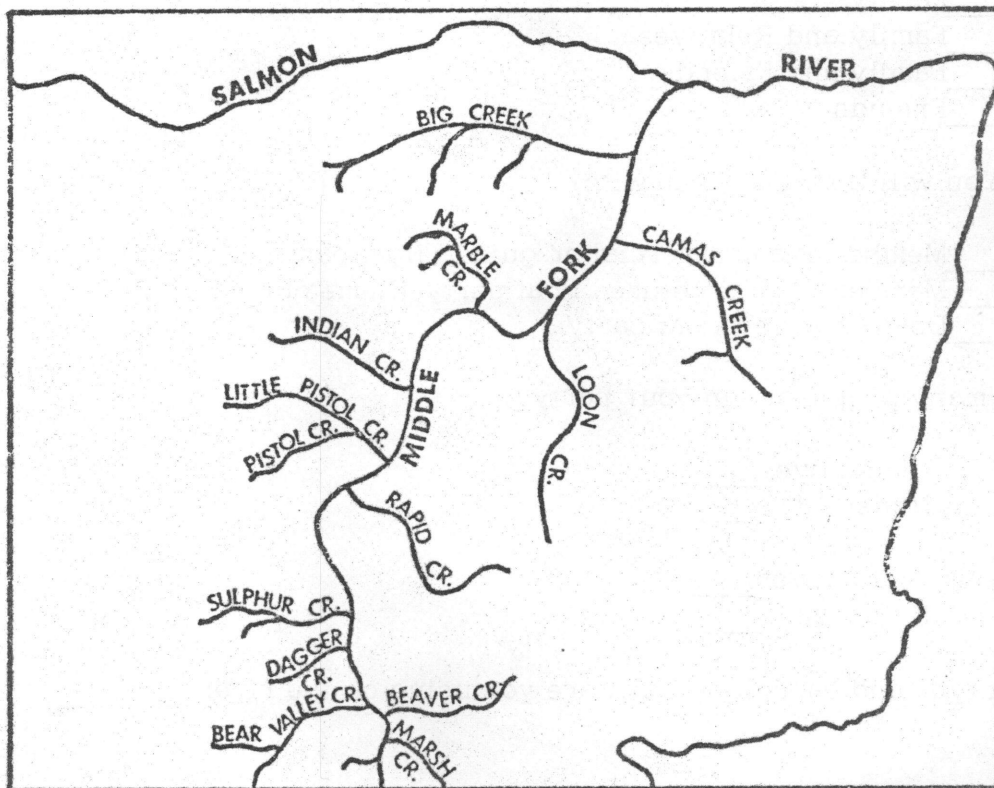
APPENDIX

PERSONAL INTERVIEW QUESTIONNAIRE

MIDDLE FORK RECREATION SURVEY

The Middle Fork of the Salmon River has been designated by Congress for inclusion into the nation's Wild and Scenic Rivers System. In order to protect and manage the environment of the Middle Fork a study of the recreational values and use of the Middle Fork is being conducted by the Idaho Water Resources Research Institute.

Your personal opinion will be important in determining future use of the Middle Fork area. Please assist us by completing this questionnaire. Individual replies remain confidential, only statistical analysis of group data will be made public.



Date Start _____

Is this your first trip on the Middle Fork? Yes ___ No ___ if No, how many trips have you made before this one? _____

What are your REASONS for floating the Middle Fork? _____

Have you floated any other white-water and/or wilderness rivers? Yes ___ No ___

What influenced you to take your Wild River trip? _____

Which category best describes the group:

A. You made the trip to the river with?

- Individual
 Husband and Wife only
 Family
 Family and Relatives
 Family and Friends
 Friends

B. You will float the river with?

- Member of a commercial or guided float party
 Member of an organized float party (Name of organization _____)
 Do-it-yourself float party

How many people are in your party?

Males 18 and over _____
 Under 18 _____

Females 18 and over _____
 Under 18 _____

What type and capacity of boat are you using on the river? _____

If you were to meet or see other float parties on the river, how would you feel?

- It would bother me a lot
- It would bother me a little
- I would enjoy it
- Doesn't matter

If you had to camp with other parties, how would you feel?

- It would bother me a lot
- It would bother me a little
- I would enjoy it
- Doesn't matter

Thank you for your answers. In order to make comparisons between the many kinds of visitors to Wild Rivers, we would like some general information about you.

