

**APPROPRIATE RIVER RECREATION USE
STUDY
MAR-39**

NEW RIVER GORGE NATIONAL RIVER

**Exploring the Potential Partnership
Role of River Outfitters in Managing
Public Rivers**

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EXECUTIVE SUMMARY

The overall goal of this study was to explore potential partnership roles between the National Park Service and river outfitters in meeting management mandates for the New River Gorge National River. More specifically, we looked for areas of similarities and differences in managers' and outfitters' perceptions of river management problems, their potential solutions to problems, and their views on potential partnership ventures to solve problems. River outfitters and seven National Park Service managers, including the superintendent, were interviewed in 1986.

Managers and outfitters agree that litter from upstream and from river bank users, water pollution, and lack of hiking trails in the park are serious problems. They share perceptions that litter from river users, education of river guests about nature, amount of information available about what to do and see in the area, and the visibility of the National Park Service presence on the river are getting better. They believe also that damage to historic structures and motorized boats on the river are getting worse. They differ in that the outfitters are currently much more concerned than managers about inadequate distribution of use across outfitters and space on the river, lack of information about and opportunities to engage in other recreational opportunities in the area, low water levels, motorized boating on the river, and National Park Service emphasis on preservation at the expense of recreation. In contrast, National Park managers are much more concerned than outfitters about visitor education; resource damage such as water pollution, damage to historic sites, off road vehicles along the river, and disposal of

human body wastes; river safety; condition of access points; and trespass onto private lands.

Managers and outfitters had more agreement about solutions to problems than they had on seriousness of various river problems. Both groups listed the use of the railroad tracks for emergency evacuation purposes, NPS construction of more hiking trails within the park, a cooperative annual litter clean up day, and more programs on river protection and safety for area schools and communities among their ten most favored problem solutions. Both groups favored efforts to gain the cooperation of the Corps of Engineers in providing adequate water flows and in removing litter at the upstream dam. At least 80 percent of the managers and outfitters called for increased cooperation between the NPS and state agencies to improve river access roads.

Both groups listed the prohibition of drinking alcoholic beverages in the park, assigning outfitters to lunch spots each season, NPS construction of car campgrounds in the park, and spraying for black fly/gnat reduction among the ten most opposed actions. Finally, the two groups had substantial disagreement on the advisability of requiring portable toilets on river trips and the construction of a scenic loop highway in the park, and mild disagreement on NPS provision of horseback riding facilities in the park and on a mandatory safety instruction program for river guests.

Overall, managers were much more supportive towards cooperation between the National Park Service and river outfitters than were the outfitters. However, at least 85 percent of the managers and 70 percent of the outfitters somewhat or strongly favored the following joint

ventures: (1) cooperative efforts to develop literature on national park status and river recreation opportunities for outfitters to send their guests, (2) NPS develop literature on nature and history of river for outfitters to send to guests before their arrival, (3) annual river clean up day sponsored by outfitters and NPS, (4) NPS and outfitters negotiate with the railroad to provide scenic train rides along river, (5) cooperation to decide which historic structures along the river to visit, (6) cooperation to develop a river map with attractions and facilities, (7) cooperation to equitably and efficiently remove litter from river access and stopping points, and (8) cooperation on a mandatory safety training course for guides.

Cooperative ventures most likely to succeed are those for which both the managers and the outfitters currently agree on the severity of a problem, see the problem as getting worse, and support a proposed cooperative solution. We found few problems which met all three criteria, but litter from river bank users and from upstream have this kind of consensus.

Another situation is where both parties perceive a problem, but they do not agree on a solution. Here a successful cooperative venture is still probable, because both groups are working from a common base of concern for a resource they both cherish. What is needed is increased discussion and brainstorming among the two groups to identify mutually agreeable solutions. This situation does not currently exist on the New River. Whenever managers and outfitters agreed on a problem they also had substantial agreement on possible solutions.

A third and very common situation occurs when the two parties do not agree on the existence, nature or severity of the problem. In this study, the following represent some of the problems in this third category: adequate disposal of human body wastes, off road vehicles along river banks, inadequate communication between outfitters and their guests, educating river guests about nature or history of the river, trespass onto private lands, damage to historic sites, lack of recreational opportunities in the area, inadequate distribution of use across outfitters and river space, and inadequate information on river attractions. For these issues, education is needed to accomplish shared understanding of the issue or question. This will likely require greater understanding on the part of each group of the other's organizational objectives and setting, the values assigned to the river resource, and personal goals for river protection and use. It will also require sharing of specific information about the issue.

A model research and monitoring program is recommended to develop methods, facilitate the implementation, and evaluate the effectiveness of National Park Service-outfitter ventures to address problems in each of the three situations described above. Such a research program might evaluate visitor response, cost effectiveness, attainment of management objective, and causes of any program success.

INTRODUCTION

Recreational use of the Upper Delaware Scenic and Recreational River, the Delaware Water Gap National Recreation Area, and the New River Gorge National River has increased dramatically in the last decade. These increases in use have brought social and economic benefits as well as costs to these river environments, the primary managing agency (National Park Service), area residents, commercial entrepreneurs, and local governments. Benefits include increased opportunities for the public in the heavily populated East to float relatively natural rivers in a scenic setting, increased businesses and jobs that provide services for river users, and increased dollars coming from outside the region to spur local economies.

Potential costs of this growth include negative impacts on river ecology and user experiences, trespass and vandalism of riparian landowners' property, changes in community social structure as businesses and government respond to the demands of outsiders, and conflicts among and between area landowners, river users, and commercial entrepreneurs who seek to provide more services and make profits.

The National Park Service has been legally mandated to protect the recreational, natural, and cultural values of these rivers for the use and enjoyment of current and future generations. While this mandate is common to National Park Service areas and the agency has a long history of effective park management, resources for meeting this mandate through traditional management practices are somewhat limited for the three study rivers. Without complete ownership of the land surrounding the river, the National Park Service has less direct control over outside influences upon the rivers, access to the rivers, services provided on the river,

and impacts of river users on neighboring lands and enterprises than it has for most of its parklands. In addition, the challenge of management is increased by ceilings on agency staffing and in some cases by the failure of agency budgets to keep pace with inflation.

Management realities on the three rivers suggest a shift from the traditional management role for the National Park Service--a shift away from direct control and management to a broker or facilitator role in which the National Park Service works closely with all the interest groups to define resource values to be protected; to identify institutions, mechanisms, and procedures to protect values; and, to guide, encourage, and coordinate the actions of a host of individuals and organizations to achieve public goals on the rivers. This facilitator role requires that the National Park Service form partnerships with other institutions and organizations, many of them in the private sector, to accomplish park objectives.

PROBLEM STATEMENT

The National Park Service's goal of facilitating the protection of river values in partnership with other public institutions and the private sector would likely be more easily achieved through greater knowledge of who are the important partners; what are their goals, objectives, and management practices; and, as importantly, what are their attitudes about forming partnerships in protecting the river and providing services.

One important partner is the commercial river outfitter. These private entrepreneurs provide quality river experiences for many of the

public who would not otherwise be able to gain them. Largely because of outfitters' efforts, interest in and use of these and other rivers have been able to grow. Interest in river protection likely grew, in part, because of the urging of the outfitters themselves and their guests. The National Park Service has worked closely with outfitters, but this relationship has not always been viewed as a partnership seeking mutual public goals. In addition, the National Park Service may not always view the outfitters as partners in river management--that is, the Service sometimes may not look to and encourage the outfitters to work with their guests in achieving its management objectives on the river.

There is a lack of information on whether the outfitters perceive themselves as currently or potentially acting in a river management role. For example, it may be that the agency and the outfitters do not agree on the public values to be provided on the rivers. It may be that the outfitters perceive a management role as conflicting with their primary objective of providing high quality services to people in such a manner that they receive adequate financial return. It may be that on philosophical grounds many outfitters view such a role is inappropriate for them. In their view, some other organization or institution might better assist in management. It also may be that outfitters fear failure in an attempt to help the National Park Service achieve public goals. Finally, individual outfitters might feel that the energies and resources they allocate to help achieve public goals would put them at a competitive disadvantage with those outfitters who choose not to work as closely with the National Park Service.

The primary problem this research addressed is the lack of information about the view of commercial river outfitters concerning their role as partners with managers in river management. A second problem addressed is the lack of information on whether the nature of the commercial enterprise (e.g., its size) might influence perceived ability to facilitate achievement of management objectives. Finally, further definition is needed of the river manager's views of the feasibility and effectiveness of forming increased partnerships with river outfitters in achieving public values on the river.

This research is part of a broader, comprehensive research project to investigate river recreation use and carrying capacity on these three eastern rivers administered by the National Park Service (Interagency Agreement no. IA-4000-4-0002). In 1984, the Mid-Atlantic Region of the National Park Service initiated a cooperative research effort with the U.S. Forest Service to conduct a series of studies to help determine appropriate recreation use within the corridors of the study rivers. This study is part of a socio-economic component of this larger research program and is intended to shed further light on outfitters, those entrepreneurs in the regional economy having a direct and critical interest in decisions concerning recreational use of these rivers.

RESEARCH OBJECTIVES

The overall goal of this research was to explore the feasibility of forming increased partnerships between resource management agencies and commercial river outfitters to accomplish management objectives on national rivers. The goal was to determine whether outfitters on the New

River Gorge, Delaware Water Gap, and Upper Delaware River view a larger role in management as appropriate for them and whether river management agencies are prepared to facilitate such a role. Specific objectives are:

1. to identify outfitters' preferences for resource and experience values to be provided on the river, their perceptions on the adequacy of current river management and their desires for future management directions, and to compare and contrast these views with those of river managers.
2. to compare and contrast the outfitters' and managers' perceptions of problems on the river, potential solutions to the problems, and views on how outfitters and managers might increasingly cooperate to implement solutions.
3. to characterize the operations of river outfitters on the study rivers (e.g., the nature and extent of their activities, type of trips provided, type of market area served, marketing strategies used, primary clientele groups served) and explore relationships between type of river outfitter and views on appropriate roles for river management.

PROCEDURES

Study objectives were accomplished through a four-step procedure:

(1) identify appropriate river outfitters and managers to include in the study; (2) develop and pilot test an interview instrument; (3) conduct interviews with outfitters and managers; and (4) summarize and compare the views of outfitters and managers on river user clientele, management problems, potential solutions, and feasibility of various National Park Service-river outfitter cooperative ventures.

1. Identification of appropriate river outfitters and managers

It was our intent to seek the cooperation of and interview all river outfitters on the three study rivers. While such a census is typically

not necessary in survey research, the relatively small number of outfitters, the nature of this study, and the political climate on the rivers all suggested a census. With only 20 to 30 outfitters per river, we believed all outfitters could be visited at their base camps and interviewed in about a two-month period. With a sample of outfitters, we might miss the one or two key ideas or innovations that would prove most effective. Finally, given the importance of the outfitter-National Park Service relationship to the operation and growth of the outfitter business, we believed those outfitters who would not have the opportunity to be interviewed in a survey sample might, with some justification, feel they were discriminated against.

Managers on all three study rivers and outfitters were fully advised of and participated in the development of the study plan and the interview instrument. Questionnaires used on the three study rivers differed somewhat, reflecting their different resource and management settings.

Outfitters included in this study were under license to operate on the river as of May 1, 1986, on the New River Gorge and Delaware Water Gap and as of May 1, 1987, on the Upper Delaware River. On the New River 20 outfitters were interviewed; 19 on the Delaware Water Gap; and 26 on the Upper Delaware. Outfitters interviewed on the New River are identified in Appendix A.

We sought the advice of the resource management specialists at the three study rivers to identify the appropriate managers to interview. Because our study objectives called for a comprehensive comparison of managers' and outfitters' views, and because managers at various

administrative levels and performing various functions likely have differing views, we anticipated interviewing the following park staff at each river: (1) superintendent, (2) assistant superintendent, (3) chief ranger, (4) river ranger, (5) resource management specialist, (6) chief interpreter, and (7) perhaps permanent field interpreters. Interviews of these personnel would likely identify concerns and innovative solutions that might not be shared by the entire staff, and articulation of these ideas has the potential for more effective river management and cooperation with outfitters.

Interviews with resource administrators on the three rivers differed significantly. On the New River, seven managers were interviewed in the fall, 1986 (see Appendix B); on the Upper Delaware, six managers were interviewed in summer, 1987. These managers completed the entire study questionnaire. On the Delaware Water Gap, however, a consolidated response by the management team was prepared on one questionnaire and only for questions dealing with problems existing in the river corridor. As a result comparisons of responses among managers is not possible there, and comparisons between managers and outfitters are very limited.

2. Development and pilot testing of an interview instrument

The questionnaire used in interviewing outfitters on the New River Gorge is included in Appendix C. The format of the interview instrument was a combination of qualitative, open-ended questions, and items to which the respondent checked prepared response categories. This combination sought to reap the benefits of both approaches. By opening the interview with open-ended questions, the respondent was free to identify and describe issues, problems, opportunities, and solutions in

his or her own words. This avoids the potential problem of "putting words and categories in the respondent's mouth"; in our case it prevented the researcher from subtly or overtly placing her definition and organization of reality within the minds of respondents. The disadvantage of this approach is that the very free-flowing nature of this input makes summaries of views of outfitters more difficult (e.g., outfitters may use very different criteria to categorize their clientele or to describe the nature of their business), and outfitters may not provide their views on specific issues of concern to managers. To mitigate these problems, later portions of the interview sought more "quantitative" data. A list of items of concern to managers and researchers allowed respondents to check the appropriate response category that most closely reflected their view.

Study objectives guided the development of content for the interview instrument. Input from appropriate river management specialists, a sample of outfitters, and river recreationists was sought to insure the interview addressed salient issues. Past studies of recreationists' perceptions and opinions about river management on the three rivers were reviewed, and open-ended, free-flowing discussions were conducted with a sample of managers and outfitters. The instrument was then pilot tested on at least three outfitters for each of the three rivers in summer, 1986. On the basis of these pilot tests and reviews by managers and peer researchers, the final research instrument was established.

Questionnaires developed for the three rivers were somewhat different and reflected local conditions and concerns. For example, in the Delaware Water Gap questionnaire there is more detail regarding what

types of recreation experience the visitors are seeking (question 2). Also in the Delaware Water Gap and Upper Delaware River questionnaire, new information was requested about successes in National Park Service management that was not asked in the New River instrument.

3. Conducting interviews with outfitters and managers

Research staff (Ms. Joyce Berger) conducted in-person interviews with outfitters and managers at their work places, or in a very few cases by telephone on the Upper Delaware (responses to the structured questions about problems and solutions were obtained later by mail). An attempt was made to interview the owner of the outfitting company rather than his or her designate. However, at some outfitters a manager, partner, or other knowledgeable employee answered the questions. Interviews took from one to two hours. Responses were held in strict confidence by the interviewer, and answers are not identified by individual outfitters or managers in this project report.

4. Summaries and comparisons of the views of outfitters and managers

Descriptive statistics on the views of outfitters and river managers are provided. For the river outfitters emphasis is placed on a thorough description of their perceptions of river management problems, their views on alternative solutions, and their recommendations on how the National Park Service and outfitters might cooperate further to enhance river values. The same plan of analysis was used for the managers on the New and Upper Delaware Rivers. For the Delaware Water Gap, managers only responded to questions about river management problems. The next step was to search for areas of agreement or disagreement within the outfitter population, and between outfitters and managers.

In reporting the implications of study results, we emphasize the issues of greatest concern, the areas of agreement and disagreement between outfitters and managers (where possible), and most of all, the recommendations--especially those recommendations for which there is some coalescence of views--of managers and outfitters about improved river management through cooperative National Park Service-outfitter ventures.

SURVEY FINDINGS

Information was obtained through personal interviews with 23 licensed outfitting companies (see Appendix A) and seven National Park Service managers from the New River Gorge National River (see Appendix B) during the summer, 1986. Information elicited included: visitor characteristics, trip patterns, services offered by outfitters, problems and concerns facing outfitters and managers, possible solutions to these problems, and how outfitters and the National Park Service can work together to implement solutions (see questionnaire in Appendix C).

The findings reported will focus on four main points:

1. Problems identified by outfitters and managers, and how they have changed over the last five years.
2. Potential solutions/recommendations by outfitters to river management problems.
3. Opportunities for cooperation between outfitters and National Park Service managers.
4. Management implications from the research findings.

Data utilized for this analysis were collected from open discussion with outfitters and managers and detailed closed-ended questions.

However, some questions were not answered by all of the outfitters and managers. As a result, the number of respondents addressing a problem or solution will vary from question to question.

Outfitters were asked additional questions regarding their clienteles' characteristics (e.g., group type, percent of total business by group type, and experiences sought) and business characteristics (e.g., number of years in business, advertising success, number of craft owned or available for rent, and where guests come from). However, due to the qualitative differences in categories used by outfitters to report these data, interpretation of responses was difficult. As a result, this report will focus just on management problems identified by outfitters and potential solutions to solve these problems.

PROBLEMS ON THE RIVER

New River Gorge outfitters and National Park Service managers were asked their opinion on the extent to which current uses, users, policies, and practices cause problems for their organizations or guests. This was accomplished by rating the severity of issues and problems on the New River Gorge on a five point scale (1=Not a problem, 2=Slight problem, 3=Moderate problem, 4=Serious problem, 5=Very serious problem). The respondents then were asked how the issue/concern had changed over the last five years utilizing a five point scale (1=Much worse, 2=Somewhat worse, 3=About the same, 4=Somewhat better, 5=Much better).

Problems Identified by Outfitters

Problems identified by New River Gorge outfitters, ranked by mean score or "average," are found in Table 1 (for a complete breakdown of how

outfitters responded, please see Appendix D). Litter from upstream (4.10) and litter from riverbank users (3.95) were the two major problems identified by outfitters (Table 1). They were the only problems with a mean of over or near 4.00 (Serious problem), and were reported as serious or very serious problems by more than 60 percent of the river outfitters (see Table 2). Seven additional problems were rated as moderate problems (3.00 or above) by the outfitters: lack of hiking trails in park, inadequate distribution of use among outfitters, lack of recreational opportunities in area, water level too low, lack of campgrounds in park, unskilled people using the river, and water pollution (Table 1).

Table 1. Outfitters' evaluation of the seriousness of river problems listed on the study questionnaire (ranked by means).

Problem	Respondents (N)	Mean*	Standard Deviation
Litter from upstream	20	4.10	1.02
Litter from riverbank users	19	3.95	0.97
Lack of hiking trails in park	20	3.15	1.14
Inadequate distribution of use among outfitters	20	3.10	1.71
Lack of recreational opportunities in area	20	3.10	1.45
Water level too low	20	3.05	1.19
Lack of campgrounds in park	19	3.00	1.25
Unskilled people using the river	20	3.00	1.17
Water pollution	20	3.00	1.41
Inadequate distribution of use across space on the river	20	2.95	1.32
Insufficient information about things to do and see in the area	20	2.85	1.27
Too little enforcement of rules and regulations	20	2.80	1.32
Inadequate toilet facilities at access points	20	2.75	1.21
Lack of camping spots along river	20	2.75	1.16
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	19	2.74	1.48
Inadequate distribution of use across time	19	2.68	1.25
Too few river access points	19	2.68	1.42
Inadequate toilet facilities along river between put-in and take-out points	20	2.65	1.27

Table 1. (continued)

Problem	Respondents (N)	Mean*	Standard Deviation
Lack of clear management direction from National Park Service	20	2.60	1.54
Vandalism	19	2.58	1.22
Damage to historic structures	20	2.55	1.43
Inadequate communication between National Park Service and private boaters	18	2.50	1.34
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	18	2.50	1.10
Poor quality campsites along river	19	2.47	0.96
Inadequate information services (signs, displays) at put-in points	20	2.45	1.15
Motorized boats on the river	19	2.42	1.43
Ignorance of rules and regulations on the river	20	2.40	1.05
Lack of telephones at major access points	20	2.40	1.27
Too many bothersome insects	19	2.32	1.45
Poor condition of access points	19	2.32	1.20
Lack of campgrounds in area	19	2.32	1.11
Lack of drinking water sources at access points	20	2.20	1.28
Adequate disposal of human body wastes	20	2.15	1.23
People drinking alcoholic beverages on the river	19	2.05	1.22
National Park Service too concerned about preservation and not concerned enough about recreation	20	2.05	1.43
Off road vehicles along river bank	19	2.00	1.41
Lack of availability of high quality guides	20	1.95	1.28
Too many people on the river	20	1.85	1.46
Too little National Park Service presence on the river	20	1.85	1.04
Water level too high	19	1.68	1.00
Inadequate communication between outfitters and their guests	20	1.65	1.09
River safety	20	1.65	1.04
Wildlife harassment	19	1.63	1.12
Erosion on riverbanks	20	1.60	0.68
Destruction of vegetation at access points or lunch stops	20	1.60	0.75
Litter from river users	20	1.53	0.77
Informing visitors that river is a National Park Service area	20	1.50	0.89
People too rowdy on river	19	1.50	0.61
Roads within sight of the river	18	1.44	0.78
Education of river guests about nature on the river	20	1.40	0.68

Table 1. (continued)

Problem	Respondents (N)	Mean*	Standard Deviation
People fishing	19	1.37	0.96
Education of river guests about river history	19	1.37	0.68
Trespass onto private lands	20	1.30	0.57
National Park Service employees unfamiliar with river and area	19	1.26	0.65
National Park Service river rangers not friendly	20	1.25	0.55
Inadequate communication between outfitters and their guests	20	1.20	0.52
Too much enforcement of rules and regulations	19	1.16	0.50
Too much nudity	20	1.10	0.31

*Based on a scale of one to five: 1 = Not a problem
 2 = Slight problem
 3 = Moderate problem
 4 = Serious problem
 5 = Very serious problem

Too much nudity (1.10), too much enforcement of rules and regulations (1.16), and inadequate communication between outfitters and their guests (1.20) were among many issues that the outfitters did not rate as even slight problems.

Table 1 also lists the "standard deviation" of responses among the outfitters, or their extent of agreement on the degree of the problem. The standard deviation is a measure of variability on the rating of an issue. Inadequate distribution of use among outfitters (1.71), lack of clear management direction from the National Park Service (1.54), lack of clear jurisdiction by National Park Service versus West Virginia DNR (1.48), too many people on the river (1.46), the lack of recreational opportunities in the area (1.45), and too many bothersome insects (1.45)

had standard deviations which reflected a wide range of opinions among the outfitters.

In addition to the serious litter problems, one-half of the outfitters identified that inadequate distribution of use among outfitters was a serious or very serious problem (Table 2). Additional problems, identified by at least one-third of the outfitters reporting the issue as a serious or very serious problem, included lack of recreational opportunities in the area and water level too low (45.0%), lack of hiking trails in the area and too little enforcement of rules and regulations (40.0%), and water pollution (35.0%) (Table 2).

Table 2. The ten problems most frequently identified by outfitters as serious or very serious.

Problem	Respondents ¹ (N)	Percent ²
Litter from upstream	15	75.00
Litter from riverbank users	12	63.16
Inadequate distribution of use among outfitters	10	50.00
Lack of recreational opportunities in area	9	45.00
Water level too low	9	45.00
Lack of hiking trails in park	8	40.00
Too little enforcement of rules and regulations	8	40.00
Water pollution	7	35.00
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	6	31.58
Lack of campgrounds in park	6	31.58

¹Number and percent² of outfitters answering the question and reporting the issue as a serious or very serious problem.

Outfitters on the New River were classified as big, medium, or small on the basis of the number of guests per year taken down the river (see Appendix A). Because outfitters view differences among themselves in the kind of trip and service provided partly on the basis of size of their

businesses, we believed that size of company might also explain differences in problem perceptions and perceived cooperative ventures to solve problems.

Contrary to expectations, data analyses suggested considerable agreement across the three outfitter groups on severity of problems. For example, all were concerned about litter (Table 3). All groups were concerned about the lack of recreational opportunities in the area, but the large outfitters focused on the need for hiking trails and concern for damage to historic structures. Water conditions were a concern for all three groups, but the large outfitters expressed concern for both low water levels and water pollution, the medium outfitters emphasized only water pollution, and the small outfitters stressed only low water levels.

The major differences among the outfitters was on the perception of inadequate distribution of use among outfitters. Both the small and medium outfitters saw this as a major problem; the large outfitters did not. The small outfitters differed from the other two in citing inadequate toilet facilities at access points (Table 3).

Table 3. A comparison of the top ten problems rated as serious or very serious by small, medium and large outfitters.

Problem	Respondent ¹ (N)	Percent ²
<u>Small Outfitters</u>		
Litter from upstream	8	88.90
Litter from riverbank users	7	77.80
Water level too low	6	66.70
Inadequate toilet facilities at access points	5	55.60
Lack of recreational opportunities in area	5	55.60
Inadequate distribution of use among outfitters	5	55.60
Lack of campgrounds in park	4	44.40
Lack of clear jurisdiction by National Park		
Service versus West Virginia DNR	4	44.40
Too little enforcement of rules and regulations	4	44.40
Poor condition of access point	4	44.40

Table 3. (continued)

Problem	Respondent ¹ (N)	Percent ²
<u>Medium Outfitters</u>		
Inadequate distribution of use among outfitters	5	71.50
Litter from upstream	4	57.20
Litter from riverbank users	4	57.20
Lack of recreational opportunities in area	4	57.20
Water pollution	4	57.20
Lack of clear management direction from National Park Service	4	57.20
Inadequate communication between National Park Service and private boaters	3	50.00
Unskilled people using the river	3	42.90
Lack of hiking trails in park	3	42.90
Insufficient information about things to do and see in the area	3	42.90
<u>Large Outfitters</u>		
Litter from upstream	3	75.00
Water level too low	2	50.00
Lack of hiking trails in area	2	50.00
Damage to historic structures	2	50.00
Litter from riverbank users	1	33.00
Water pollution	1	25.00
Too few river access points	1	25.00
Vandalism	1	25.00
Too little enforcement of rules and regulations	1	25.00
Too many bothersome insects	1	25.00

¹Number and percent² of outfitters reporting the issue as a serious or very serious problem.

Outfitters who believed an issue was at least a slight problem were then asked if they perceived the problem as becoming better or worse over the last five years. (Those outfitters who believed the issues was not a problem were not asked to indicate if it was getting better or worse.) The outfitters' average rating of issue/problem change over the last five years is found in Table 4 (for a complete breakdown, see Appendix E). Ratings were done on a five-point scale ranging from "much worse" through "about the same" to "much better." Inadequate communication between outfitters and their guests (4.00) was identified by outfitters as the

problem that has improved the most over the last five years. It was rated as somewhat better. Outfitters also felt that the education of river guests about river history (3.91) and nature on the river (3.75) also had improved over the last five years. Following these, the following problems were believed to have improved slightly: informing visitors that the river is a National Park Service area, litter from river users, lack of availability of high quality guides, and National Park Service employees unfamiliar with river and use.

Table 4. Outfitters' rating of the change in severity of problems over the last five years (ranked by mean scores).

Problem	Respondents ¹ (N)	Mean ²	Standard Deviation
Inadequate communication between outfitters and their guests	12	4.00	0.85
Education of river guests about river history	11	3.91	1.14
Education of river guests about nature on the river	12	3.75	1.06
Informing visitors that river is a National Park Service area	12	3.67	0.78
Litter from river users	14	3.57	1.22
Lack of availability of high quality guides	12	3.50	1.38
National Park Service employees unfamiliar with river and area	10	3.50	0.85
Too little National Park Service presence on the river	13	3.46	0.66
People fishing	12	3.42	1.08
River safety	15	3.40	1.45
Too much nudity	12	3.33	0.78
Inadequate communication between National Park Service and commercial river users	13	3.32	0.99
National Park Service river rangers not friendly	13	3.31	0.63
Destruction of vegetation at access points and lunch stops	14	3.29	0.99
Insufficient information about things to do and see in the area	18	3.22	0.81
Trespass onto private lands	14	3.21	0.89
Poor condition of access points	15	3.20	0.94

Table 4. (continued)

Problem	Respondents ¹ (N)	Mean ²	Standard Deviation
Water level too high	16	3.19	0.54
Wildlife harassment	12	3.17	0.94
People too rowdy on river	15	3.13	0.83
Inadequate toilet facilities along river between put-in and take-out points	17	3.12	0.49
Erosion on riverbanks	13	3.08	0.64
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	15	3.07	0.70
National Park Service too concerned about preservation and not concerned enough about recreation	16	3.06	0.77
Lack of drinking water sources at access points	16	3.06	0.25
Inadequate information services (signs, displays) at put-in points	18	3.06	0.54
Inadequate communication between National Park Service and private boaters	14	3.00	0.96
Inadequate toilet facilities at access points	17	3.00	0.79
Too few river access points	18	3.00	0.84
People drinking alcoholic beverages on the river	16	3.00	0.91
Water pollution	18	3.00	0.91
Lack of hiking trails in park	18	2.94	0.87
Poor quality campsites along river	16	2.94	0.44
Lack of campgrounds in area	15	2.93	0.70
Too much enforcement of rules and regulations	12	2.92	0.90
Roads within sight of the river	11	2.91	0.70
Lack of camping spots along river	18	2.89	0.68
Inadequate distribution of use across time	17	2.88	0.78
Lack of telephones at major access points	17	2.88	0.60
Water level too low	17	2.88	0.33
Too many bothersome insects	15	2.87	1.19
Too many people on the river	13	2.85	0.99
Adequate disposal of human body wastes	15	2.80	1.01
Lack of recreational opportunities in area	16	2.75	0.93
Litter from riverbank users	18	2.72	0.83
Litter from upstream	18	2.72	0.89
Lack of clear management direction from National Park Service	14	2.71	0.83
Inadequate distribution of use across space on the river	18	2.67	0.91

Table 4. (continued)

Problem	Respondents ¹ (N)	Mean ²	Standard Deviation
Too little enforcement of rules and regulations	16	2.62	0.89
Ignorance of rules and regulations on the river	16	2.62	0.72
Lack of campgrounds in park	16	2.62	0.96
Vandalism	17	2.59	0.94
Inadequate distribution of use among outfitters	16	2.56	1.03
Off river vehicles along river bank	13	2.54	0.78
Damage to historic structures	16	2.44	1.21
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	14	2.43	0.76
Unskilled people using the river	18	2.28	0.96
Motorized boats on the river	13	2.23	0.83

¹Only those outfitters who rated the issue as a problem were asked to respond to this question.

²Based on a scale of one to five:

- 1 = Much worse
- 2 = Somewhat worse
- 3 = About the same
- 4 = Somewhat better
- 5 = Much better

Motorized boats on the river with a mean of 2.23, unskilled people using the river (2.28), a lack of clear jurisdiction between the National Park Service and the West Virginia Department of Natural Resources (DNR) (2.43) and damage to historic structures (2.44) were the problems ranked by the outfitters as having gotten worse over the last five years. These, however, were generally perceived as having only gotten slightly to somewhat worse (Table 4).

The greatest diversity among the outfitters regarding problem change over the last five years were river safety (standard deviation of 1.45), the lack of availability of high quality guides (1.38), litter from river users (1.22), damage to historic structures (1.21), and too many bothersome insects (1.19) (Table 4).

More than 50 percent of the outfitters who felt there were problems of educating guests about river history and inadequate communication between outfitters and their guests believed these issues had become somewhat or much better over the last five years. Half of the responding outfitters felt the same way about litter from river users, educating river guests about nature, informing visitors that the river is a National Park Service area, and the lack of availability of high quality guides (Table 5).

Table 5. Problems most frequently mentioned by outfitters as having gotten better over the last five years.

Problem	Respondents ¹ (N)	Percent ²
Inadequate communication between outfitters and their guests	8	66.67
Education of river guests about river history	6	54.55
Litter from river users	7	50.00
Education of river guests about nature on the river	6	50.00
Informing visitors that river is a National Park Service area	6	50.00
Lack of availability of high quality guides	6	50.00
River safety	7	46.67
Insufficient information about things to do and see in the area	8	44.44
People fishing	5	41.67
Too little National Park Service presence on the river	5	38.46

¹Number and percent² of outfitters answering the question and reporting the issue as somewhat or much better. (Only those outfitters who rated the issue as a problem were asked to respond.)

Problems that 50 percent or more of the responding outfitters felt had gotten somewhat or much worse over the last five years were: (1) unskilled people using the river, (2) damage to historic structures, and (3) motorized boats on the river (Table 6). At least 40 percent of the

outfitters offering an opinion stated that vandalism, inadequate distribution of use among outfitters, and lack of clear jurisdiction by National Park Service versus West Virginia DNR were getting worse (Table 6).

Table 6. Problems most frequently mentioned by outfitters as having gotten worse over the last five years.

Problem	Respondents ¹ (N)	Percent ²
Unskilled people using the river	11	61.11
Damage to historic structures	9	56.25
Motorized boats on the river	7	53.85
Vandalism	8	47.06
Inadequate distribution of use among outfitters	6	43.75
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	6	42.86
Inadequate distribution of use across space on the river	7	38.89
Litter from riverbank users	7	38.89
Ignorance of rules and regulations on the river	6	37.50
Lack of clear management direction from National Park Service	5	35.71

¹Number and percent² of outfitters answering the question and reporting the issue as somewhat or much worse. (Only those outfitters who rated the issues as a problem were asked to respond.)

Problems Identified by Managers

Litter from upstream, with a mean score of 4.71, was ranked by National Park Service managers as the worst problem on the New River Gorge National River (Table 7). Water pollution (4.57) and litter from riverbank users (4.00) also were ranked as serious problems.

Managers rated the next group of problems between moderate and serious in their intensity: lack of hiking trails in park (3.86), inadequate brochures showing map of river, attractions, hazards, access points, etc. (3.57), inadequate information services (signs, displays) at put-in points (3.57), damage to historic structures (3.57), poor

condition of access points (3.43), poor quality campsites along river (3.43), adequate disposal of human body wastes (3.43), and vandalism (3.43).

Interestingly, all of the managers felt that (1) too much enforcement of rules and regulations, (2) National Park Service river rangers not friendly, and (3) National Park Service too concerned about preservation and not concerned enough about recreation **were not problems** (mean of 1.00). (See Appendix F, for a full breakdown of responses). Managers also felt National Park Service employees were familiar with the river and area, and that there is adequate communication between the National Park Service and river users (Table 7).

The greatest variation among the manager's rating of problems was the lack of campgrounds in the park (a standard deviation of 1.68). Manager opinion also varied about placing toilet facilities along the river between put-in and take-out points and at camping spots along the river (1.53), poor quality campsites along the river (1.51), the lack of drinking water sources at access points (1.50), and off road vehicle problems along the river bank (1.50) (Table 7).

Table 7. Problems identified by managers (ranked by mean scores).