Your age _____

Male _____ Female _____

What is your occupation? _____

Number of years in this occupation. _____

Do you belong to an organization that is primarily concerned with conservation and/or outdoor recreation? No ___ Yes ___ If Yes, please list them:

Which category best describes the location you:

<u>Presently Live</u>	<u>Years in that Location</u>	<u>Lived prior to age 18</u>	<u>Years in that Location</u>
<input type="checkbox"/> Farm	_____	<input type="checkbox"/> Farm	_____
<input type="checkbox"/> Rural non-farm	_____	<input type="checkbox"/> Rural non-farm	_____
<input type="checkbox"/> 5,000 or less	_____	<input type="checkbox"/> 5,000 or less	_____
<input type="checkbox"/> 5,000 - 50,000	_____	<input type="checkbox"/> 5,000 - 50,000	_____
<input type="checkbox"/> 50,000 - 500,000	_____	<input type="checkbox"/> 50,000 - 500,000	_____
<input type="checkbox"/> Over 500,000	_____	<input type="checkbox"/> Over 500,000	_____

What is the highest level of education that you have completed?

Grade 0-8

College graduate

Grade 9-12

Some graduate school

Some college or additional schooling

Post-graduate degree

What was your family's total yearly income before taxes in 1970?

Under \$3,000

10,000 - 14,999

3,000 - 4,999

15,000 - 19,999

5,000 - 6,999

20,000 - 24,999

7,000 - 9,999

25,000+

Your name and address: _____

MIDDLE FORK RECREATION SURVEY (PART II)

Date Finish _____

Now that you have floated the Middle Fork, what were the most enjoyable aspects of your float trip? Please list: _____

What were the most important recreational activities on this trip? _____

Were there any things about your float trip which you did not enjoy?

Please list: _____

Approximately how many float parties did you see on your trip (a party includes one or more people traveling together)? _____ How many of these were large parties (20 or more people)? _____ Was this:

Too few

Too many

About right

Did you feel the river was too crowded?

- No
 Yes, but only in a few places
 Yes, in most places
 No Opinion

If Yes, please indicate the places you felt crowding was a problem (a simple description will do): _____

If a family vehicle is being used for the trip, approximately how many miles will it be driven on the trip? ____ If not sure, how many miles has it traveled thus far? ____ Did you come directly from home to the river? Yes ____ No ____

Did you stop to visit any other areas on your trip here? Yes ____ No ____

If so, indicate:

	Where	Length of Visit	Type of Visit
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

Will you visit any areas on your trip home? Yes ____ No ____

	Where	Length of Visit	Type of Visit
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

About how many miles did you travel coming here? _____ miles

About how many miles will you travel going back? _____ miles

How many hours or days: _____

Did you spend traveling here? ____ hrs. ____ days

Will you spend traveling home? ____ hrs. ____ days

We would like to know what you feel about the recreational opportunities on the Middle Fork Salmon River and which ones you participate in.

Participation Activities	Participation:		Excellent	Good	Fair	Poor	No Opinion
	This Trip	Previous					
Hunting	_____	_____	_____	_____	_____	_____	_____
Fishing	_____	_____	_____	_____	_____	_____	_____
Swimming	_____	_____	_____	_____	_____	_____	_____
Camping	_____	_____	_____	_____	_____	_____	_____
Photography	_____	_____	_____	_____	_____	_____	_____
Hiking	_____	_____	_____	_____	_____	_____	_____
Sightseeing	_____	_____	_____	_____	_____	_____	_____
Picnicking	_____	_____	_____	_____	_____	_____	_____
Floating	_____	_____	_____	_____	_____	_____	_____

Other Features
(Year Around)

Scenic beauty	_____	_____	_____	_____	_____	_____	_____
Scientific interest	_____	_____	_____	_____	_____	_____	_____
History of area	_____	_____	_____	_____	_____	_____	_____
Wildlife	_____	_____	_____	_____	_____	_____	_____
Adventure	_____	_____	_____	_____	_____	_____	_____
Escape from society	_____	_____	_____	_____	_____	_____	_____
Communing with nature	_____	_____	_____	_____	_____	_____	_____
Free flowing pure water	_____	_____	_____	_____	_____	_____	_____
Other (please list): _____	_____	_____	_____	_____	_____	_____	_____

Of the above which did (or do) you consider the most important or enjoyable to you on a year around basis? This section of the river: _____
The entire river: _____

In any respect, do you consider the recreational opportunities in the Middle Fork Salmon River Area unique? Yes ___ No ___ If Yes, please list: _____

How much do you expect to spend on the entire trip for:

Total expenditures: \$ _____

TOTAL IN IDAHO

- A. Transportation
 - Personal vehicles (gas, repairs, etc.) _____
 - Airline fares _____
 - Other (please list) _____
- B. Lodging (motels, campground fees, etc.) _____
- C. Food and beverages _____
- D. Guide or outfitter services _____
- E. Recreational supplies (lures, licenses, etc.) _____
- F. Rental of:
 - Boat and equipment _____
 - Tackle and gear _____
- G. Other (magazines, film, etc.) _____

How many people do the above expenditures cover? _____ Approximately what percentage was spent in the Salmon River Basin? _____%

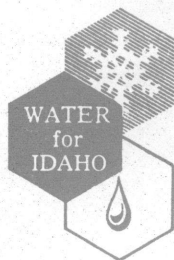
Do you plan to float the Middle Fork in the future? Yes ___ No ___ Don't Know _____

If Yes, when? _____

If No, why? _____

Comments: _____

UNIVERSITY OF IDAHO
Moscow, Idaho



WATER RESOURCES RESEARCH INSTITUTE

March, 1972

Dear River Runner:

In 1968, Congress designated the Middle Fork of the Salmon River a "wild" river. To protect and manage the Middle Fork's resources, a study of recreation values and use is being conducted by the University of Idaho's Wild and Scenic Rivers Study Unit.