<u>Problem</u>	<u>Mean*</u>	<u>Standard Deviation</u>
Litter from upstream	4.71	1.21
Water pollution	4.57	0.53
Litter from riverbank users	4.00	0.82
Lack of hiking trails in park	3.86	1.12
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	3.57	0.98
Inadequate information services (signs, displays) at put-in points	3.57	0.98
Damage to historic structures	3.57	0.53
Poor condition of access points	3.43	0.79

Table 7. (continued)

Problem	Mean*	Standard Deviation
Poor quality campsites along river	3.43	1.51
Adequate disposal of human body wastes	3.43	0.98
Vandalism	3.43	0.79
Off road vehicles along river bank	3.29	1.50
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	3.29	1.20
Too few river access points	3.14	1.21
Inadequate communication between National Park Service and commercial river users	3.00	1.29
Inadequate toilet facilities along river between put-in and take-out points	3.00	1.53
Lack of camping spots along river	3.00	1.53
Unskilled people using the river	3.00	0.82
Education of river guests about nature on the river	3.00	0.82
Inadequate communication between National Park Service and private boaters	2.86	0.69
Inadequate distribution of use across time	2.86	1.07
Lack of clear management direction from National Park Service	2.86	1.45
Too little enforcement of rules and regulations	2.86	0.90
Inadequate toilet facilities at access points	2.86	1.12
Lack of campgrounds in park	2.86	1.68
Trespass onto private lands	2.86	0.69
River safety	2.86	1.07
Water level too low	2.83	0.98
Lack of drinking water sources at access points	2.71	1.50
Lack of campgrounds in area	2.71	0.95
Education of river guests about river history	2.71	0.76
Inadequate distribution of use across space on the river	2.57	0.98
Inadequate distribution of use among outfitters	2.57	0.98
Ignorance of rules and regulations on the river	2.57	0.98
Insufficient information about things to do and see in the area	2.57	1.13
Destruction of vegetation at access points or lunch stops	2.57	0.79
Too many people on the river	2.29	0.76
Too little National Park Service presence on the river	2.29	0.76
Lack of telephones at major access points	2.29	0.95
Informing visitors that river is a National Park Service area	2.29	0.95
Erosion on riverbanks	2.29	0.76
Lack of availability of high quality guides	2.14	0.90
Lack of recreational opportunities in area	2.14	1.35
People too rowdy on river	2.00	0.82
Water level too high	2.00	0.89

Table 7. (continued)

Problem	Mean*	Standard Deviation
Wildlife harassment	2.00	1.15
Too many bothersome insects	1.86	1.46
Litter from river users	1.86	0.38
Roads within sight of the river	1.71	0.76
Motorized boats on the river	1.71	0.49
People drinking alcoholic beverages on the river	1.71	0.76
People fishing	1.43	0.79
Too much nudity	1.43	0.79
Inadequate communication between outfitters and their guests	1.29	0.49
National Park Service employees unfamiliar with river and area	1.29	0.49
National Park Service too concerned about preservation and not concerned enough about recreation	1.00	0.00
National Park Service river rangers not friendly	1.00	0.00
Too much enforcement of rules and regulations	1.00	0.00

*Based on a scale of one to five: 1 = Not a problem
 2 = Slight problem
 3 = Moderate problem
 4 = Serious problem
 5 = Very serious problem

Table 8 presents the ten problems identified most frequently by managers as serious or very serious problems. Every manager placed water pollution in this category. Litter from upstream and riverbank users was viewed as a serious or very serious problem by about three-fourths of the managers. Finally, more than half felt that lack of hiking trails in the park; inadequate brochures showing a map of river, attractions, hazards, and access points; inadequate information services at put-in points; damage to historic structures; poor quality campsites along the river; and, vandalism were all serious or very serious river problems (Table 8).

Table 8. The ten problems identified most frequently by managers.

Problem	Respondents ¹ (N)	Percent ²
Water pollution	7	100.00
Litter from upstream	6	85.70
Litter from riverbank users	5	71.43
Lack of hiking trails in park	4	57.14
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	4	57.14
Inadequate information services (signs, displays) at put-in point	4	57.14
Damage to historic structures	4	57.14
Poor quality campsites along river	4	57.14
Vandalism	4	57.14
Adequate disposal of body waste	3	42.86

¹Number and percent² of managers answering the question and reporting the issue as a serious or very serious problem.

Table 9 presents the managers' ranking of how issues have changed over the last five years on the New River Gorge (see Appendix G for a full breakdown of responses). Too little National Park Service presence on the river (with a mean of 4.00) was the only problem that averaged a "somewhat better" rating (Table 9). Problems that merited a slightly better rating included inadequate communication between National Park Service and private boaters, insufficient information about things to do and see in the area, inadequate communication between National Park Service and commercial river users, too little enforcement of rules and regulations, National Park Service employees unfamiliar with the river and area, lack of recreational opportunities in area; and people fishing.

Damage to historic structures (mean of 2.14) was the problem that managers perceived to have worsened the most over the last five years. Opinions on the destruction of vegetation at access points and lunch

stops, roads within sight of the river, and off road vehicles along river banks ranged from somewhat to slightly worse.

Overall, the managers varied very little on their ratings of problem change over the last five years. The greatest amount of diversity among managers' opinions was on the National Park Service employees' familiarity with the river and area (a standard deviation of 1.15), followed by water pollution (0.95), lack of clear management direction from National Park Service (0.90), and destruction of vegetation at access points and lunch stops (0.89) (Table 9).

Table 9. Managers' ratings of problems becoming better or worse over the last five years (ranked by mean scores).

Problem	Respondents ¹ (N)	Mean ²	Standard Deviation
Too little National Park Service presence on the river	5	4.00	0.00
Inadequate communication between National Park Service and private boaters	7	3.86	0.38
Insufficient information about things to do and see in the area	5	3.80	0.45
Inadequate communication between National Park Service and commercial river users	7	3.71	0.49
Too little enforcement of rules and regulations	7	3.71	0.49
National Park Service employees unfamiliar with river and area	3	3.67	1.15
Lack of recreational opportunities in area	3	3.67	0.58
People fishing	3	3.67	0.58
Too many bothersome insects	5	3.60	0.55
Inadequate toilet facilities at access points	5	3.60	0.55
Litter from river users	5	3.60	0.55
Poor condition of access points	7	3.57	0.79
Education of river guests about nature on the river	7	3.57	0.53
Too few river access points	6	3.50	0.55

Table 9. (continued)

Problem	Respondents ¹ (N)	Mean ²	Standard Deviation
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	6	3.50	0.55
Informing visitors that river is a National Park Service area	6	3.50	0.55
Education of river guests about river history	6	3.50	0.55
Inadequate information services (signs, displays) at put-in points	5	3.40	0.55
Inadequate communication between National Park Service and their guests	3	3.33	0.58
Ignorance of rules and regulations on the river	6	3.33	0.52
Lack of hiking trails in park	6	3.33	0.52
Too much nudity	4	3.25	0.50
People drinking alcoholic beverages on the river	4	3.25	0.50
Lack of clear management direction from National Park Service	7	3.14	0.90
River safety	7	3.14	0.69
Inadequate distribution of use among outfitters	6	3.00	0.63
National Park Service too concerned about preservation and not concerned enough about recreation	1	3.00	0.00
National Park Service river rangers not friendly	1	3.00	0.00
Too much enforcement of rules and regulations	1	3.00	0.00
Lack of telephones at major access points	5	3.00	0.00
Lack of drinking water sources at access points	5	3.00	0.00
Lack of campgrounds in area	5	3.00	0.00
Lack of campgrounds in park	5	3.00	0.00
Lack of camping spots along river	5	3.00	0.00
People too rowdy on river	6	3.00	0.00
Water level too low	5	3.00	0.00
Water level too high	4	3.00	0.00
Litter from riverbank users	7	3.00	0.00
Wildlife harassment	4	3.00	0.00
Trespass onto private lands	7	3.00	0.58
Vandalism	7	3.00	0.58
Poor quality campsites along river	6	3.00	0.63
Unskilled people using the river	6	3.00	0.63
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	7	2.86	0.69

Table 9. (continued)

Problem	Respondents ¹ (N)	Mean ²	Standard Deviation
Inadequate distribution of use across space on the river	6	2.83	0.75
Adequate disposal of human body wastes	6	2.83	0.75
Inadequate toilet facilities along river between put-in and take-out points	5	2.80	0.45
Erosion on riverbanks	4	2.75	0.50
Water pollution	7	2.71	0.95
Motorized boats on the river	6	2.67	0.52
Lack of availability of high quality guides	6	2.67	0.52
Too many people on the river	6	2.67	0.52
Inadequate distribution of use across time	6	2.67	0.52
Litter from upstream	6	2.67	0.82
Off road vehicles along river bank	7	2.43	0.53
Roads within sight of the river	5	2.40	0.55
Destruction of vegetation at access points and lunch stops	5	2.40	0.89
Damage to historic structures	7	2.14	0.69

¹Only those managers who rated the issue as a problem were asked to respond to this question.

²Based on a scale of one to five: 1 = Much worse
2 = Somewhat worse
3 = About same
4 = Somewhat better
5 = Much better

The top ten issues/problems that managers ranked as having gotten somewhat or much better over the last five years are found in Table 10. All managers responding felt that National Park Service presence on the river had improved. More than 70 percent of responding managers felt communications between NPS and both private boaters and commercial river users, enforcement of rules and regulations, and providing information on things to do and see in the area, and conditions of access points had gotten better. Finally, 60 percent of respondents felt that availability

of toilets at access points, number of bothersome insects, and amount of litter from river users had improved (Table 10).

Table 10. The ten problems most frequently rated by managers as having gotten better over the last five years. (Only those managers who rated the issue as a problem were asked to respond.)

Problem	Respondents ¹ (N)	Percent ²
Too little National Park Service presence on the river	5	100.00
Inadequate communication between National Park Service and private boaters	6	85.71
Insufficient information about things to do and see in the area	4	80.00
Inadequate communication between National Park Service and commercial river users	5	71.43
Too little enforcement of rules and regulations	5	71.43
Poor condition of access point	5	71.43
Too many bothersome insects	3	60.00
Inadequate toilet facilities at access points	3	60.00
Litter from river users	3	60.00
Education of river guests about nature on the river	4	57.14

¹Number and percent² of managers answering the question and reporting the issue as somewhat or much better.

Problems identified by at least 50 percent of the responding managers as having gotten worse over the last five years were: damage to historic structures (71.4%), roads within sight of the river (60.0), off road vehicles along a river bank (57.1), and water pollution (57.1) (Table 11).

Table 11. The ten problems most frequently rated by managers as having gotten worse over the last five years.

Problem	Respondents ¹ (N)	Percent ²
Damage to historic structures	5	71.43
Roads within sight of the river	3	60.00
Off road vehicles along a riverbank	4	57.14
Water pollution	4	57.14
Destruction of vegetation at access points or lunch stops	2	40.00
Inadequate distribution of use across time	2	33.33
Too many people on the river	2	33.33
Lack of availability of high quality guides	2	33.33
Motorized boats on the river	2	33.33
Adequate disposal of human body wastes	2	33.33

¹Number and percent² of managers answering the question and reporting the issue as gotten somewhat or much worse. (Only those managers who rated the issue as a problem were asked to respond.)

Comparison Between Outfitters and Managers

Four of the top ten problems rated by managers and outfitters as serious or very serious were the same: (1) litter from upstream, (2) litter from riverbank users, (3) water pollution, and (4) lack of hiking trails in the park (Table 12).

In general, managers' concerns focused on six main problem areas: (1) litter, (2) water pollution, (3) vandalism, (4) inadequate information for visitors, (5) inadequate camping and hiking facilities, and (6) disposal of human body wastes. Outfitters agreed with managers on the problems of litter, water pollution, and need for more recreational opportunities in the area and park. They disagreed by giving increased emphasis to problems of water levels, distribution of use among outfitters, sufficiency of rule enforcement, and existence of clear jurisdiction by NPS versus West Virginia DNR (Table 12).

Table 12. A comparison of the ten problems identified most frequently by managers and outfitters.

Managers	Outfitters
*Water pollution	*Litter from upstream
*Litter from upstream	*Litter from riverbank users
*Litter from riverbank users	Inadequate distribution of use among outfitters
*Lack of hiking trails in park	Lack of recreational opportunities in area
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	*Lack of hiking trails in park
Inadequate information services (signs, displays) at put-in point	Too little enforcement of rules and regulations
Poor quality campsites along river	*Water pollution
Vandalism	Lack of clear jurisdiction by National Park Service versus West Virginia DNR
Adequate disposal of body waste	Lack of campgrounds in park

Note: Responses are ordered by percent of managers and outfitters answering the question and reporting the issue as a serious or very serious problem.

*Issues that are similar between managers and outfitters.

Of the top ten issues that have gotten better over the last five years, managers and outfitters agreed on four issues: (1) too little National Park Service presence on the river, (2) insufficient information about things to do and see in the area, (3) litter from river users, and (4) education of river guests about nature on the river (Table 13).

Of the ten areas of improvement noted by both the outfitters and the managers, five or perhaps six were examples of improved communication or education. As noted above, both groups also perceived reductions of littering problems by river users. In contrast, outfitters noted improvements in river safety, guide quality, and reduction in conflicts

Table 13. A comparison of the ten issues identified by managers and outfitters as having gotten better over the last five years.

Managers	Outfitters
*Too little National Park Service presence on the river	Inadequate communication between outfitters and their guests
Inadequate communication between National Park Service and private boaters	Education of river guests about river history
*Insufficient information about things to do and see in the area	*Litter from river users
Inadequate communication between National Park Service and commercial river users	*Education of river guests about nature on the river
Too little enforcement of rules and regulations	Informing visitors that river is a National Park Service area
Poor condition of access point	Lack of availability of high quality guides
Too many bothersome insects	River safety
Inadequate toilet facilities at access points	*Insufficient information about things to do and see in the area
*Litter from river users	People fishing
*Education of river guests about nature on the river	*Too little National Park Service presence on the river

Note: Responses are ordered by percent of managers and outfitters answering the question and reporting the issue as getting somewhat or much better.

*Issues that are similar between managers and outfitters.

with fishermen that managers did not rate as highly. Meanwhile, managers felt there were improvements in access point conditions and facilities and a reduction in bothersome insects that outfitters did not note.

Managers identified three major problem areas that have gotten worse over the last five years: (1) resource damage (e.g., damage to historic structures, water pollution, destruction of vegetation at access points,

and adequate disposal of human body wastes), (2) "off-river" problems (e.g., roads and vehicles within sight of the river, and (3) river use and user problems (inadequate distribution of use across time, too many people on the river, lack of high quality guides, and motorized boats) (Table 14).

According to outfitters, three major problem areas have gotten worse of the last five years: (1) river use and user problems (e.g., inadequate distribution use among outfitters and inadequate distribution of use across space on the river, unskilled users, litter from riverbank users, motorized boats, and ignorance of rules and regulations on the river), (2) resource damage (e.g., damage to historic structures and vandalism), and (3) river management/administration (e.g., lack of clear jurisdiction between National Park Service and West Virginia Department of Natural Resources, and lack of clear management direction from National Park Service) (Table 14).

Table 14. A comparison of the ten issues identified by managers and outfitters as having gotten worse over the last five years.

Managers	Outfitters
*Damage to historic structures	Unskilled people using the river
Roads within sight of the river	*Damage to historic structures
Off river vehicles along a riverbank	*Motorized boats on the river
Water pollution	Vandalism
Destruction of vegetation at access points or lunch stops	Inadequate distribution of use among outfitters
Inadequate distribution of use across time	Lack of clear jurisdiction by National Park Service versus West Virginia DNR

Table 14. (continued)

Managers	Outfitters
Too many people on the river	Inadequate distribution of use across space on the river
Lack of availability of high quality guides	Litter from riverbank users
*Motorized boats on the river	Ignorance of rules and regulations on the river
Adequate disposal of human body wastes	Lack of clear management direction from National Park Service

Note: Responses are ordered by percent of managers and outfitters answering the question and reporting the issue somewhat or much worse.

*Issues that are similar between managers and outfitters.

Differences Between Outfitters and Managers

Thus far, in our comparison of manager and outfitter perceptions of problem issues on the river, we have emphasized areas of similarities. Equally important to an understanding of potential cooperative efforts between managers and outfitters to solve river problems is to understand areas of differences in perceptions of problems. Table 15 lists those problems for which the managers' and the outfitters' mean response differed by at least 1.0 (on the 1 (not a problem) to 5 (very serious problem) scale) or for which the problems differed by at least 20 ranks (on the scale of 1 to 58 items listed in the study questionnaire). The differences in mean scores versus ranking have slightly different implications. The mean ratings are better measures of absolute evaluations of the seriousness of problems. The rankings are relative measures of the importance of one problem versus another, and might better suggest where managers or outfitters would place limited resources to solve river problems. Those problems for which outfitters and

managers differ on both measures are likely issues where cooperative ventures would be most difficult to obtain.

Of the 58 problems listed in the study questionnaire, managers and outfitters differed in their mean ratings and/or their rankings on 19 (Table 15). Of these 19, the two groups differed on both mean ratings and ranks on 8: (1) poor condition of access points, (2) adequate disposal of human body wastes, (3) National Park Service too concerned about preservation and not concerned enough about recreation, (4) off road vehicles along river bank, (5) inadequate communication between outfitters and their guests, (6) education of river guests about nature on the river, (7) education of river guests about river history, and (8) trespass onto private lands. Park managers rated all these problems more serious than did outfitters except for the National Park Service being too concerned about preservation at the expense of recreation.

Among the five problems where the two groups differed only in their mean ratings, the managers rated all five as more serious: water pollution, damage to historic sites, inadequate brochures showing map of river, attractions, hazards, access points, etc., inadequate information services (signs, displays) at put-in points, and river safety.

The remaining six problems listed in Table 15 had differences only in rank of problem importance of 20 or more positions across the managers and/or outfitters: inadequate distribution of use among outfitters, lack of recreational opportunities in area, water level too low, inadequate distribution of use across space on the river, insufficient information about things to do and see in the area, and motorized boats on the river. The outfitters ranked all six of these issues as more serious relative to

other problems than did the managers. Some of these findings are surprising. For example, inadequate distribution of use across space on the river seems to be a problem of impacts due to high use in the Gorge, and for which a solution of better use distribution has high potential. Yet the outfitters ranked it tenth in importance, while the managers placed it 32nd. Outfitters also ranked motorized boats on the river much higher than managers: 26th in importance compared to the managers' 50th ranking.

Table 15. Differences in problem perceptions between managers and outfitters.