As a past river runner, your opinions are important. We hope you will assist us by completing the enclosed questionnaire and returning it as soon as possible in the enclosed prepaid envelope. Please complete the entire questionnaire even though some questions appear repetitious from your interview this past summer. All replies will remain confidential. Remember, because you have made a river trip your opinion is important to the future management of the Middle Fork.

If you have any questions regarding the questionnaire or the study, please do not hesitate to contact me at 208-885-6429, University of Idaho, or write:

Bob Peckfelder
Water Resources Research Institute
University of Idaho
Moscow, Idaho 83843

Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Bob Peckfelder".

Bob Peckfelder
Graduate Assistant
Forest Recreation

BP/kah

UNIVERSITY OF IDAHO

Moscow, Idaho



WATER RESOURCES RESEARCH INSTITUTE

86

May, 1972

Dear River Runner:

Several weeks ago you were asked to help us by completing a questionnaire concerning your attitudes and opinions about the Middle Fork of the Salmon River. Since we have not heard from you, we hope you will take a few minutes to complete the enclosed questionnaire and return it as soon as possible in the enclosed prepaid envelope.

Only past river runners such as yourself can provide information necessary for future management of the Middle Fork; therefore, your replies are very important.

In addition, all replies will remain confidential and will be used for study purposes only. The number which appears on each questionnaire ensures that you will not receive additional questionnaires after having already completed and returned one.

Thank you for your cooperation.

Sincerely,

Bob Peckfelder
Bob Peckfelder
Graduate Assistant
Forest Recreation

WATER RESOURCES RESEARCH INSTITUTE UNIVERSITY OF IDAHO

USER MAIL QUESTIONNAIRE

MIDDLE FORK OF THE SALMON RIVER RECREATION SURVEY

A study of the attitudes and opinions of Middle Fork floaters

Please answer all questions. Thank you for your cooperation.

Several weeks ago we contacted you and obtained your name and address concerning your attitudes and opinions about the Middle Fork of the Salmon River. Since we have not heard from you, we hope you will take a few minutes to complete the enclosed questionnaire and return it as soon as possible in the enclosed prepaid envelope.

Only past river runners such as yourself can provide information necessary for future management of the Middle Fork; therefore, your replies are very important.

In addition, all replies will remain confidential and will be used for study purposes only. The number of copies of each questionnaire ensures that you will not receive duplicate questionnaires after having already completed and returned one.

Thank you for your cooperation.

WATER RESOURCES RESEARCH INSTITUTE
UNIVERSITY OF IDAHO
MOSCOW, IDAHO 83725

Was this your first trip down the Middle Fork? Yes _____ No _____
If No, how many previous trips have you made? _____

Have you floated other rivers? No _____ Yes _____ If Yes, what rivers have you floated (please list) _____

Who did you come to the Middle Fork with?

- | | |
|--|---|
| <input type="checkbox"/> By yourself | <input type="checkbox"/> Family and Friends |
| <input type="checkbox"/> Husband and Wife only | <input type="checkbox"/> Friends only |
| <input type="checkbox"/> Family | <input type="checkbox"/> Organization |
| <input type="checkbox"/> Family and Relatives | <input type="checkbox"/> Other (please specify) |

Which category best describes the party you floated the Middle Fork with:

- Member of a commercially-guided float party
- Member of an organized group (Sierra Club, etc.)
- Name of organization _____
- "Do-it-yourselfer"

What was the approximate number of people (by age group) that made up this party?

- | | |
|--|--|
| <input type="checkbox"/> Females 18 and over | <input type="checkbox"/> Males 18 and over |
| <input type="checkbox"/> Under 18 | <input type="checkbox"/> Under 18 |

Type of boat used on your float trip?

- | | |
|---|---|
| <input type="checkbox"/> Canoe | <input type="checkbox"/> Kayak |
| <input type="checkbox"/> Rubber Raft | <input type="checkbox"/> Other (please specify) |
| <input type="checkbox"/> Wooden (McKenzie river boat) | _____ |

What was the date when you left home? _____

How many days did you take on your entire Middle Fork trip (from the time you left home and returned again)? _____

What was your means of travel to and from the Middle Fork? _____

About how many miles round trip did you travel? _____

Did you stop to visit any areas on your trip to and from the Middle Fork?
No _____ Yes _____ If Yes, where (e.g. relatives, Yellowstone): _____

What was the date you started your float trip down the Middle Fork? _____

How many days did you spend floating down the Middle Fork? _____

Was floating the Middle Fork your primary purpose for your trip? Yes _____ No _____
 If No, what was your primary purpose? _____

Why did you take your float trip at the particular time you did as opposed to an earlier or later date?

- _____ Coincided with my vacation time
- _____ Only time an outfitter would take me down the river
- _____ Other (please specify) _____

Please indicate how important or unimportant to you the following statements are to a wild river experience (Circle one number after each statement).

- "Very Important" = 1
- "Important" = 2
- "Neutral" or "No Opinion" = 3
- "Unimportant" = 4
- "Very Unimportant" = 5

	<u>IMPORTANCE</u>				
	<u>VI</u>	<u>I</u>	<u>N</u>	<u>U</u>	<u>VU</u>
A. Solitude, uncrowded areas, being away from the rush of civilization	1	2	3	4	5
B. White water adventure	1	2	3	4	5
C. Camping experience (cooking out, campfires, sleeping out, etc.)	1	2	3	4	5
D. Family enjoyment (draws the family closer together, educational for the children, etc.)	1	2	3	4	5
E. History and scientific interest	1	2	3	4	5
F. Floating one of the nation's wild rivers	1	2	3	4	5
G. Observing and being a part of nature	1	2	3	4	5
H. Personal enrichment	1	2	3	4	5
I. Recreation	1	2	3	4	5
J. Other (please list) _____	1	2	3	4	5

How satisfied were you with your river experience on the Middle Fork? Please indicate by circling only those numbers after each statement that applied to you and your float trip.

- =1 "Very Satisfied"
- =2 "Satisfied"
- =3 "Neutral" or "No Opinion"
- =4 "Dissatisfied"
- =5 "Very Dissatisfied"
- =6 "Didn't Apply to My Trip"

SATISFACTION

VS S N D VD DA

A. Solitude, uncrowded areas, being away from the rush of civilization.....	1	2	3	4	5	6
B. White water adventure.....	1	2	3	4	5	6
C. Camping experience.....	1	2	3	4	5	6
D. Family enjoyment.....	1	2	3	4	5	6
E. History and scientific interest.....	1	2	3	4	5	6
F. Observing and being a part of nature.....	1	2	3	4	5	6
G. Personal enrichment.....	1	2	3	4	5	6
H. Recreation.....	1	2	3	4	5	6
I. Other (please list) _____	1	2	3	4	5	6

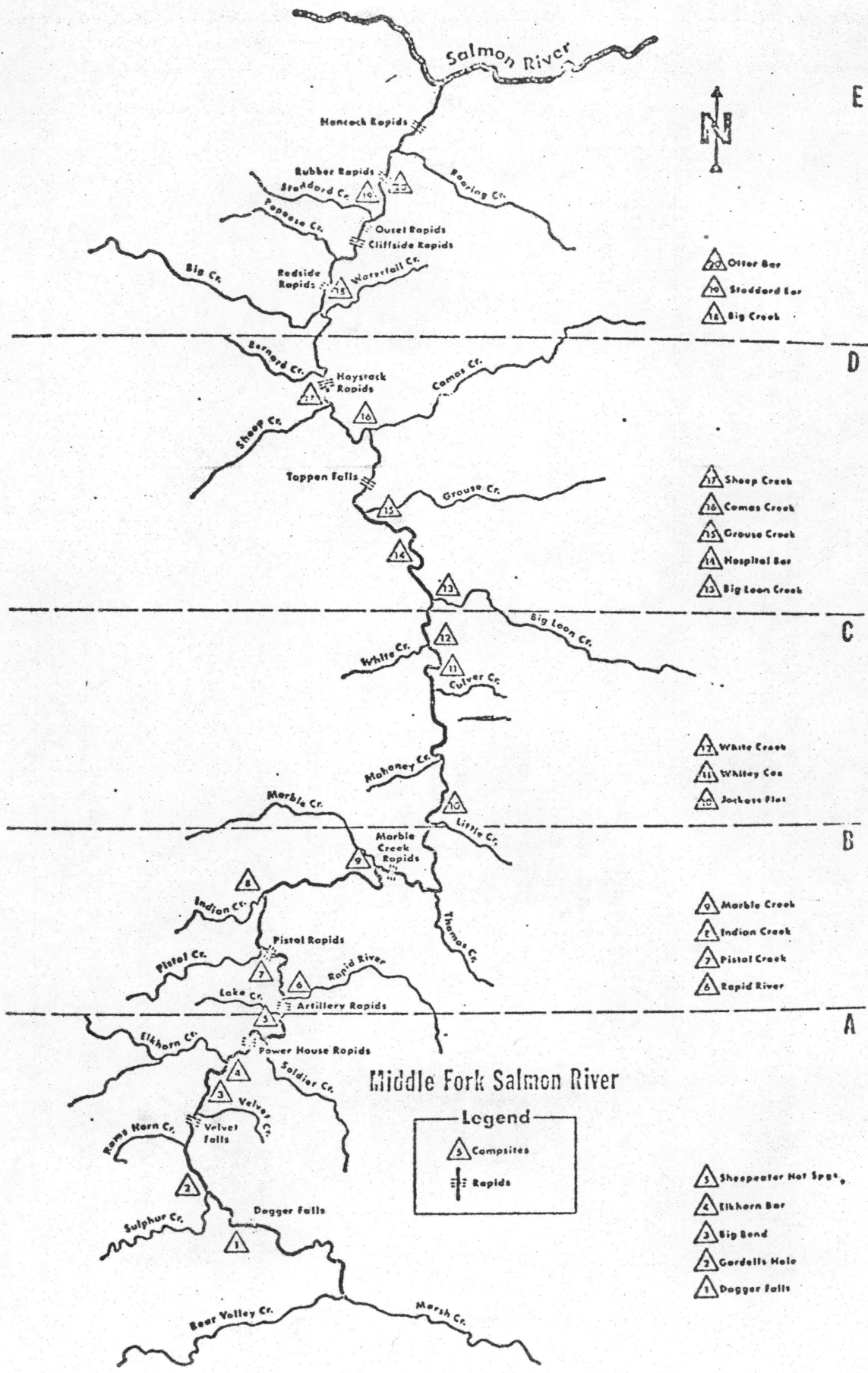
The following situations are things you might have encountered on your Middle Fork trip.
 Please indicate how each would affect you (circle one number after each statement).