Problem	Mean ¹		Rank ²	
	Managers	Outfitters	Managers	Outfitters
Inadequate distribution of use among outfitters	2.57	3.10	33	4
Lack of recreational opportunities in area	2.14	3.10	43	5
Water level too low	2.83	3.05	28	6
Water pollution	4.57	3.00	2	9
Inadequate distribution of use across space on the river	2.57	2.95	32	10
Insufficient information about things to do and see in the area	2.57	2.85	35	11
Damage to historic structures	3.57	2.55	7	21
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	3.57	2.50	5	23
Inadequate information services (signs, displays) at put-in points	3.57	2.45	6	25
Motorized boats on the river	1.71	2.42	50	26
Poor condition of access points	3.43	2.32	8	30
Adequate disposal of human body wastes	3.43	2.15	10	33
National Park Service too concerned about preservation and not concerned enough about recreation	1.00	2.05	56	35
Off road vehicles along river bank	3.29	2.00	12	36
Inadequate communication between outfitters and their guests	2.86	1.65	20	41
River safety	2.86	1.65	27	42
Education of river guests about nature on the river	3.00	1.40	19	50

Table 15. (continued)

Problem	Mean ¹		Rank ²	
	Managers	Outfitters	Managers	Outfitters
Education of river guests about river history	2.71	1.37	31	52
Trespass onto private lands	2.86	1.30	26	53

¹Mean is based on a 1 to 5 scale where: 1 = Not a problem
 2 = Slight problem
 3 = Moderate problem
 4 = Serious problem
 5 = Very serious problem

²Rank is position of seriousness of problem across 58 problem items in questionnaire where 1 = most serious problem and 58 is least serious problem. Ranks are from Tables 1 and 7.

Summary

In summary, managers and outfitters agree that litter from upstream and from river bank users, water pollution, and lack of hiking trails in the park are serious problems. They share perceptions that litter from river users, education of river guests about nature, amount of information available about what to do and see in the area, and the visibility of the National Park Service are getting better. They believe also that damage to historic structures and motorized boats on the river are getting worse. They differ in that the outfitters are currently much more concerned about inadequate distribution of use across outfitters and space on the river, lack of information about and opportunities to engage in other recreational opportunities in the area, low water levels, motorized boating on the river, and National Park Service emphasis on preservation at the expense of recreation. In contrast, National Park managers are much more concerned about visitor education; resource damage such as water pollution, damage to historic sites, off road vehicles

along the river, and disposal of human body wastes; river safety; condition of access points, and trespass onto private lands.

POTENTIAL SOLUTIONS TO RIVER MANAGEMENT PROBLEMS

Outfitters and the managers were asked to rate potential solutions to problems within twelve management areas on a five point scale (1=Strongly oppose, 2=Somewhat oppose, 3=Neutral, 4=Somewhat favor, 5=Strongly favor). The management areas were:

- . Safety
- . Resource Impacts and Human Waste Problem
- . Education and Resource Protection
- . Use Conflicts
- . Litter
- . Rowdyism and Alcoholism
- . Recreational Facilities
- . Informing Visitors of National Park Service
- . Insects
- . Jurisdiction and Management
- . Water Level and Quality
- . Trespass

Solutions Identified by Outfitters

Outfitters' potential solutions, ranked by mean scores, are presented by management area in Table 16 (see Appendix H for the complete breakdown of responses). On the issue of safety the outfitters unanimously agreed that the National Park Service should seek the cooperation of the railroad to permit use of tracks for emergency evacuation purposes. Requiring guests to wear life jackets in major rapids was also a safety practice solution that was strongly favored by all outfitters (mean score 5.00). Outfitters also gave strong support to a requirement that they provide each boat with a rope or towline for

safety purposes. They gave limited support to mandatory safety training courses for their guides (Table 16).

Table 16. Potential solutions identified by outfitters (ranked by mean scores).

Solution	Respondents (N)	Mean*	Standard Deviation
<u>Safety</u>			
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	20	5.00	0.00
Require guests to wear life jackets in major rapids	18	5.00	0.00
Require outfitters to provide each boat with a rope or towline for safety purposes	20	4.20	1.36
NPS and outfitters cooperate to provide mandatory safety training course for guides	20	3.75	1.33
NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	20	3.45	1.15
Require guest to wear helmets in major rapids	20	3.20	1.74
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	20	3.00	1.56
<u>Resource Impacts and Human Waste Problems</u>			
NPS construct primitive toilets at designated lunch spots and campsites	20	3.50	1.28
Each season, assign outfitter to his own lunch spot	20	2.75	1.65
Require portable toilets on each outfitter river trip	20	2.05	1.54
<u>Education and Resource Protection</u>			
NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	20	4.55	0.76
NPS and outfitters cooperate to develop a policy on which historic structures along the river to visit and which not to	20	4.20	0.83
Place informational bulletin boards at access points	20	4.05	1.00

Table 16. (continued)

Solution	Respondents (N)	Mean*	Standard Deviation
NPS develop literature on nature and history of river for outfitters to send to guests before their arrival	20	4.00	1.21
NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	20	4.00	1.30
NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics	20	3.65	1.31
NPS and outfitters cooperate to provide mandatory training course for guides on nature and history of river	20	3.30	1.53
<u>Use Conflicts</u>			
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	20	3.90	1.25
Restrict motorized recreational watercraft to certain times and places	20	3.70	1.26
Prohibit motorized recreational watercraft on the river	20	3.20	1.51
<u>Litter</u>			
Annual river clean up day sponsored by outfitters and NPS	20	4.25	1.02
NPS boat patrol give litter bags and anti-litter messages to riverbank users	20	4.10	1.17
NPS and outfitters cooperate to develop a procedure to equitably and efficiently collect and remove litter at river access points, lunch spots, and campsites	20	3.95	1.05
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	20	3.55	1.47
Outfitters give litter bags provided by NPS to each river trip	20	3.20	1.40
<u>Rowdyism and Alcoholism</u>			
NPS clarify who has law enforcement authority to deal with alcohol-related problems in river corridor	20	3.50	1.19
Ban glass containers and cans on the river	20	3.40	1.50

Table 16. (continued)

Solution	Respondents (N)	Mean*	Standard Deviation
NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	20	3.30	1.13
NPS should assume a greater and more consistent role in reducing alcohol-related problems and rowdyism in the river corridor	20	3.15	1.18
NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	20	3.10	1.17
Impose an "open bottle" regulation on the river i.e., drinking of alcohol permitted on land but not while on the river	20	2.85	1.46
Prohibit drinking of alcoholic beverages within park boundaries	20	2.30	1.66
<u>Recreational Facilities</u>			
NPS take lead to build more hiking trails within park boundary	20	4.80	0.52
NPS provide toilets at river access points	20	4.40	0.75
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	20	4.30	1.17
NPS and outfitters negotiate with the railroad to provide scenic train rides along river	20	4.25	1.02
NPS provide phones at public river access points	20	4.15	1.04
NPS facilitate the development of horseback riding stables and trails in park	20	4.00	1.17
NPS provide more parking spaces at existing access points on the river	20	3.95	1.05
NPS provide more drinking water sources at river access points	20	3.85	1.09
NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g., marketing of canoeing potential)	20	3.80	1.36
NPS construct scenic loop highway around park inside park boundaries	20	3.75	1.32
NPS construct more river access points	20	3.70	1.53
NPS build more river access campsites along the river	20	3.45	1.39
NPS build car campgrounds in park	20	3.00	1.65

Table 16. (continued)

<u>Solution</u>	<u>Respondents (N)</u>	<u>Mean*</u>	<u>Standard Deviation</u>
NPS install shoreline markers that indicate distance to and location of major take-out points	20	2.85	1.46
Place NPS entrance signs along roads at park boundaries	20	4.35	0.81
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to their guests	20	4.05	0.94
Place uniformed NPS personnel at major access points to great river guests, indicate NPS presence, and assist in safety emergencies	20	4.05	1.10
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	20	4.00	1.17
Have NPS patrols floating river throughout high use season to assist river users and enforce regulations	20	3.85	1.09
Assign uniformed NPS personnel to popular stopping points and gathering places along the river	20	3.05	1.10
<u>Insects</u>			
Search for natural ways to reduce black flies	20	3.80	1.51
Spray to reduce black flies/gnats	20	3.05	1.73
<u>Jurisdiction and Management</u>			
Have West Virginia DNR continue to manage the outfitter permit system	20	3.50	1.61
Have NPS assume management of the outfitter permit system	19	2.84	1.50
<u>Water Level and Quality</u>			
NPS and Corps of Engineers cooperate to remove litter from river at damsite	20	4.75	0.91
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	20	4.30	1.35

Table 16. (continued)

Solution	Respondents (N)	Mean*	Standard Deviation
<u>Trespass</u>			
NPS and landowners cooperate to provide signing of public and private land along the river	20	3.70	0.86
NPS and outfitters cooperate to develop a mandatory guest education program on respecting property rights along river	20	3.25	0.79

*Based on a scale of one to five: 1 = Strongly oppose
 2 = Somewhat oppose
 3 = Neutral
 4 = Somewhat favor
 5 = Strongly favor

Outfitters as a group failed to give strong support to any resource impact or human waste solution presented, but they gave weak support (3.50) for the National Park Service to construct primitive toilets at lunch spots and campsites. Requiring each outfitted river trip to carry portable toilets was opposed.

Most efforts suggested to increase education and protect resources received strong support. Having the National Park Service provide programs on park management, resource protection, water safety and litter to area schools and communities (4.55) was the most popular education and resource protection management solution. Other solutions that outfitters somewhat favored were informational bulletin boards at access points, literature on nature and river history for outfitters to send guests, and development of a list of river attractions and facilities. Prohibiting off-road vehicles in the vicinity of the river, except on roads and highways, was the highest ranked solution to a use conflict (3.90), but

this only received mild support. On average, the outfitters were neutral to mildly in favor of restrictions on motorized watercraft on the river.

An annual river clean up day sponsored by outfitters and the National Park Service (4.25) and National Park Service boat patrols giving litter bags and litter messages to riverbank users (4.10) were the two most popular solutions to litter problems. Interestingly, the outfitters gave more support to a ban of cans, bottles, and other nonburnable containers on the river (3.55) than to the distribution of litter bags to each river trip (3.20). Although eight potential solutions to problems of rowdyism and alcohol abuse were offered to outfitters, none received much favor. This may reflect the outfitters' low rating of the seriousness of this problem. Of the actions suggested, clarifying who has law enforcement authority to deal with alcohol related problems in the river corridor (3.50) was the highest rank solution, followed by banning glass containers and cans on the river (3.40). Prohibiting alcohol consumption in the park or on the river was opposed.

Outfitters felt that the National Park Service should take the lead to build more hiking trails within park boundaries (4.80), provide toilets at river access points (4.40), cooperate with state agencies to improve existing roads to put-in and take-out points (4.30), negotiate with the railroad to provide scenic train rides along river (4.25), provide phones at public access points (4.15), and facilitate the development of horseback riding stables and trails (4.00). They also supported placing National Park Service entrance signs along roads at park boundaries (4.35) as the best method of informing visitors of the National Park Service. Other favored methods for informing the public

about the National Park Service and the river's national park status were to provide seasonal rangers with appropriate training (4.00), publish literature about the park to be sent to river guests (4.05), and place uniformed NPS personnel at major river access points (4.05).

Outfitters had mixed opinions about controlling flies/gnats on the river. Searching for natural ways to reduce black flies (3.80) was seen as the better alternative, but this was favored only slightly more than the neutral attitudes about spraying to reduce insects.

Last, outfitters expressed mild support for the West Virginia Department of Natural Resources to continue to manage the outfitter permit system (3.50). They strongly favored the National Park Service and Corps of Engineers cooperating to remove litter from river at the damsite (4.75), and providing more ideal water flows (4.30). Solutions to trespass problems failed to receive strong support, but the National Park Service and landowner cooperation to provide signing of public and private land along the river was slightly favored (3.70) (see Appendix H for a complete breakdown of the solutions).

In addition to the ranked mean score, the standard deviation, which provides information on the diversity or variability among outfitters' opinions on a potential solution, is also provided. The potential solutions with the greatest diversity among the outfitters' ratings were requiring guests to wear helmets in major rapids (1.74), spraying to reduce black flies (1.73), prohibiting drinking of alcoholic beverages within park boundaries (1.66), assigning outfitters to their own lunch spot each season (1.65) and the NPS building car campgrounds in the park (1.65). There also were varying opinions among outfitters regarding the

West Virginia Department of Natural Resources continuing to manage the outfitter permit system (1.61) and the National Park Service and outfitters cooperating to develop and implement a mutually agreeable mandatory safety instruction program for river guests (1.56) (Table 16).

Table 17 provides another look at outfitters' most preferred solutions to problems. One hundred percent of the responding outfitters were somewhat or strongly in favor of the National Park Service seeking cooperation of the railroad to permit use of tracks for emergency evacuation purposes and requiring guests to wear life jackets in major rapids (Table 17). More than 90 percent favored the NPS building more hiking trails within the park and cooperating with the Corps of Engineers to remove litter from the river at the upstream dam. Finally, over 80 percent favored cooperative efforts with the Corps of Engineers to provide more ideal water flows, annual river clean up days where both the NPS and outfitters cooperate, construction of toilet facilities at access points, and providing resource and safety programs in schools and communities.

Table 17. The ten potential solutions favored most frequently by outfitters.

Solution	Respondents ¹ (N)	Percent ²
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	20	100.00
Require guests to wear life jackets in major rapids	18	100.00
NPS take lead to build more hiking trails within park boundary	19	95.00
NPS and Corps of Engineers cooperate to remove litter from river at damsite	19	95.00
NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	17	85.00
NPS provide toilets at river access points	17	85.00

Table 17. (continued)

Solution	Respondents ¹ (N)	Percent ²
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	17	85.00
Annual river clean up date sponsored by outfitters and NPS	17	85.00
Place NPS entrance signs along roads at park boundaries	16	80.00
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	16	80.00

¹Number and percent² of outfitters answering the question and reporting the potential solution as somewhat or strongly favored.

Table 18 provides a breakdown of the top ten potential solutions favored somewhat or strongly by small, medium and large outfitters. Only three actions are included in all three groups' favored list: use of the railroad track along the river for emergency evacuation purposes, wearing life jackets in major rapids, and NPS and the Corps of Engineers cooperating to remove litter from the river at the upstream damsite. Medium and large outfitters agreed on the desirability of the NPS and the Corps of Engineers cooperating to provide more ideal water flows, the NPS and the outfitters cooperating to develop literature on the river's national park status and river opportunities to give to guests, and the NPS providing resource protection and safety programs for area schools and communities. Finally, the big and small outfitters favored improving existing roads to river access points.

Table 18. A comparison of the ten potential solutions favored most frequently by small, medium and large outfitters.

Solution	Respondents ¹ (N)	Percent ²
<u>Small Outfitters</u>		
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	9	100.00
Require guests to wear life jackets in major rapids	9	100.00
NPS take lead to build more hiking trails within park boundary	8	88.90
Require outfitters to provide each boat with a rope or towline	8	88.90
NPS provide toilets at river access points	8	88.90
NPS provide phones at river access points	8	88.90
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	8	88.90
NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	8	88.90
NPS and Corps of Engineers cooperate to remove litter from river at damsite	8	88.90
Place uniformed personnel at major access points to greet river guests, indicate NPS presence, and assist in safety emergencies	8	88.90
<u>Medium Outfitters</u>		
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	7	100.00
Require guests to wear life jackets in major rapids	6	100.00
NPS and Corps of Engineers cooperate to remove litter from river at damsite	7	100.00
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	7	100.00
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to their guests	7	100.00
NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g., marketing of canoeing potential)	6	85.70
NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	6	85.70
NPS and outfitters cooperate to develop a policy on which historic structures along the river to visit and which not to	6	85.70
NPS boat patrol give litter bags and anti-litter messages to river bank users	6	85.70

Table 18. (continued)

Solution	Respondents ¹ (N)	Percent ²
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	6	85.70
<u>Large Outfitters</u>		
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	4	100.00
NPS and Corps of Engineers cooperate to remove litter from river at damsite	4	100.00
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	4	100.00
Require guests to wear life jackets in major rapids	3	100.00
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to their guests	4	100.00
NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	4	100.00
Impose an "open bottle" regulation on the river i.e., drinking of alcohol permitted on land but not while on the water	4	100.00
Place NPS entrance signs along roads at park boundaries	3	75.00
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	3	75.00
Have West Virginia DNR continue to manage the outfitter permit system	3	75.00

¹Number and percent² of outfitters answering the question and reporting the potential solution as somewhat or strongly favored.

The top ten potential solutions which were somewhat or strongly opposed by the responding outfitters are presented in Table 19. Potential solutions opposed by at least 50 percent of the outfitters included: prohibiting the drinking of alcoholic beverages within park boundaries (75.00), requiring portable toilets on each outfitted river trip (70.00), assigning outfitters to their own lunch spot each season

(50.00), and National Park Service and outfitters cooperating to provide a guest education program on effects of drinking alcohol on boating safety (50.00) (Table 19). Interestingly, 40 percent of the outfitters opposed spraying to reduce black flies and gnats (Table 19).

Table 19. The ten potential solutions most frequently opposed by outfitters.

Solution	Respondents ¹ (N)	Percent ²
Prohibit drinking alcoholic beverages within park boundaries	15	75.00
Require portable toilets on each outfitted river trip	14	70.00
Each season, assign outfitter to his own lunch spot	10	50.00
NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	10	50.00
Have NPS assume management of outfitter permit system	9	47.40
Impose an "open bottle" regulation on the river i.e., drinking of alcohol permitted on land but not while on the water	9	45.00
NPS install shoreline markers that indicate distance to and location of take-out points	9	45.00
Require guests to wear helmets in major rapids	9	45.00
NPS build car campgrounds in area	8	40.00
Spray to reduce black flies/gnats	8	40.00

¹Number and percent² of outfitters answering the question and reporting the solution as somewhat or strongly opposed.