	I Would Enjoy It <u>A Lot</u>	I Would Enjoy It <u>A Little</u>	Doesn't Matter	It Would Bother Me <u>A Little</u>	It Would Bother Me <u>A Lot</u>
A. Finding litter along the river or at campsites.....	1	2	3	4	5
B. Camping at a place with no sanitary facilities or developed areas.....	1	2	3	4	5
C. Meeting no other parties.....	1	2	3	4	5
D. Seeing man-made features while floating.....	1	2	3	4	5
E. Camping at a place that shows substantial amounts of use.....	1	2	3	4	5
F. Seeing other people who are not floating (hikers, horseback riders)....	1	2	3	4	5
G. Camping at a place where several other parties are camped.....	1	2	3	4	5
H. Noise from airplanes or other man-caused disturbances.....	1	2	3	4	5
I. Others not listed above: _____	1	2	3	4	5

Please circle the letter (s) of any of the above situations you encountered or experienced on your trip.

If use of a wild river was heavy, and controls were being considered, please indicate how you would feel about each of the following management policies:

	<u>Strongly Favor</u>	<u>Favor</u>	<u>No Feeling Either Way</u>	<u>Oppose</u>	<u>Strongly Oppose</u>
A. Limit the number of people entering the river by:					
1) restricting use to only those with prior river experience.....	1	2	3	4	5
2) issuing a limited number of permits through a mail reservation system.....	1	2	3	4	5
3) allowing only one float trip per person in a lifetime.....	1	2	3	4	5
4) issuing a limited number of permits on a first-come, first-served basis.....	1	2	3	4	5
5) restricting use to only those with proper equipment for floating white water rivers.....	1	2	3	4	5
B. Regulated launch time (a restricted number of parties per day at stated intervals).....	1	2	3	4	5
C. Charge an entrance fee.....	1	2	3	4	5
D. Assign campsites prior to launch.....	1	2	3	4	5
E. Something else may be better. I suggest: _____					



E

D

C

B

A

Middle Fork Salmon River

Legend

- Campsites
- Rapids

- Otter Bar
- Stoddard Bar
- Big Creek

- Sheep Creek
- Comas Creek
- Grouse Creek
- Hospital Bar
- Big Loon Creek

- White Creek
- Whitley Cr.
- Jockass Flat

- Marble Creek
- Indian Creek
- Pistol Creek
- Rapid River

- Sheepeater Hot Spg.
- Elkhorn Bar
- Big Bend
- Gardalls Hole
- Dagger Falls

Please indicate your feeling towards each of the following with respect to the Middle Fork:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>No Opinion</u>
A. Forest Service Administration.....	1	2	3	4	5
B. Regulations governing fishing.....	1	2	3	4	5
C. Services of outfitter and guides.....	1	2	3	4	5
D. Concessionaires (food, drinks, etc.).....	1	2	3	4	5

Comments: _____

What do you think could be done to improve your Middle Fork floating experience? _____

If use of the Middle Fork was heavy and the Forest Service had to restrict the number of people floating the river, please indicate some of the things you would have done if you could not have floated the Middle Fork when you did? _____

Do you think the Middle Fork should be regulated:
 At the present time? Yes ___ No ___ Future? Yes ___ No ___

Do you feel there should be more stringent controls or limits placed on the size of parties floating the Middle Fork? No ___ Yes ___ If Yes, what should be the maximum number of people in a party? _____

Please check the activities you did while floating the Middle Fork and the approximate time spent doing each. Please rate the activities you checked 1st, 2nd, 3rd, etc. in importance to you and your floating experience.