The opposition of responding small, medium and large outfitters to potential solutions are presented in Table 20. Only the prohibition of drinking alcoholic beverages within park boundaries was in the lists of all three outfitter groups. All of the big outfitters opposed this potential solution, but only about half of the small outfitters opposed it. Small and medium size outfitters opposed both an "open bottle" regulation on alcoholic beverages on the river and a prohibition of

motorized watercraft. However, the large outfitters did not include these two actions on their list of opposed solutions.

Table 20. A comparison of the ten potential solutions most frequently opposed by small, medium and large outfitters.

Solution	Respondents ¹ (N)	Percent ²
<u>Small Outfitters</u>		
Spray to reduce black flies/gnats	6	66.67
Impose an "open bottle" regulation on the river, i.e., drinking of alcohol permitted on land but not on the water	6	66.67
Have NPS assume management of the outfitter permit system	5	62.50
NPS build car campgrounds in park	5	55.50
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	5	55.50
Prohibit drinking of alcoholic beverages within park boundaries	5	55.50
Prohibit motorized recreational watercraft on the river	4	44.40
NPS build more river access campsites along the river	4	44.40
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	4	44.40
<u>Medium Outfitters</u>		
Prohibit drinking of alcoholic beverages within park boundaries	6	85.71
Impose an "open bottle" regulation on the river, i.e., drinking of alcohol permitted on land but not on the water	3	42.86
Have West Virginia DNR continue to manage the outfitter permit system	3	42.86
Require guests to wear helmets in major rapids	3	42.86
Assign uniformed NPS personnel to popular stopping points and gathering places along the river	3	42.86
NPS construct scenic loop highway around park inside park boundaries	3	42.86
NPS install shoreline markers that indicate distance to and location of major take-out points	2	28.60
Prohibit motorized recreational watercraft on the river	2	28.60
Outfitters give litter bags provided by NPS to each river trip	2	28.60

Table 20. (continued)

Solution	Respondents ¹ (N)	Percent ²
<u>Large Outfitters</u>		
NPS install shoreline markers that indicate distance to and location of major take-out points	4	100.00
Prohibit drinking of alcoholic beverages within park boundaries	4	100.00
Assign uniformed NPS personnel to popular stopping points and gathering places along the river	3	75.00
NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	3	75.00
NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	3	75.00
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	3	75.00
Have NPS assume management of the outfitter permit system	2	50.00
NPS build more river access campsites along the river	2	50.00

¹Number and percent² of outfitters answering the question and reporting the potential solution as somewhat or strongly opposed.

Solutions Identified by Managers

Potential solutions identified by river managers for the 12 management categories are found in Table 21 (see Appendix I for the complete breakdown of responses). The solutions are ranked by mean scores, with standard deviations to compare diversity among managers' attitudes.

On the issue of safety, all of the managers strongly favored that the National Park Service seek the cooperation of the railroad to permit the use of the tracks for emergency evacuation procedures. In addition, managers strongly supported NPS and outfitters' cooperation to provide mandatory safety training courses for guides, requiring outfitters to provide a rope or towline for each boat for safety purposes, and

Table 21. Potential solutions most frequently favored by managers (ranked by mean scores).

Solution	Respondents (N)	Mean*	Standard Deviation
<u>Safety</u>			
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	7	5.00	0.00
NPS and outfitters cooperate to provide mandatory safety training course for guides	7	4.71	0.76
Require outfitters to provide each boat with a rope or towline for safety purposes	7	4.67	0.82
Require guests to wear life jackets in major rapids	7	4.57	1.13
Require guests to wear helmets in major rapids	7	4.14	1.07
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	7	4.00	1.07
NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	7	3.86	1.07
<u>Resource Impacts and Human Waste Problems</u>			
NPS construct primitive toilets at designated lunch spots and campsites	7	3.71	1.25
Require portable toilets on each outfitted river trip	6	3.67	1.51
Each season, assign outfitter to his own lunch spot	7	2.57	0.98
<u>Education and Resource Protection</u>			
Place informational bulletin boards at access points	7	4.86	0.38
NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics	7	4.86	0.38
NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	7	4.71	0.49
NPS develop literature on nature and history of river for outfitters to send to guests before their arrival	7	4.57	0.53

Table 21. (continued)

<u>Solution</u>	<u>Respondents (N)</u>	<u>Mean*</u>	<u>Standard Deviation</u>
NPS and outfitters cooperate to develop a policy in which historic structures along the river to visit and which not to	7	4.43	0.79
NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	7	4.43	0.79
NPS and outfitters cooperate to provide mandatory training course for guides on nature and history of river	7	4.29	0.76
<u>Use Conflicts</u>			
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	7	5.00	0.00
Restrict motorized recreational watercraft to certain times and places	7	4.14	1.07
Prohibit motorized recreational watercraft on the river	7	2.71	1.60
<u>Litter</u>			
Annual river clean up day sponsored by outfitters and NPS	7	4.86	0.38
NPS boat patrol give litter bags and anti-litter messages to riverbank users	7	4.86	0.38
NPS and outfitters cooperate to develop a procedure to equitably and efficiently collect and remove litter at river access points, lunch spots, and campsites	7	4.71	0.76
Outfitters give litter bags provided by NPS to each river trip	7	3.71	1.38
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	7	3.14	1.57
<u>Rowdyism and Alcoholism</u>			
NPS should assume a greater and more consistent role in reducing alcohol-related problems and rowdyism in the river corridor	7	4.14	0.90
NPS clarify who has law enforcement authority to deal with alcohol-related problems in river corridor	7	3.71	0.76

Table 21. (continued)

Solution	Respondents (N)	Mean*	Standard Deviation
NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	7	3.71	1.60
Impose an "open bottle" regulation on the river, i.e., drinking of alcohol permitted on land but not while on the river	7	3.57	1.51
Ban glass containers and cans on the river	7	3.43	1.51
NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	7	3.43	1.51
Prohibit drinking of alcoholic beverages within park boundaries	7	1.29	0.49
<u>Recreational Facilities</u>			
NPS take lead to build more hiking trails within park boundary	7	4.86	0.38
NPS provide toilets at river access points	7	4.71	0.49
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	7	4.57	0.53
NPS and outfitters negotiate with the railroad to provide scenic train rides along river	7	4.43	0.79
NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g., marketing of canoeing potential)	7	4.29	0.76
NPS build more river access campsites along the river	7	4.00	1.53
NPS construct more river access points	7	3.71	1.25
NPS provide more parking spaces at existing access points on the river	7	3.57	1.27
NPS provide more drinking water sources at river access points	7	3.57	1.27
NPS install shoreline markers that indicate distance to and location of major take-out points	7	3.57	1.27
NPS provide phones at public river access points	7	3.43	1.62
NPS facilitate the development of horseback riding stables and trails in park	7	3.00	1.41
NPS construct scenic loop highway around park inside park boundaries	7	2.57	1.81
NPS build car campgrounds in park	7	2.57	1.81

Table 21. (continued)

Solution	Respondents (N)	Mean*	Standard Deviation
<u>Informing Visitors of National Park Service</u>			
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services or river outfitters	7	4.86	0.38
Have NPS patrols floating river throughout high use season to assist river users and enforce regulations	7	4.57	0.53
Place NPS entrance signs along roads to park boundaries	7	4.57	0.79
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to guests	7	4.29	0.49
Assign uniformed NPS personnel to popular stopping points and gathering places along the river	7	3.86	0.38
Place uniformed NPS personnel at major access points to greet river guests, indicate NPS presence, and assist in safety emergencies	7	3.71	1.25
<u>Insects</u>			
Search for natural ways to reduce black flies	7	3.43	1.62
Spray to reduce black flies/gnats	7	2.14	1.46
<u>Jurisdiction and Management</u>			
Have NPS assume management of the outfitter permit system	7	3.43	1.72
Have West Virginia DNR continue to manage the outfitter permit system	7	2.71	1.60
<u>Water Level and Quality</u>			
NPS and Corps of Engineers cooperate to remove litter from river at damsite	7	4.71	0.76
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	7	4.29	1.11
<u>Trespass</u>			
NPS and landowners cooperate to provide signing of public and private land along the river	6	4.00	0.00

Table 21. (continued)

<u>Solution</u>	<u>Respondents (N)</u>	<u>Mean*</u>	<u>Standard Deviation</u>
NPS and outfitters cooperate to develop a mandatory guest education program on respecting property rights along river	7	3.71	1.25

* Based on a scale of one to five: 1 = Strongly oppose
 2 = Somewhat oppose
 3 = Neutral
 4 = Somewhat favor
 5 = Strongly favor

requiring river users to wear life jackets in major rapids. Finally, the managers gave mild support for a requirement for wearing helmets in major rapids and for a mandatory safety instruction program for river guests.

Managers gave no strong support for any action listed on the study questionnaire to reduce resource impacts and human waste problems. They did mildly support the construction of toilets at designated lunch spots and campsites (3.71) and requiring portable toilets on each outfitted trip (3.67).

Managers favored all education and resource protection practices listed. They rated placing informational bulletin boards at access points (4.86) and using friendly persuasion rather than arrests and law enforcement (4.86) as the best methods to accomplish education and resource protection. They also gave strong support for giving resource protection and safety programs in schools and communities (4.71), developing literature on river attractions (4.43) and the river's natural and cultural history (4.57), identifying which historic sites along the river to visit (4.43) and mandatory natural and cultural history training programs for guides (4.29).

Managers were unanimous (5.00) in their support for prohibiting off-road vehicles in the vicinity of the river, except on roads and highways. They also favored restricting motorized recreational watercraft to certain times and places on the river. Interestingly, they opposed a prohibition of motorized river use.

An annual river clean up day sponsored by outfitters and the National Park Service, and National Park Service patrols giving litter bags and anti-litter messages to riverbank users (4.86) were the most popular potential solutions to litter problems on the river. Managers also favored working with outfitters to develop a continuing program to remove litter from access points, lunch stops, and campsites.

Managers also felt that the National Park Service should assume a greater and more consistent role in reducing alcohol related problems and rowdyism in the river corridor (4.14). They mildly supported more clarification of who has law enforcement authority to deal with alcohol related problems along the river and also a mandatory education program on river etiquette for river users. The managers opposed a prohibition of alcohol consumption in the park.

The National Park Service taking the lead to build more hiking trails within the park boundary (4.86), providing toilets at river access points (4.71), cooperating with the state agencies to improve existing access roads (4.57), negotiating with the railroad to provide scenic train rides (4.43), marketing upstream river use (4.29), and building more river access campsites (4.00) were all popular recreational facility solutions recommended by managers.

Managers also felt that the National Park Service could best inform the visitors of its management presence and philosophy by providing their seasonal employees with a training course on river resources, facilities, visitor safety, and role and services of river outfitters (4.86). Other favored ways to communicate with the public were NPS river patrols (4.57), NPS entrance signs along park roads (4.57), and developing park literature to send to river guests (4.29).

Natural ways to reduce black flies (3.43) was the managers' preferred method of insect control. They opposed spraying. They slightly favored the National Park Service assuming the management of the outfitter permit system (3.43), and mildly opposed the West Virginia DNR permit administration. The managers strongly favored National Park Service and Corps of Engineers cooperating to remove litter from river at the damsite (4.71) and cooperation to provide more ideal water flow (4.24). Lastly, managers were somewhat in favor of the National Park Service and landowners cooperating to provide signing of public and private land along the river (4.00).

The greatest variability among river managers' opinions on potential solutions was for the National Park Service to construct a scenic loop highway around park inside park boundaries (standard deviation of 1.81) and for the National Park Service to build car campgrounds in the park (1.81) (Table 21). Other solutions with considerable differences of opinion among managers included having the National Park Service assume the management of the outfitter permit system (1.72), providing phones at public river access points (1.62), prohibiting motorized recreational watercraft on the river (1.60), and having the National Park Service and

outfitters cooperate to develop a mandatory guest education program on proper river etiquette (1.60) (Table 21).

Table 22 presents ten potential solutions that 100 percent of the managers rated as somewhat or strongly favored. Managers favored solutions which emphasized (1) communication with park visitors and area residents, (2) some facility development, (3) cooperative ventures with outfitters and the railroad, and (4) prohibition of off road vehicles away from roads along the river.

Table 22. The ten potential solutions most frequently favored by managers.

Solution	Respondents ¹ (N)	Percent ²
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	7	100.00
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation procedures	7	100.00
NPS take lead to build more hiking trails within park boundary	7	100.00
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	7	100.00
NPS boat patrol give litter bags and anti-litter messages to riverbank users	7	100.00
Annual river clean up day sponsored by outfitters and NPS	7	100.00
NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics	7	100.00
Place informational bulletin boards at access points	7	100.00
NPS provide toilets at river access points	7	100.00
NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	7	100.00

¹Number and percent² of managers answering the question and reporting the potential solution as somewhat or strongly favored.

All of the managers (100%) opposed prohibiting the drinking of alcoholic beverages within park boundaries (Table 23). Over two-thirds

of the managers somewhat or strongly opposed spraying to reduce black flies/gnats (71.50) and each season assigning outfitters to their own lunch spot (71.5). Over 50 percent of the managers somewhat or strongly opposed building car campgrounds in the park, the construction of a scenic loop highway inside the park, prohibiting motorized recreational watercraft, having West Virginia DNR continue to manage the outfitter permit system, and developing horseback riding stables and trails (57.20%) (Table 23).

Table 23. The ten potential solutions most frequently opposed by managers.

Solution	Respondents ¹ (N)	Percent ²
Prohibit drinking of alcoholic beverages within park boundaries	7	100.00
Spray to reduce black flies/gnats	5	71.50
Each season, assign outfitter to his own lunch spot	5	71.50
NPS build car campgrounds in park	4	57.20
NPS construct scenic loop highway around park inside park boundaries	4	57.20
Prohibit motorized recreational watercraft on the river	4	57.20
Have West Virginia DNR continue to manage the outfitter permit system	4	57.20
NPS facilitate the development of horseback riding stables and trails in park	4	57.20
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	3	42.90
Ban glass containers and cans on the river	3	42.90

¹Number and percent² of managers answering the question and reporting the potential solution as somewhat or strongly opposed.

Comparison Between Outfitters and Managers

Table 24 presents a comparison of the top ten potential solutions favored somewhat or strongly by managers and outfitters. The two groups were similar on four out of the ten favored potential solutions: (1)

National Park Service seek cooperation of railroad to permit use of tracks for emergency evacuation procedures, (2) National Park Service take lead to build more hiking trails within park boundary, (3) an annual river clean up day sponsored by outfitters and National Park Service, and (4) the National Park Service provide programs on park management, resource protection, water safety and litter to area schools and communities.

Managers favored solutions that emphasized educational programs, public visibility, employee training, facility development, and cooperation. Outfitters on the other hand preferred that the National Park Service develop more recreation facilities (hiking trails, informational bulletin boards, toilets at access points, and signs), sponsor river clean up and safety education programs, and cooperate with outside organizations (railroad, Corps of Engineers, and state agencies) Table 24).

Table 24. A comparison of the ten potential solutions most frequently favored by managers and outfitters.

Managers	Outfitters
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	*NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes
*NPS seek cooperation of railroad to permit use of tracks for emergency evacuation procedures	Require guests to wear life jackets in major rapids
*NPS take lead to build more hiking trails within park boundary	*NPS take lead to build more hiking trails within park boundary
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	NPS and Corps of Engineers cooperate to remove litter from river at damsite

Table 24. (continued)

Managers	Outfitters
NPS boat patrol give litter bags and anti-litter messages to riverbank users	*NPS provide programs on park management, resource protection, water safety and litter to area schools and communities
*Annual river clean up day sponsored by outfitters and NPS	NPS provide toilets at river access points
NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics	NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation
Place informational bulletin boards at access points	*Annual river clean up day sponsored by outfitters and NPS
NPS provide toilets at river access points	Place NPS entrance signs along roads at park boundaries
*NPS provide programs on park management, resource protection, water safety and litter to area schools and communities	NPS cooperate with state agencies to improve existing roads to put-in and take-out points

Note: Responses are ordered by percent of managers and outfitters answering the questions and reporting the potential solution as somewhat or strongly favored.

*Potential solutions included in both the manager and outfitter lists.

A comparison of the top ten solutions which were opposed by managers and outfitters is presented in Table 25.

Table 25. A comparison of the ten potential solutions most frequently opposed by managers and outfitters.

Managers	Outfitters
*Prohibit drinking of alcoholic beverages within park boundaries	*Prohibit drinking alcoholic beverages within park boundaries
*Spray to reduce black flies/gnats	Require portable toilets on each outfitted river trip
*Each season, assign outfitter to his own lunch spot	*Each season, assign outfitter to his own lunch spot

Table 25. (continued)

Managers	Outfitters
*NPS build car campgrounds in park	NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety
NPS construct scenic loop highway around park inside park boundary	Have NPS assume management of outfitter permit system
Prohibit motorized recreational watercraft on the river	Impose an "open bottle" regulation on the river, i.e., drinking of alcohol permitted on land but not while on the water
Have West Virginia DNR continue to manage the outfitter permit system	NPS install shoreline markers that indicate distance to and location of take-out points
NPS facilitate the development of horseback riding stables and trails in park	Require guests to wear helmets in major rapids
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	*NPS build car campgrounds in area
Ban glass containers and cans on the river	*Spray to reduce black flies/gnats

Note: Responses are ordered by percent of managers and outfitters answering the question and reporting the potential solution as somewhat or strongly opposed.

*Potential solutions included in both the manager and outfitter lists.

Solutions that both managers and outfitters somewhat or strongly opposed included: (1) prohibit drinking of alcoholic beverages within park boundaries, (2) spray to reduce black flies/gnats, (3) each season assign outfitters to their own lunch spot, and (4) National Park Service build car campground in park (Table 25).

Overall, managers opposed (1) greater restrictions on the river users, including bans on cans and glass containers on the river, (2)

"off-river" facility development, and (3) having the West Virginia DNR continue to manage the outfitter permit system. Outfitters on the other hand, opposed (1) greater restrictions on the river use, (2) requiring portable toilets on each outfitted trip, (3) National Park Service and outfitters cooperating to provide a guest education program on effects of alcohol on boating safety, and (4) having the National Park Service assume the management of the outfitter permit system.