<u>Activity</u>	<u>Time (hours)</u>	<u>Rating</u>
<input type="checkbox"/> Fishing	_____	_____
<input type="checkbox"/> Chuckar hunting	_____	_____
<input type="checkbox"/> Hiking	_____	_____
<input type="checkbox"/> Looking for Indian artifacts	_____	_____
<input type="checkbox"/> Cave exploring	_____	_____
<input type="checkbox"/> Looking at historical sites	_____	_____
<input type="checkbox"/> Swimming	_____	_____
<input type="checkbox"/> Photography	_____	_____
<input type="checkbox"/> Other (please list) _____	_____	_____

THE FOLLOWING QUESTIONS REFER TO THE ENCLOSED MAP. PLEASE DETACH THE MAP FROM THE QUESTIONNAIRE SO YOU CAN EASILY REFER TO IT IN ANSWERING THE FOLLOWING QUESTIONS.

Where did you start your float trip?

- Dagger Falls
- Indian Creek
- Flying B
- Other (please specify) _____

Where did you leave the river when your float trip was over?

- Mouth of the Middle Fork
- Cache Bar
- Corn Creek
- Other (please specify) _____

In which section(s) did you feel there were too many people (please circle)?

- A B C D E ALL NONE

Please comment on those places you felt were crowded (i.e. entrance and exit points, campsites) _____

If you saw or experienced any environmental deterioration or other related problems (e.g. litter, buildings, mining) in which section(s) did these occur?

A B C D E ALL NONE

What were they? _____

Where were the best scenic qualities of the Middle Fork?

A B C D E ALL NONE

Comments: _____

Which section(s) had the best fishing?

A B C D E ALL NONE DIDN'T FISH

Comments: _____

Which section(s) had the best white water floating?

A B C D E ALL NONE

Comments: _____

In which area(s) did you see wildlife?

A B C D E ALL NONE

What type: _____

Please locate all the places you camped with an (X) on the enclosed map (a close approximation will do).

Please indicate those places in which you hiked off the river with an arrow (→) on the map.

Identify all private, commercial or other man-made features that you can remember with a (O) on the map.

* * * * *
* * * * *

What is your: Age? _____ Sex _____ Occupation (indicate position) _____

Address of residence (city, county, and state only)? _____

Where do you live?

- | | |
|---|--|
| <input type="checkbox"/> Rural or rural non-farm | <input type="checkbox"/> 25,000 - 50,000 |
| <input type="checkbox"/> 5,000 or less population | <input type="checkbox"/> 50,000 - 100,000 |
| <input type="checkbox"/> 5,000 - 10,000 | <input type="checkbox"/> 100,000 - 250,000 |
| <input type="checkbox"/> 10,000 - 25,000 | <input type="checkbox"/> Over 250,000 |

What is the highest level of education that you have completed?

- | | |
|--|---|
| <input type="checkbox"/> Grade 0 - 8 | <input type="checkbox"/> Some college or additional schooling |
| <input type="checkbox"/> Grade 9 - 11 | <input type="checkbox"/> College graduate |
| <input type="checkbox"/> High school diploma | <input type="checkbox"/> Advanced degree |

What was your family's total income before taxes in 1971?

\$ _____

How many days of paid vacation do you have each year? _____

If self-employed, how many days of vacation do you take each year? _____

Approximately how much did you spend on your entire Middle Fork trip?

\$ _____

How many people do these expenditures cover? _____

Do you belong to an organization that is primarily concerned with conservation and/or outdoor recreation? No Yes If YES, please specify: _____

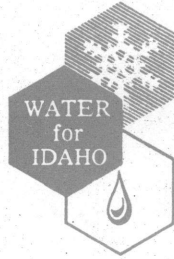
Do you plan to float the Middle Fork in the future?

Yes No Don't Know

If Yes, when? _____

If NO, why not? _____

(Thank you! This is all of the questions, but please see message on the back of this page)



June, 1972

Dear

Proper management of wild rivers and other wildland recreation areas depends to some degree upon the perception of user attitudes and preferences. The ability of managers to perceive the preferences of users determines to a large extent their ability to satisfy them--or when appropriate, to explain why they cannot, or should not, meet user preferences.