Differences Between Outfitters and Managers

As was the case for our analysis of problems, our final comparison of managers' and outfitters' opinions about problem solutions focused on differences. Table 26 lists all those problem solutions on which the mean outfitter and manager responses differed by at least 1.0 (on a scale of 1 to 5 where 1 = strongly oppose and 5 = strongly favor).

Table 26. Differences in managers' and outfitters' mean ratings of individual solutions.

Solution	Mean	
	Managers	Outfitters
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	4.00	3.00
Require portable toilets on each outfitted river trip	3.67	2.05
NPS accomplish resource protection and rule enforcement more through friendly persuasion than arrests and law enforcement tactics	4.86	3.65
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	5.00	3.90
Prohibit drinking of alcoholic beverages within park boundaries	1.29	2.30
NPS facilitate the development of horseback riding stables and trails in park	3.00	4.00
NPS construct scenic loop highway around park inside park boundaries	2.57	3.75

We found more agreement in opinions about solutions than on the severity of problems. Only seven differences of at least 1.0 were found among the 48 possible solutions. Of these seven, on only two did the managers and outfitters have opposing views. The managers gave mild support for requiring portable toilets on outfitted river trips (3.67), but the outfitters oppose this action (2.05). In contrast, the outfitters gave some support to the proposal for a scenic loop highway inside the park's boundary (3.75), but the managers were slightly opposed (2.57). The managers gave considerable support to a mandatory safety instruction program for river guests (4.00), use of friendly persuasion rather than law enforcement tactics to accomplish resource protection (4.86), and prohibition of off road vehicles along the river unless on a road (5.00); outfitters were either neutral or only slightly in favor of these actions. Managers (1.29) were even more opposed to a prohibition of drinking alcoholic beverages in the park than were the outfitters (2.30), but they too oppose this solution. Finally, park managers felt neutral about horseback riding developments (3.00), but the outfitters favored this proposal somewhat (4.00).

Summary

In general, managers and outfitters had more agreement about solutions to problems than they had on seriousness of various river problems. Both groups listed the use of the railroad tracks for emergency evacuation purposes, NPS construction of more hiking trails within the park, a cooperative annual litter clean up day, and more programs on river protection and safety for area schools and communities

among their ten most favored problem solutions. Both groups favored efforts to gain the cooperation of the Corps of Engineers in providing adequate water flows and in removing litter at the upstream dam. Both groups listed the prohibition of drinking alcoholic beverages in the park, assigning outfitters to lunch spots each season, NPS construction of car campgrounds in the park, and spraying for black fly/gnat reduction among the ten most opposed actions. Finally, the two groups had substantial disagreement on the advisability of requiring portable toilets on river trips and the construction of a scenic loop highway in the park, and mild disagreement on NPS provision of horseback riding facilities in the park and on a mandatory safety instruction program for river guests.

PROBLEM SOLVING THROUGH COOPERATION

The management of the New River Gorge depends on cooperation between the National Park Service, commercial river outfitters, outside state and local government agencies, and local riparian landowners. Resource protection, controlling water levels, visitor safety, and law enforcement are examples of management issues that require cooperation among all the parties involved on the river.

Cooperation Between Outfitters and National Park Service

One of the main objectives of this research project is to suggest how National Park Service managers and river outfitters can work together in providing high quality services and river conditions on the New River Gorge. Table 27 presents the level of approval by managers and

outfitters for 16 potential actions that require cooperation between the National Park Service and river outfitters.

Overall, managers were much more supportive towards cooperation between the National Park Service and river outfitters than were the outfitters. At least 80 percent of the managers somewhat or strongly favored ten of the potential cooperative solutions. On the other hand, 80 percent or more of the outfitters supported only three of the solutions. More than 70 percent of the managers favored 14 of the solutions; at this level of support the outfitters agreed to eight cooperative actions. Each of these eight solutions received support from at least 85 percent of the managers, and thus have potential for field implementation. They were (1) cooperative efforts to develop literature on national park status and river recreation opportunities for outfitters to send their guests, (2) NPS develop literature on nature and history of river for outfitters to send to guests before their arrival, (3) annual river clean up day sponsored by outfitters and NPS, (4) NPS and outfitters negotiate with the railroad to provide scenic train rides along river, (5) cooperation to decide which historic structures along the river to visit, (6) cooperation to develop a river map with attractions and facilities (7) cooperation to equitably and efficiently remove litter from river access and stopping points, and (8) cooperation on a mandatory safety training course for guides.

Table 27. Support for potential solutions which require cooperation between outfitters and the National Park Service.

<u>Solution</u>	<u>Managers</u>		<u>Outfitters</u>	
	<u>Percentage</u> <u>Favor</u>	<u>Oppose</u>	<u>Percentage</u> <u>Favor</u>	<u>Oppose</u>
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send their guests	100.00	0.00	80.00	10.00
NPS develop literature on nature and history of river for outfitters to send to guests before their arrival	100.00	0.00	75.00	15.00
Annual river clean up day sponsored by outfitters and NPS	100.00	0.00	85.00	5.00
NPS and outfitters negotiate with the railroad to provide scenic train rides along river	85.70	0.00	80.00	10.00
NPS and outfitters cooperate to develop a policy on which historic structures along the river to visit and which not to	85.70	0.00	75.00	0.00
NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	85.70	0.00	75.00	20.00
NPS and outfitters cooperate to develop a procedure to equitably and efficiently collect and remove litter at river access points, lunch stops, and campsites	85.70	0.00	70.00	5.00
NPS and outfitters cooperate to provide mandatory safety training course for guides	85.70	0.00	75.00	5.00
NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g., marketing of canoeing potential)	85.70	0.00	65.00	25.00
NPS and outfitters cooperate to provide mandatory training courses for guides on nature and history of river	85.70	0.00	50.00	30.00

Table 27. (continued)

Solution	Managers		Outfitters	
	Percentage Favor	Oppose	Percentage Favor	Oppose
NPS and outfitters cooperate to implement a mutually agreeable mandatory safety instruction program for river guests	71.40	28.60	45.00	50.00
NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	71.40	14.30	45.00	25.00
NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	71.40	28.60	40.00	30.00
NPS and outfitters cooperate to develop a mandatory guest education program on respecting property rights along river	71.40	0.00	35.00	15.00
Outfitters give litter bags provided by NPS to each river trip	57.20	28.60	40.00	30.00
NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	57.20	28.60	35.00	35.00

Note: Responses are ordered by percent of managers and outfitters answering the question and reporting the potential solution as somewhat or strongly favored, or somewhat or strongly opposed.

Cooperation Between the National Park Service and Other Agencies and

Landowners

In addition to exploring cooperation between themselves, managers and outfitters were asked to evaluate cooperation between the National Park Service and other organizations (e.g., a railroad company, government agencies, and private landowners). Table 28 presents these findings.

Table 28. Outfitters' and managers' support for and opposition to potential solutions which require cooperation between the National Park Service and other agencies and landowners.

Solution	Managers		Outfitters	
	Percentage Favor	Oppose	Percentage Favor	Oppose
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	100.00	0.00	100.00	0.00
NPS and Corps of Engineers cooperate to remove litter from river and damsite	85.70	0.00	95.00	5.00
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	85.70	14.30	85.00	15.00
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	100.00	0.00	80.00	10.00
NPS and landowners cooperate to provide signing of public and private land along the river	100.00	0.00	55.00	5.00

Note: Responses are ordered by percent of outfitters answering the question and reporting the potential solution as somewhat or strongly favored.

Both managers and outfitters were unanimous in their support for the National Park Service seeking cooperation of the railroad to permit use of tracks for emergency evacuation purposes. More than 85 percent of both the outfitters and the managers supported increased cooperation between the NPS and the Corps of Engineers to reduce the litter on the river and increase water flow. At least 80 percent of the managers and outfitters called for increased cooperation between the NPS and state agencies to improve river access roads. Only 55 percent of the outfitters favored the National Park Service and landowners cooperating to provide signing of public and private land along the river (Table 28).

Summary

One of the most important findings of this research was the willingness of managers and outfitters to work cooperatively to manage the New River Gorge National River. National Park Service managers and outfitters were in strong agreement on 50 percent of the potential solutions which required cooperation. This suggests that the two parties should be able to work together to develop, prioritize, and initiate cooperative efforts to solve existing problems on the river. At the same time, managers, with the support of outfitters, should work to improve cooperation with the railroad, the Army Corps of Engineers, local and state agencies, and private landowners along the river.

MANAGEMENT IMPLICATIONS

The findings of this study provide National Park Service managers with insights on the extent and nature to which they can anticipate cooperation from outfitters in solving problems on the river. We have approached this problem by identifying the extent of agreement and disagreement on river problems and potential solutions among managers, among outfitters, and between outfitters and managers. We believe that efforts at cooperative ventures will in large part succeed or fail on the extent to which there is shared agreement on problems and solutions.

Perhaps the cooperative ventures most likely to succeed are those for which both the managers and the outfitters currently agree on the severity of a problem, see that problem as getting worse, and support a proposed cooperative solution. While we found considerable agreement among the opinions of managers and outfitters in this study, we found few

problems for which agreement on all three parameters existed. The problems of litter from river bank users and from upstream are examples of this kind of consensus.

A more common situation is where both parties perceive a problem, but they do not agree on a solution. In this case, a successful cooperative venture is still probable, because both groups are working from a common base of concern for a resource they both cherish. What is needed is increased discussion and brainstorming among the two groups to identify mutually agreeable solutions. Such discussion might be structured and/or unstructured, but would focus on the relevant problem(s), involve face to face interaction of the two groups, provide a priority list of favored solutions, and achieve commitment of both the outfitters and managers to a preferred solution. Of course, both parties must have the capability and the good faith to carry out preferred solutions. And they must have achieved the trust of the other party during the discussion process.

A third and very common situation occurs when the two parties do not agree on the existence, nature, or severity of the problem. When this happens, then talk of a cooperative solution is premature. What must first be done is an educational process to accomplish shared understanding of the issue or question. This will likely require greater understanding on the part of each group of the other's organizational objectives and setting, its values assigned to the river resource, and personal goals for river protection and use. It will also require sharing of specific information about the issue. Through these means agreement might be attained on the problem, and then, if necessary, the

process described above to identify a mutually agreeable solution can begin.

In this study, the following represent some of the problems in this third category: adequate disposal of human body wastes, off road vehicles along river banks, inadequate communication between outfitters and their guests, educating river guests about nature or history of the river, trespass onto private lands, damage to historic sites, lack of recreational opportunities in the area, inadequate distribution of use across outfitters and river space, and inadequate information on river attractions.

A fourth possibility occurs when both the outfitters and managers agree on a solution but differ in opinions on the nature and severity of the problem. In this situation, there is agreement on what to do when an action is taken but likely disagreement on whether any intervention is necessary. Thus, cooperative ventures will likely not proceed because one party fails to see the need for expenditure of time and money. When this situation occurs, data and dialogue must be shared between the two parties to achieve a consensus on the severity of the problem.

This study found little evidence of disagreement about problems and at the same time agreement about solutions among outfitters and managers. The issue that most closely fit this category was the solution: "NPS seek cooperation of railroad to permit use of tracks for emergency procedures." Both managers and outfitters favored this solution but managers defined river safety as a somewhat more serious problem than did the outfitters.

The study also provides information helpful to managers on which solutions are most likely to succeed. A priority list of solutions acceptable to both groups can be developed for any problem. It suggests solutions that can be done independently by managers, independently by outfitters, outfitters working together, or managers and outfitters working cooperatively. It also helps to identify other federal, state, or local agencies who provide a crucial link to the solving of a problem. Finally, managers and outfitters can develop solutions that best utilize the skills and capabilities of each group. This results in increased efficiency and reducing the duplication of services.

RESEARCH IMPLICATIONS

Three major research needs are suggested by this study. The first is a survey of visitors to the New River Gorge. This research would focus on the satisfaction level of current river users with the river experience, the management practices of the National Park Service, and the services provided by the commercial river outfitters. Specific research objectives would be to focus on visitors' perceived problems and problem solutions, and to compare these with those reported for outfitters and managers in this study.

The second research effort would consist of facilitating and monitoring the success of "model" cooperative efforts between the National Park Service and the river outfitters. The research projects might focus on three different problem types: (a) a problem on which both parties agree, (b) an outfitter problem but not perceived so by the National Park Service, and (c) a manager problem that outfitters do not

currently recognize. Reducing litter from riverbank users is a possible, researchable project for testing the success of a cooperative venture on a problem on which both parties agree. Efforts to solve the inadequate distribution of use across space on the river might be the manager-outfitter cooperative venture to be researched that appears to be a high priority for only the outfitters. A cooperative venture to reduce the damage to historic structures along the river is a concern of greatest concern to managers that might also be facilitated and monitored. The model projects would be evaluated on the following basis: (a) desired reduction in problem occurs, (b) problem reduction is due to cooperative venture, (c) cost of the project, and (d) impact on the visitors' experience.

The third effort would have park managers and river outfitters temporarily switching jobs. River managers would work at a river outfitter operation for several days; river outfitters would work with the National Park Service for several days. The goal would be to improve the two party's understanding of the other organization. This would include gaining knowledge of the business or organizational goals, short-term and long-term objectives, business and agency operating procedures, management style, and limitations.

These three projects would provide valuable information for managers and outfitters and would help directly in building an important and hopefully long-term partnership. Such a research program will assist the two groups to provide a recreational experience that meets desires and expectations of river visitors and nearby landowners. Second, such a program will increase the long-term protection of the river resource.

Third, it will permit the two groups to better understand each other. Finally, it provides a base for working cooperatively to meet mutually developed goals and objectives.

APPENDIX A

New River Gorge National River Outfitters and Canoeing Companies
Included in the 1986 Outfitting Study

APPENDIX A

New River Gorge National River Outfitters and Canoeing Companies
Included in 1986 Outfitting Study¹

<u>Outfitters/Companies</u>	<u>Size²</u>
Alpine Bible Camp, Bradley, WV	1
American-Canadian Expeditions, Ltd., Glen Jean, WV	2
American Whitewater Tours, Inc., Albright WV	3
Appalachian Wildwaters, Albright, WV	3
Cantrell Canoes and Rafts, Hinton, WV	1
Class VI River Runners, Inc., Lansing, WV	3
Drift-A-Bit, Inc., Fayetteville, WV	1
Fire Creek Canoe Outfitters, Beckwith, WV	1
Gauley Expeditions, Inc., Fayetteville, WV	1
Mountain River Tours, Inc., Nico, WV	3
New River Adventures, Lansing, WV	2
New River Scenic Whitewater Tours, Hinton, WV	1
North American River Runners, Inc., Hico, WV	3
Rivers, Inc. (DBA Adventures, Inc.), Hico, WV	2
River II (Beauty Mountain Whitewater), Fayetteville, WV	2
The Rivermen, Fayetteville, WV	2
Songer Whitewater, Inc., Victor, WV	1
West Virginia River Adventures, Inc., Hico, WV	2
West Virginia Whitewater, Inc., Fayetteville, WV	1
West Virginia Whole Earth Rafting, Terry, WV	1
Whitewater Information, Ltd., Glen Jean, WV	2
Whole Earth Rafting, Terry, WV	1
Wildwater Expeditions, Unlimited, Thurmond, WV	2

¹Twenty outfitters represented 23 companies (three have ownership interest in more than one company). One outfitter was not included in the final study, but instead participated in a pilot test of the interview instrument.

²Size of company is determined by estimated guest volume on the river: 1 = small, 2 = medium, 3 = large.

APPENDIX B

New River Gorge National River Managers Included
in 1986 Outfitting Study

APPENDIX BNew River Gorge National River Managers Included
in 1986 Outfitting Study

<u>Name</u>	<u>Position</u>
James Carrico	Superintendent
David Reynolds	Resource Management Specialist
Bob Whitman	Assistant Superintendent
Rick Brown	River Ranger
Ann Bell	Interpretation Specialist
Neil DeJong	Interpretation Specialist
Jason Houck	Chief Ranger

APPENDIX C

Interview Instrument:

New River Gorge National River

River Outfitter Interview Schedule

September, 1986

New River Gorge

Introductory Statement

Introduce yourself. The purpose of this interview is to get information that will help the National Park Service and river outfitters work more closely to protect the river environment and to provide high quality visitor services. The Park Service recognizes that river outfitters play a very important role in providing services to the majority of recreationists on the river. The Park Service sincerely appreciates your efforts. As you know, the agency currently owns little land along the river, and has a small staff and budget. Thus, the Park Service is limited in providing services such as resource protection, river patrol, and visitor services in the way it has traditionally done in other parks. As a result, the National Park Service is seeking greater cooperation with the private sector - with individuals and organizations such as yours - in meeting river management objectives. These objectives will be defined in the river management Plan by the River Management Task Force.

In this interview we hope to obtain your views on the things which concern you and things you and the National Park Service might do in the future to protect the river and provide quality visitor services - how you might help the National Park Service and how they might help you. Because of your knowledge and interest in the river and its users, you are an excellent person to tell us what specific things you and the National Park Service might do to

improve river management, and how such cooperative management might help or hurt your business.

Answers from the outfitters we interview, and we plan to interview view all of them, will be combined into an overview before the Park Service managers see what the outfitters collectively said. Nothing you say will ever be identified with you personally or with your firm. As we go through the interview, if you have any questions about why I'm asking particular things, please feel free to ask. Or, if there is anything you don't want to answer, just say so. The purpose of this interview is to get more insight on how you currently use and enjoy the river, how you might work cooperatively with the National Park Service, and what specifically concerns you about the river. Any questions about this before we begin?

OK. The interview has three parts. First, I'd like to talk to you about your river guests, your trips and the services you currently provide on the river. This will help me become more familiar with your business, and will help me ask the right questions later on in the interview. Second, I'd like to know any concerns you currently have in providing the kinds of river trips you want. I'm also interested in your feelings about possible solutions to existing problems. I'm especially interested in problems which result from river conditions, from the way the river is or isn't managed, and problems the National Park Service and river outfitters might be able to solve if they were to work more closely together. Finally, I will ask you a few general questions about your business. This is done to find out if different kinds of river companies view these issues differently.

Part 1. Describing the River and the River Experience You Provide

First, let's talk about your guests and the kinds of services and river experiences they receive.

1. I'm interested in the kind of experiences your guests seek on their river trip. Are there distinct groups among your guests that seek different experiences?

_____ Yes; Go to #2

_____ No; (have respondent describe the experience his clientele seeks in #2)

2. Please name each of the group types. (Let respondent list the distinct groups). Then describe the kind of experience each of these groups is seeking.

<u>2</u>	<u>Group Name</u>	<u>Experience Sought</u>
a. _____	_____	_____ _____ _____
b. _____	_____	_____ _____ _____ _____
c. _____	_____	_____ _____ _____ _____
d. _____	_____	_____ _____ _____ _____
e. _____	_____	_____ _____ _____ _____

f. _____

3. Please give me a rough estimate of your yearly guests that fall into each group. (Record answers in first column of Question 2)

Part II. Issues and Solutions in Providing High Quality River Services and River Protection

Now that I'm more familiar with your guests and the kinds of services you provide, I want to learn more about the concerns you currently have in providing the best possible river experience for your guests.

4. List any problems you have in providing a high quality river trip for your guests. (Let the respondent list the most serious problems. Seek to record at least three, but if respondent lists more, record them). Then tell me if each problem is getting much worse, somewhat worse, staying about the same, getting somewhat better, or getting much better over the last five years.

Problem	Much worse	Somewhat worse	About same	Somewhat better	Much better
a.	()	()	()	()	()
b.	()	()	()	()	()
c.	()	()	()	()	()
d.	()	()	()	()	()

5. I have here at list of issues or concerns about river management that we have identified through earlier interviews with outfitters, National Park Service managers, and river recreationists. Some of these issues you might have already listed for me. Some might be viewed as problems; others might enhance the quality of river trips. I would like your opinion on the extent to which each of the issues currently causes you or your guests problems. Then I would like your opinion on whether each issue has been getting better or worse over the last five years (Hand the respondent the card which lists problems and assist and clarify as asked while respondent votes on card).

[illegible]

[illegible]

Issue	Degree of Problem						Over last 5 years				
	Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem		Much worse	Somewhat worse	About same	Somewhat better	Much better
Ignorance of rules and regulations on the river	()	()	()	()	()		()	()	()	()	()
Too little enforcement of rules and regulations	()	()	()	()	()		()	()	()	()	()
Too much enforcement of rules and regulations	()	()	()	()	()		()	()	()	()	()
Too little National Park Service presence on the river	()	()	()	()	()		()	()	()	()	()
NPS river rangers not friendly	()	()	()	()	()		()	()	()	()	()
NPS employees unfamiliar with river and area	()	()	()	()	()		()	()	()	()	()
National Park Service too concerned about preservation and not concerned enough about recreation	()	()	()	()	()		()	()	()	()	()

Lack of clear management direction from National Park Service	()	()	()	()	()		()	()	()	()	()
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	()	()	()	()	()		()	()	()	()	()
Inadequate distribution of use among outfitters	()	()	()	()	()		()	()	()	()	()
Inadequate distribution of use across space on the river	()	()	()	()	()		()	()	()	()	()
Inadequate distribution of use across time	()	()	()	()	()		()	()	()	()	()
Too many people on the river	()	()	()	()	()		()	()	()	()	()

Issue	Degree of Problem					Much worse	Over last 5 years			
	Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem		Somewhat worse	About same	Somewhat better	Much better
Inadequate communication between outfitters and their guests	()	()	()	()	()	()	()	()	()	()
Inadequate communication between NPS and commercial river users	()	()	()	()	()	()	()	()	()	()
Inadequate communication between NPS and private boaters	()	()	()	()	()	()	()	()	()	()
Lack of availability of high quality guides	()	()	()	()	()	()	()	()	()	()
Too many bothersome insects	()	()	()	()	()	()	()	()	()	()
Off river vehicles along riverbank	()	()	()	()	()	()	()	()	()	()
Motorized boats on the river	()	()	()	()	()	()	()	()	()	()
Roads within sight of the river	()	()	()	()	()	()	()	()	()	()

6. Now I'd like you to elaborate on those issues that you told me were problems, plus those which you said on the card were serious or very serious problems or as getting worse. I will help you do this. I will list each of your problems, and I would like you to describe the problem, tell me who is causing it, what you think a good solution would be, and how you think the National Park Service and river outfitters can cooperate to solve the problem.

Problem 1. _____

Description: _____

Who is causing the problem (e.g. recreationist or non recreationist; boater or non boater; commercial boater or private boater; distinct boater group?)

Solution: _____

How can NPS and outfitters cooperate? _____

Problem 2. _____

Description: _____

Who is causing the problem? _____

Solution: _____

How can NPS and outfitters cooperate? _____

Problem 3. _____

Description: _____

Who is causing the problem? _____

Solution: _____

How can NPS and outfitters cooperate? _____

Problem 4. _____

Description: _____

Who is causing the problem? _____

Solution: _____

How can NPS and outfitters cooperate? _____

Problem 5. _____

Description: _____

Who is causing the problem? _____

Solution: _____

How can NPS and outfitters cooperate? _____

Problem 6. _____

Description: _____

Who is causing the problem? _____

Solution: _____

How can NPS and outfitters cooperate? _____

7. I have here an additional list of solutions suggested by river outfitters, managers and recreationists. The National Park Service has begun to implement some of these solutions, and is considering adopting others. Many solutions require the cooperation of river outfitters, and the National Park Service wants to know whether you would support the various strategies. I will give you this list, and I would like you to check how much you support or oppose each action. (Hand the respondent the card which lists the solutions, and assist and clarify as asked while respondent votes on card.)

<u>Potential Solution</u>	<u>Strongly oppose</u>	<u>Somewhat oppose</u>	<u>Neutral</u>	<u>Somewhat favor</u>	<u>Strongly favor</u>
Safety					
1. NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	()	()	()	()	()
2. NPS and outfitters cooperate to provide mandatory safety training course for guides	()	()	()	()	()
3. NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	()	()	()	()	()
4. NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	()	()	()	()	()
5. Require guests to wear life jackets in major rapids					
6. Require guests to wear helmets in major rapids	()	()	()	()	()
7. Require outfitters to provide each boat with a rope or towline for safety purposes	()	()	()	()	()

Education and Resource Protection					
1. NPS & outfitters cooperate to provide mandatory training course for guides on nature and history of river	()	()	()	()	()
2. NPS develop literature on nature and history of river for outfitters to send to guests before their arrival	()	()	()	()	()
3. NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	()	()	()	()	()
4. Place informational bulletin boards at access points	()	()	()	()	()
5. NPS provide programs on park management, resource protection, water safety & litter to area schools and communities	()	()	()	()	()

<u>Potential Solution</u>	<u>Strongly oppose</u>	<u>Somewhat oppose</u>	<u>Neutral</u>	<u>Somewhat favor</u>	<u>Strongly favor</u>
6. NPS and outfitters cooperate to develop a policy on which historic structures along the river to visit and which not to	()	()	()	()	()
7. NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics.	()	()	()	()	()

Litter					
1. Annual river clean up day sponsored by outfitters and NPS	()	()	()	()	()
2. Outfitters give litter bags provided by NPS to each river trip	()	()	()	()	()
3. NPS and outfitters cooperate to develop a procedure to equitably and efficiently collect and remove litter at river access points, lunch stops, and campsites	()	()	()	()	()
4. NPS boat patrol give litter bags and anti-litter messages to river bank users	()	()	()	()	()
5. Prohibit the use of cans, bottles, and other non-burnable disposable containers on the river	()	()	()	()	()

Resource impacts and human waste problems					
1. Each season, assign outfitter to his own lunch spot	()	()	()	()	()
2. Require portable toilets on each outfitted river trip	()	()	()	()	()
3. NPS construct primitive toilets at designated lunch spots and campsites	()	()	()	()	()

Water level and quality					
1. NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	()	()	()	()	()
2. NPS and Corps of Engineers cooperate to remove litter from river at damsite	()	()	()	()	()

<u>Potential Solution</u>	<u>Strongly oppose</u>	<u>Somewhat oppose</u>	<u>Neutral</u>	<u>Somewhat favor</u>	<u>Strongly favor</u>
Trespass					
1. NPS and landowners cooperate to provide signing of public and private land along the river	()	()	()	()	()
2. NPS and outfitters cooperate to develop a mandatory guest education program on respecting property rights along river	()	()	()	()	()

Rowdyism and alcoholism					
1. NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	()	()	()	()	()
2. NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	()	()	()	()	()
3. Ban glass containers and cans on the river	()	()	()	()	()
4. Prohibit drinking of alcoholic beverages within park boundaries	()	()	()	()	()
5. Impose an "open bottle" regulation on the river - i.e. drinking of alcohol permitted on land but not while on the water.	()	()	()	()	()
6. NPS clarify who has law enforcement authority to deal with alcohol-related problems in river corridor	()	()	()	()	()
7. NPS should assume a greater and more consistent role in reducing alcohol-related problems and rowdyism in the river corridor	()	()	()	()	()

Informing visitors of National Park Service					
1. NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to their guests	()	()	()	()	()
2. Place NPS entrance signs along roads at park boundaries	()	()	()	()	()
3. Place uniformed NPS personnel at major access points to greet river guests, indicate NPS presence, and assist in safety emergencies	()	()	()	()	()

<u>Potential Solution</u>	<u>Strongly oppose</u>	<u>Somewhat oppose</u>	<u>Neutral</u>	<u>Somewhat favor</u>	<u>Strongly favor</u>
4. Have NPS patrols floating river throughout high use season to assist river users and enforce regulations	()	()	()	()	()
5. Assign uniformed NPS personnel to popular stopping points and gathering places along the river	()	()	()	()	()
6. NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	()	()	()	()	()

Recreational facilities					
1. NPS construct more river access points	()	()	()	()	()
2. NPS provide toilets at river access points	()	()	()	()	()
3. NPS provide more drinking water sources at river access points	()	()	()	()	()
4. NPS provide phones at public river access points	()	()	()	()	()
5. NPS provide more parking spaces at existing access points on the river	()	()	()	()	()
6. NPS cooperate with state agencies to improve existing roads to put-in and take-out points	()	()	()	()	()
7. NPS take lead to build more hiking trails within park boundary	()	()	()	()	()
8. NPS build car campgrounds in park	()	()	()	()	()
9. NPS build more river access campsites along the river	()	()	()	()	()
10. NPS install shoreline markers that indicate distance to and location of major take-out points	()	()	()	()	()
11. NPS and outfitters negotiate with the railroad to provide scenic train rides along river	()	()	()	()	()
12. NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g. marketing of canoeing potential)	()	()	()	()	()
13. NPS facilitate the development of horseback riding stables and trails in park	()	()	()	()	()
14. NPS construct scenic loop highway around park inside park boundaries	()	()	()	()	()

<u>Potential Solution</u>	<u>Strongly oppose</u>	<u>Somewhat oppose</u>	<u>Neutral</u>	<u>Somewhat favor</u>	<u>Strongly favor</u>
Insects					
1. Spray to reduce black flies/gnats	()	()	()	()	()
2. Search for natural ways to reduce black flies	()	()	()	()	()

Use conflicts					
1. Prohibit motorized recreational watercraft on the river	()	()	()	()	()
2. Restrict motorized recreational watercraft to certain times and places on the river	()	()	()	()	()
3. Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	()	()	()	()	()

Jurisdiction and management					
1. Have West Virginia DNR continue to manage the outfitter permit system	()	()	()	()	()
2. Have NPS assume management of the outfitter permit system	()	()	()	()	()

* Explain your position on the above two questions:

Part III - Some Questions About Your Business

We have now reached the final part of the interview. I will ask a few questions about your business. I'm doing this only to see if different kinds of companies view the river, the river experience, and river protection and use differently. Please remember that when we report the results, your answers will not be associated with you or your company.

8. What do you do to advertise your river trips?
9. Of all the advertising you do, which approach do you feel is most effective in:
- a. reaching the greatest number of people?
 - b. convincing them to select you rather than some other outfitter?
10. What year did you first start providing river trips (or first start renting canoes) to the general public on the _____ River?
- 19
11. About how many individuals did you take down the river in 1985? (Or how many parties did you rent canoes to in 1985?)
- _____ individuals
- _____ canoe parties

12. About how many rafts, canoes, and kayaks do you currently have available for river use by the general public?
- _____rafts
_____canoes
_____kayaks
13. About what percent of your clientele in 1985 made reservations in advance versus being "walk-ins"?
- _____reservations in advance
_____walk ins
14. Where does most of your clientele come from? Tell me the state and the region in the state.

Ending the interview: Those are all the questions I have. We have talked a long time, and I really appreciate the time you have given me. Is there anything that we have covered that you would like to talk more about?

Are there any other issues about your involvement with the National Park Service and your opinions about the best ways to provide high quality visitor services and protect the river that you would like to talk about?

Name of River Outfitter: _____
River: _____
Date: _____
Interviewer Comments: _____

APPENDIX D

Outfitter Ranking of Problem Issues

Note: Problems are ordered by mean scores,
from most serious to least serious problem

Outfitter Problems - 1

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Litter from upstream	0	0.0	2	10.0	3	15.0	6	30.0	9	45.0	20	100.0
Litter from riverbank users	0	0.0	1	5.3	6	31.6	5	26.3	7	36.8	19	100.0
Lack of hiking trails in park	2	10.0	3	15.0	7	35.0	6	30.0	2	10.0	20	100.0
Inadequate distribution of use among outfitters	7	35.0	0	0.0	3	15.0	4	20.0	6	30.0	20	100.0
Lack of recreational opportunities in area	4	20.0	3	15.0	4	20.0	5	25.0	4	20.0	20	100.0
Water level too low	3	15.0	3	15.0	5	25.0	8	40.0	1	5.0	20	100.0
Lack of campgrounds in part	2	10.5	5	26.3	6	31.6	3	15.8	3	15.8	19	100.0
Unskilled people using the river	1	5.0	7	35.0	6	30.0	3	15.0	3	15.0	20	100.0
Water pollution	4	20.0	3	15.0	6	30.0	3	15.0	4	20.0	20	100.0
Inadequate distribution of use across space on the river	2	10.0	7	35.0	5	25.0	2	10.0	4	20.0	20	100.0
Insufficient information about things to do and see in the area	4	20.0	3	15.0	7	35.0	4	20.0	2	10.0	20	100.0
Too little enforcement of rules and regulations	3	15.0	8	40.0	1	5.0	6	30.0	2	10.0	20	100.0
Inadequate toilet facilities at access points	4	20.0	4	20.0	6	30.0	5	25.0	1	5.0	20	100.0
Lack of camping spots on the river	3	15.0	6	30.0	5	25.0	5	25.0	1	5.0	20	100.0

Outfitter Problems - 2

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	6	31.6	2	10.5	5	26.3	3	15.8	3	15.8	19	100.0
Inadequate distribution of use across time	3	15.8	7	36.8	4	21.1	3	15.8	2	10.5	19	100.0
Too few river access points	5	26.3	5	26.3	2	10.5	5	26.3	2	10.5	19	100.0
Inadequate toilet facilities along river between put-in and take-out points	6	30.0	1	5.0	8	40.0	4	20.0	1	5.0	20	100.0
Lack of clear management direction from National Park Service	8	40.0	1	5.0	5	25.0	3	15.0	3	15.0	20	100.0
Vandalism	3	15.8	8	42.1	4	21.1	2	10.5	2	10.5	19	100.0
Damage to historic structures	7	35.0	3	15.0	4	20.0	4	20.0	2	10.0	20	100.0
Inadequate communication between NPS and private boaters	5	27.8	5	27.8	4	22.2	2	11.1	2	11.1	18	100.0
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	4	22.2	4	22.2	8	44.4	1	5.6	1	5.6	18	100.0
Poor quality campsites along river	3	15.8	7	36.8	6	31.6	3	15.8	0	0.0	19	100.0
Inadequate information services (signs, displays) at put-in points	4	20.0	8	40.0	4	20.0	3	15.0	1	5.0	20	100.0
Motorized boats on the river	7	36.8	4	21.1	3	15.8	3	15.8	2	10.5	19	100.0
Ignorance of rules and regulations on the river	3	15.0	10	50.0	4	20.0	2	10.0	1	5.0	20	100.0

Outfitter Problems - 3

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Lack of telephones at major access points	6	30.0	6	30.0	3	15.0	4	20.0	1	5.0	20	100.0
Too many bothersome insects	8	42.1	4	21.1	2	10.5	3	15.8	2	10.5	19	100.0
Poor condition of access points	6	31.6	6	31.6	2	10.5	5	26.3	0	0.0	19	100.0
Lack of campgrounds in area	5	26.3	6	31.6	6	31.6	1	5.3	1	5.3	19	100.0
Lack of drinking water sources at access points	9	45.0	2	10.0	6	30.0	2	10.0	1	5.0	20	100.0
Adequate disposal of human body wastes	7	35.0	7	35.0	4	20.0	0	0.0	2	10.0	20	100.0
People drinking alcoholic beverages on the river	8	42.1	6	31.6	2	10.5	2	10.5	1	5.3	19	100.0
National Park Service too concerned about preservation and not concerned enough about recreation	11	55.0	3	15.0	2	10.0	2	10.0	2	10.0	20	100.0
Off river vehicles along riverbank	11	57.9	2	10.5	3	15.8	1	5.3	2	10.5	19	100.0
Lack of availability of high quality guides	11	55.0	3	15.0	3	15.0	2	10.0	1	5.0	20	100.0
Too many people on the river	14	70.0	1	5.0	1	5.0	2	10.0	2	10.0	20	100.0
Too little National Park Service presence on the river	11	55.0	2	10.0	6	30.0	1	5.0	0	0.0	20	100.0
Water level too high	11	57.9	5	26.3	1	5.3	2	10.5	0	0.0	19	100.0