This questionnaire is designed to determine your perceptions of wild river users. Specific attention will be given to your perception of how users perceive management alternatives, the characteristics of Middle Fork floaters, problems of the Middle Fork, and the general importance of wild rivers. Questions are included to facilitate a comparison of the responses of users and resource managers.

We hope you will assist us by completing the enclosed questionnaire concerning the use of the Middle Fork of the Salmon River. All replies will remain confidential. Please answer all questions carefully and return the questionnaire as soon as possible in the enclosed prepaid envelope.

Thank you for your cooperation.

Sincerely,

Dr. E. L. Michalson
Project Leader
Wild & Scenic Rivers Study Unit

Bob Peckfelder
Graduate Assistant
Forest Recreation

MANAGER MAIL QUESTIONNAIRE

SURVEY OF RESOURCE MANAGERS' ATTITUDES AND OPINIONS
FOR THE MIDDLE FORK OF THE SALMON RIVER

Please indicate how important or unimportant you feel the following statements are to a "wild river" experience (circle one number after each statement).

"Very Important" = 1
 "Important" = 2
 "No Opinion" = 3
 "Unimportant" = 4
 "Very Unimportant" = 5

	<u>IMPORTANCE</u>				
	<u>VI</u>	<u>I</u>	<u>N</u>	<u>U</u>	<u>VU</u>
A. Solitude, uncrowded areas, being away from the rush of civilization	1	2	3	4	5
B. White water adventure	1	2	3	4	5
C. Camping experience (cooking out, campfires, sleeping out, etc.).	1	2	3	4	5
D. Family enjoyment (draws the family closer together, educational for the children, etc.)	1	2	3	4	5
E. History and scientific interest	1	2	3	4	5
F. Floating one of the nation's wild rivers	1	2	3	4	5
G. Observing and being part of nature	1	2	3	4	5
H. Personal enrichment	1	2	3	4	5
I. Recreation	1	2	3	4	5
J. Other (please list): _____	1	2	3	4	5

For each of the following statements, please indicate if you agree or disagree with it by circling one number after each statement.

"Strongly Agree" = 1
 "Agree" = 2
 "No Opinion" = 3
 "Disagree" = 4
 "Strongly Disagree" = 5

	<u>AGREEMENT</u>				
	<u>SA</u>	<u>A</u>	<u>N</u>	<u>D</u>	<u>SD</u>
A. Taxes should not be increased to provide a quality environment	1	2	3	4	5
B. A beautiful view is just as beautiful from a roadside overlook as from a trail deep in a forest	1	2	3	4	5
C. Satisfactory recreation activity must be near towns and cities	1	2	3	4	5
D. Rivers should be harnessed to provide electricity, irrigation, and water	1	2	3	4	5
E. Enough land has been set aside for wilderness areas, wildlife protection, and recreation use	1	2	3	4	5
F. The forests of the nation are not being cut in a manner and at a rate that will harm the environment	1	2	3	4	5
G. Meeting a large number of people on a recreational outing makes the trip more rewarding	1	2	3	4	5
H. All forms of recreation should be made easily accessible to everyone	1	2	3	4	5
I. Historical or archeological artifacts should be kept by those who find them	1	2	3	4	5

How do you think the following situations would affect wild river floaters (circle one number after each statement).

	Enjoy It A Lot	Enjoy It A Little	Wouldn't Matter	Bother them A Little	Bother Them A Lot
A. Finding litter along the river or at campsites	1	2	3	4	5
B. Camping at a place with no sanitary facilities or developed areas	1	2	3	4	5
C. Meeting no other parties	1	2	3	4	5
D. Seeing man-made features while floating	1	2	3	4	5
E. Camping at a place that shows substantial amounts of use	1	2	3	4	5
F. Seeing other people who aren't floating (hikers, horseback riders, etc.)	1	2	3	4	5
G. Camping at a place where several other parties are camped	1	2	3	4	5
H. Noise from aircraft or other man-caused disturbances	1	2	3	4	5
I. Others not listed above: _____	1	2	3	4	5

If use of a wild river was heavy, and controls were being considered, please indicate your feelings about each of the following management alternatives.

- "Strongly Favor" = 1
- "Favor" = 2
- "No Opinion" = 3
- "Oppose" = 4
- "Strongly Oppose" = 5

		<u>FEELING</u>				
		<u>SF</u>	<u>F</u>	<u>N</u>	<u>O</u>	<u>SO</u>
A.	Limit the number of people entering the river by:					
	1) restricting use to only those with prior river experience	1	2	3	4	5
	2) issuing a limited number of permits through a mail reservation system	1	2	3	4	5
	3) allowing only one float trip per person in a lifetime	1	2	3	4	5
	4) issuing a limited number of permits on a first-come, first-served basis	1	2	3	4	5
	5) restricting use to only those with proper equipment for floating white water rivers	1	2	3	4	5
B.	Regulated launch time (a restricted number of parties per day at stated intervals)	1	2	3	4	5
C.	Charge an entrance fee (How much should this charge be? \$_____)	1	2	3	4	5
D.	Assign campsites prior to launch	1	2	3	4	5
E.	Allow use to continue without controls	1	2	3	4	5
F.	Something else would be better. I suggest: _____					

What factors do you feel must be considered before any of the above controls or regulations on use were imposed: _____

Do you feel float use on the Middle Fork should be regulated:

a) At the present time? Yes___ No___ No Opinion___

b) In the future? Yes___ No___ No Opinion___

If YES, what type of regulation(s) do you feel needs to be implemented? _____

Do you feel there should be more stringent controls or limits placed on the size of parties floating the Middle Fork? Yes___ No___ No Opinion___

If YES, what should be the maximum number of people in a party and why? _____

Is crowding a problem anywhere on the Middle Fork? Yes___ No___
No Opinion___

If so, in which areas or places do you feel there is a problem of crowding?
(Please be as specific as possible in listing): _____

Does the presence of Middle Fork floaters present problems with the fish and wildlife resources of the area? Yes___ No___ No Opinion___

If YES, please explain: _____

Is there a problem with environmental degradation associated with Middle Fork floaters? Yes___ No___ No Opinion___

If YES, please indicate the type of degradation and where these areas or places are located (Please be as specific as possible): _____

Does the presence of Middle Fork floaters present problems with the aesthetic resources or scenic attractions of the area? Yes____ No____
No Opinion____

If YES, please explain: _____

What do you think could be done to improve the Middle Fork floating experience? _____

Please estimate what per cent of Middle Fork floaters were (total should be 100 per cent):

- a) Members of a commercially-guided float party? _____%
- b) "Do-it-yourselfers"? _____%

Please estimate the per cent of the total float trips down the Middle Fork for each month listed (total should be 100 per cent):

May____% June____% July____% August____%
September____% October____% Other____%

Please estimate the per cent of the total weekly float trips which occur on each of the days of the week listed (total should be 100 per cent):

Sun.____% Mon.____% Tues.____% Wed.____% Thurs.____%
Fri.____% Sat.____%

What per cent of the people who float the Middle Fork do you feel are "first time" Middle Fork floaters? _____%

What per cent of last year's floaters do you think plan to float the Middle Fork in the future? _____%

Have you floated the Middle Fork? Yes____ No____

If YES, do you plan to float it again? Yes____ No____

Have you floated other "wild or scenic" rivers? Yes___ No___ If so,
which ones: _____

Please rank the following activities (1st, 2nd, 3rd, etc.) that you feel are
important to Middle Fork floaters and the floating experience.

Activity

- _____ Fishing
 _____ Chukar hunting
 _____ Hiking
 _____ Looking for Indian artifacts
 _____ Cave exploring
 _____ Looking at historical sites
 _____ Swimming
 _____ Photography
 _____ Other (Please list): _____

What importance and why do you place on the following with respect to the
Middle Fork:

- A. Fall hunting of big game? _____

- B. Horses and packstrings? _____

- C. Steelhead fishing? _____

- D. Salmon fishing? _____
- E. Wilderness and/or primitive areas? _____

- F. More access? _____

- G. Private property and commercial developments? _____

H. Other (Bird hunting, archeology, history, etc.)? _____

What is your estimate of the average age of Middle Fork floaters? _____

Please estimate the per cent of the floaters who come from each of the following categories (total should be 100 per cent):

- | | |
|---------------------------------|--------------------------|
| _____% Rural or rural non-farm | _____% 25,000 - 50,000 |
| _____% 5,000 or less population | _____% 50,000 - 100,000 |
| _____% 5,000 - 10,000 | _____% 100,000 - 250,000 |
| _____% 10,000 - 25,000 | _____% Over 250,000 |

What do you feel is the educational level of Middle Fork floaters (Please indicate the percent in each category):

- | | |
|----------------------------|---|
| _____% Grade 0 - 8 | _____% Some college or additional schooling |
| _____% Grade 9 - 11 | _____% College graduate |
| _____% High School diploma | _____% Advance degree |

What percentage of Middle Fork floaters belong to conservation-type organizations? _____%

What do you feel is the average income of Middle Fork floaters? \$ _____

* * * * *

What is your age? _____ Position? _____

How familiar are you with the problems associated with Middle Fork management? Very familiar _____ Familiar _____ Unfamiliar _____

Have you been associated with management of the Middle Fork? Yes ___ No ___

If YES, how long? _____

If there is anything more you would like to add concerning the use or management of the Middle Fork, please use the remaining space for that purpose.

* * * * *

Your contribution to this effort is very greatly appreciated. Thank you.