Outfitter Problems - 4

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Inadequate communication between NPS and commercial river users	13	65.0	3	15.0	3	15.0	0	0.0	1	5.0	20	100.0
River safety	12	60.0	5	25.0	2	10.0	0	0.0	1	5.0	20	100.0
Wildlife harassment	13	68.4	2	10.5	3	15.8	0	0.0	1	5.3	19	100.0
Erosion of river banks	10	50.0	8	40.0	2	10.0	0	0.0	0	0.0	20	100.0
Destruction of vegetation at access points or lunch stops	11	55.0	6	30.0	3	15.0	0	0.0	0	0.0	20	100.0
Informing visitors that river is a National Park Service area	14	70.0	3	15.0	2	10.0	1	5.0	0	0.0	20	100.0
People too rowdy on river	11	55.0	8	40.0	1	5.0	0	0.0	0	0.0	20	100.0
Litter from river users	12	63.2	4	21.1	3	15.8	0	0.0	0	0.0	19	100.0
Roads within sight of the river	13	72.2	2	11.1	3	16.7	0	0.0	0	0.0	18	100.0
Education of river guests about nature on the river	14	70.0	4	20.0	2	10.0	0	0.0	0	0.0	20	100.0
People fishing	15	78.9	3	15.8	0	0.0	0	0.0	1	5.3	19	100.0
Education of river guests about river history	14	73.7	3	15.8	2	10.5	0	0.0	0	0.0	19	100.0
NPS river ranges not friendly	16	80.0	3	15.0	1	5.0	0	0.0	0	0.0	20	100.0
Trespass onto private lands	15	75.0	4	20.0	1	5.0	0	0.0	0	0.0	20	100.0

Outfitter Problems - 5

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS employees unfamiliar with river and area	16	84.2	1	5.3	2	10.5	0	0.0	0	0.0	19	100.0
Inadequate communication between outfitters and their guests	17	85.0	2	10.0	1	5.0	0	0.0	0	0.0	20	100.0
Too much enforcement of rules and regulations	17	89.5	1	5.3	1	5.3	0	0.0	0	0.0	19	100.0
Too much nudity	18	90.0	2	10.0	0	0.0	0	0.0	0	0.0	20	100.0

APPENDIX E

Outfitter Ranking of Problem Change Over the Last Five Years

Note: Problems are ordered by mean scores,
from most improved to those getting much worse

Outfitter Change - 1

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Inadequate communication between outfitters and their guests	0	0.0	0	0.0	4	33.3	4	33.3	4	33.3	12	100.0
Education of river guests about river history	0	0.0	1	9.1	4	36.4	1	9.1	5	45.5	11	100.0
Education of river guests about nature on the river	0	0.0	1	8.3	5	41.7	2	16.7	4	33.3	12	100.0
Informing visitors that river is a National Park Service area	0	0.0	0	0.0	6	50.0	4	33.3	2	16.7	12	100.0
Litter from river users	1	7.1	1	7.1	5	35.7	2	21.4	4	28.6	14	100.0
Lack of availability of high quality guides	1	8.3	2	16.7	3	25.0	2	16.7	4	33.3	12	100.0
NPS employees unfamiliar with river and area	0	0.0	0	0.0	7	70.0	1	10.0	2	20.0	10	100.0
Too little National Park Service presence on the river	0	0.0	0	0.0	8	61.5	5	40.8	1	7.7	13	100.0
People fishing	1	8.3	0	0.0	6	50.0	3	25.0	2	16.7	12	100.0
River safety	2	13.3	2	13.3	4	26.7	2	13.3	5	33.3	15	100.0
Too much nudity	0	0.0	0	0.0	10	83.3	0	0.0	2	16.7	12	100.0
Inadequate communication between NPS and commercial river users	0	0.0	1	7.7	7	53.8	5	38.5	0	0.0	13	100.0
NPS river rangers not friendly	1	7.7	0	0.0	8	61.5	2	15.4	2	15.4	13	100.0

Outfitter Change - 2

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Destruction of vegetation at access points or lunch stops	0	0.0	3	21.4	6	42.9	3	21.4	2	14.3	14	100.0
Insufficient information about things to do and see in the area	0	0.0	4	22.2	6	33.3	8	44.4	0	0.0	18	100.0
Trespass onto private lands	0	0.0	2	14.3	9	64.3	1	7.1	2	14.3	14	100.0
Poor condition of access points	1	6.7	0	0.0	11	73.3	1	6.7	2	13.3	15	100.0
Water level too high	0	0.0	0	0.0	14	87.5	1	6.2	1	6.2	16	100.0
Wildlife harassment	1	8.3	0	0.0	8	66.7	2	16.7	1	8.3	12	100.0
People too rowdy on river	0	0.0	3	20.0	8	53.3	3	20.0	1	6.7	15	100.0
Inadequate toilet facilities along river between put-in and take-out points	0	0.0	1	5.9	13	76.5	3	17.6	0	0.0	17	100.0
Erosion of river banks	0	0.0	1	7.7	11	84.6	0	0.0	1	7.7	13	100.0
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	1	6.7	0	0.0	11	73.3	3	20.0	0	0.0	15	100.0
National Park Service too concerned about preservation and not concerned enough about recreation	0	0.0	3	18.8	10	62.5	2	12.5	1	6.2	16	100.0
Lack of drinking water sources at access points	0	0.0	0	0.0	15	93.7	1	6.2	0	0.0	16	100.0
Inadequate information services (signs, displays) at put-in points	0	0.0	2	11.1	13	72.2	3	16.7	0	0.0	18	100.0

Outfitter Change - 3

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Inadequate communication between NPS and private boaters	1	7.1	3	21.4	5	35.7	5	35.7	0	0.0	14	100.0
Inadequate toilet facilities at access points	1	5.9	2	11.8	10	58.8	4	23.5	0	0.0	17	100.0
Too few river access points	1	5.6	2	11.1	12	66.7	2	11.1	1	5.6	18	100.0
People drinking alcoholic beverages on the river	2	12.5	2	12.5	8	50.0	2	12.5	2	12.5	16	100.0
Water pollution	2	11.1	1	5.6	10	55.6	5	27.8	0	0.0	18	100.0
Lack of hiking trails in park	2	11.1	1	5.6	11	61.1	4	22.2	0	0.0	18	100.0
Poor quality campsites along river	0	0.0	2	12.5	13	81.2	1	6.2	0	0.0	16	100.0
Lack of campgrounds in area	1	6.7	1	6.7	11	73.3	2	13.3	0	0.0	15	100.0
Too much enforcement of rules and regulations	1	8.3	1	8.3	9	75.0	0	0.0	1	8.3	12	100.0
Roads within sight of the river	1	9.1	0	0.0	9	81.8	1	9.1	0	0.0	11	100.0
Lack of camping spots on the river	1	5.6	2	11.1	13	72.2	2	11.1	0	0.0	18	100.0
Inadequate distribution of use across time	1	5.9	3	17.6	10	58.8	3	17.6	0	0.0	17	100.0
Lack of telephones at major access points	0	0.0	4	23.5	11	64.7	2	11.8	0	0.0	17	100.0
Water level too low	0	0.0	2	11.8	15	88.2	0	0.0	0	0.0	17	100.0

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Outfitter Change - 5

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Damage to historic structures	4	25.0	5	31.3	4	25.0	2	12.5	1	6.2	16	100.0
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	2	14.3	4	28.6	8	57.1	0	0.0	0	0.0	14	100.0
Unskilled people using the river	4	22.2	7	38.9	5	27.8	2	11.1	0	0.0	18	100.0
Motorized boats on the river	3	23.1	4	30.8	6	46.2	0	0.0	0	0.0	13	100.0

APPENDIX F

Manager Ranking of Problem Issues

Note: Problems are ordered by mean scores,
from most improved to those getting much worse

Manager Problems - 1

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Litter from upstream	0	0.0	0	0.0	1	14.3	1	14.3	5	71.4	7	100.0
Water pollution	0	0.0	0	0.0	0	0.0	3	42.9	4	57.1	7	100.0
Litter from riverbank users	0	0.0	0	0.0	2	28.6	3	42.9	2	28.6	7	100.0
Lack of hiking trails in park	0	0.0	1	14.3	2	28.6	1	14.3	3	42.9	7	100.0
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	0	0.0	1	14.3	2	28.6	3	42.9	1	14.3	7	100.0
Inadequate information services (signs, displays) at put-in points	0	0.0	1	14.3	2	28.6	3	42.9	1	14.3	7	100.0
Damage to historic structures	0	0.0	0	0.0	3	42.9	4	57.1	0	0.0	7	100.0
Poor condition of access points	0	0.0	0	0.0	5	71.4	1	14.3	1	14.3	7	100.0
Poor quality campsites along river	1	14.3	1	14.3	1	14.3	2	28.6	2	28.6	7	100.0
Adequate disposal of human body wastes	0	0.0	1	14.3	3	42.9	2	28.6	1	14.3	7	100.0
Vandalism	0	0.0	1	14.3	2	28.6	4	57.1	0	0.0	7	100.0
Off river vehicles along riverbank	1	14.3	1	14.3	2	28.6	1	14.3	2	28.6	7	100.0
Inadequate toilet facilities at access points	1	14.3	2	28.6	1	14.3	3	42.9	0	0.0	7	100.0
Too few river access points	0	0.0	3	42.9	1	14.3	2	28.6	1	14.3	7	100.0
Inadequate communication between NPS and commercial river users	1	14.3	1	14.3	3	42.9	1	14.3	1	14.3	7	100.0

Manager Problems - 2

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Inadequate toilet facilities along river between put-in and take-out points	2	28.6	0	0.0	2	28.6	2	28.6	1	14.3	7	100.0
Lack of camping spots on the river	2	28.6	0	0.0	2	28.6	2	28.6	1	14.3	7	100.0
Unskilled people using the river	0	0.0	2	28.6	3	42.9	2	28.6	0	0.0	7	100.0
Education of river guests about nature on the river	0	0.0	2	28.6	3	42.9	2	28.6	0	0.0	7	100.0
Inadequate communication between NPS and private boaters	0	0.0	2	28.6	4	57.1	1	14.3	0	0.0	7	100.0
Inadequate distribution of use across time	1	14.3	1	14.3	3	42.9	2	28.6	0	0.0	7	100.0
Lack of clear management direction from National Park Service	1	14.3	3	42.9	0	0.0	2	28.6	1	14.3	7	100.0
Too little enforcement of rules and regulations	0	0.0	3	42.9	2	28.6	2	28.6	0	0.0	7	100.0
Inadequate toilet facilities at access points	1	14.3	2	28.6	1	14.3	3	42.9	0	0.0	7	100.0
Lack of campgrounds in park	2	28.6	1	14.3	2	28.6	0	0.0	2	28.6	7	100.0
Trespass onto private lands	0	0.0	2	28.6	4	57.1	1	14.3	0	0.0	7	100.0
Water level too low	1	16.7	0	0.0	4	66.7	1	16.7	0	0.0	6	100.0
Lack of drinking water sources at access points	2	28.6	1	14.3	2	28.6	1	14.3	1	14.3	7	100.0

Manager Problems - 3

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Lack of campgrounds in area	1	14.3	1	14.3	4	57.1	1	14.3	0	0.0	7	100.0
Education of river guests about river history	0	0.0	3	42.9	3	42.9	1	14.3	0	0.0	7	100.0
Inadequate distribution of use across space on the river	1	14.3	2	28.6	3	42.9	1	14.3	0	0.0	7	100.0
Inadequate distribution of use among outfitters	1	14.3	2	28.6	3	42.9	1	14.3	0	0.0	7	100.0
Ignorance of rules and regulations on the river	1	14.3	2	28.6	3	42.9	1	14.3	0	0.0	7	100.0
Insufficient information about things to do and see in the area	1	14.3	3	42.9	1	14.3	2	28.6	0	0.0	7	100.0
Destruction of vegetation at access points or lunch stops	0	0.0	4	57.1	2	28.6	1	14.3	0	0.0	7	100.0
Too many people on the river	1	14.3	3	42.9	3	42.9	0	0.0	0	0.0	7	100.0
Too little National Park Service presence on the river	1	14.3	3	42.9	3	42.9	0	0.0	0	0.0	7	100.0
Lack of telephones at major access points	2	28.6	1	14.3	4	57.1	0	0.0	0	0.0	7	100.0
Informing visitors that river is a National Park Service area	2	28.6	1	14.3	4	57.1	0	0.0	0	0.0	7	100.0
Erosion of river banks	1	14.3	3	42.9	3	42.9	0	0.0	0	0.0	7	100.0

Manager Problems - 4

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Lack of availability of high quality guides	2	28.6	2	28.6	3	42.9	0	0.0	0	0.0	7	100.0
Lack of recreational opportunities in area	3	42.9	2	28.6	0	0.0	2	28.6	0	0.0	7	100.0
People too rowdy on river	2	28.6	3	42.9	2	28.6	0	0.0	0	0.0	7	100.0
Water level too high	2	33.3	2	33.3	2	33.3	0	0.0	0	0.0	6	100.0
Wildlife harassment	3	42.9	2	28.6	1	14.3	1	14.3	0	0.0	7	100.0
Too many bothersome insects	4	57.1	2	28.6	0	0.0	0	0.0	1	14.3	7	100.0
Litter from river users	1	14.3	6	85.7	0	0.0	0	0.0	0	0.0	7	100.0
Roads within sight of the river	3	42.9	3	42.9	1	14.3	0	0.0	0	0.0	7	100.0
Motorized boats on the river	2	28.6	5	71.4	0	0.0	0	0.0	0	0.0	7	100.0
People drinking alcoholic beverages on the river	3	42.9	3	42.9	1	14.3	0	0.0	0	0.0	7	100.0
People fishing	5	71.4	1	14.3	1	14.3	0	0.0	0	0.0	7	100.0
Too much nudity	5	71.4	1	14.3	1	14.3	0	0.0	0	0.0	7	100.0
Inadequate communication between outfitters and their guests	5	71.4	2	28.6	0	0.0	0	0.0	0	0.0	7	100.0
NPS employees unfamiliar with river and area	5	71.4	2	28.6	0	0.0	0	0.0	0	0.0	7	100.0

Manager Problems - 5

Issue	Not a problem		Slight problem		Moderate problem		Serious problem		Very Serious problem		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
National Park Service too concerned about preservation and not concerned enough about recreation	7	100.0	0	0.0	0	0.0	0	0.0	0	0.0	7	100.0
NPS river ranges not friendly	7	100.0	0	0.0	0	0.0	0	0.0	0	0.0	7	100.0
Too much enforcement of rules and regulations	6	100.0	0	0.0	0	0.0	0	0.0	0	0.0	6	100.0

APPENDIX G

Manager Ranking of Problem Change Over the Last Five Years

Note: Problems are ordered by mean scores,
from most improved to those getting much worse

Manager Changes - 1

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Too little National Park Service presence on the river	0	0.0	0	0.0	0	0.0	5	100.0	0	0.0	5	100.0
Inadequate communication between NPS and private boaters	0	0.0	0	0.0	1	14.3	6	85.7	0	0.0	7	100.0
Insufficient information about things to do and see in the area	0	0.0	0	0.0	1	20.0	4	80.0	0	0.0	5	100.0
Inadequate communication between NPS and commercial river users	0	0.0	0	0.0	2	28.6	5	71.4	0	0.0	7	100.0
Too little enforcement of rules and regulations	0	0.0	0	0.0	2	28.6	5	71.4	0	0.0	7	100.0
NPS employees unfamiliar with river and area	0	0.0	0	0.0	2	66.7	0	0.0	1	33.3	3	100.0
Lack of recreational opportunities in area	0	0.0	0	0.0	1	33.3	2	66.7	0	0.0	3	100.0
People fishing	0	0.0	0	0.0	1	33.3	2	66.7	0	0.0	3	100.0
Too many bothersome insects	0	0.0	0	0.0	2	40.0	3	60.0	0	0.0	5	100.0
Inadequate toilet facilities at access points	0	0.0	0	0.0	2	40.0	3	60.0	0	0.0	5	100.0
Litter from river users	0	0.0	0	0.0	2	40.0	3	60.0	0	0.0	5	100.0
Poor condition of access points	0	0.0	1	14.3	1	14.3	5	71.4	0	0.0	7	100.0
Education of river guests about nature on the river	0	0.0	0	0.0	3	42.9	4	57.1	0	0.0	7	100.0

Manager Changes - 2

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Too few river access points	0	0.0	0	0.0	3	50.0	3	50.0	0	0.0	6	100.0
Inadequate brochures showing map of river, attractions, hazards, access points, etc.	0	0.0	0	0.0	3	50.0	3	50.0	0	0.0	6	100.0
Informing visitors that river is a National Park Service area	0	0.0	0	0.0	3	50.0	3	50.0	0	0.0	6	100.0
Education of river guests about river history	0	0.0	0	0.0	3	50.0	3	50.0	0	0.0	6	100.0
Inadequate information services (signs, displays) at put-in points	0	0.0	0	0.0	3	60.0	2	40.0	0	0.0	5	100.0
Inadequate communication between outfitters and their guests	0	0.0	0	0.0	2	66.7	1	33.3	0	0.0	3	100.0
Ignorance of rules and regulations on the river	0	0.0	0	0.0	4	66.7	2	33.3	0	0.0	6	100.0
Lack of hiking trails	0	0.0	0	0.0	4	66.7	2	33.3	0	0.0	6	100.0
Too much nudity	0	0.0	0	0.0	3	75.0	1	25.0	0	0.0	4	100.0
People drinking alcoholic beverages on the river	0	0.0	0	0.0	3	75.0	1	25.0	0	0.0	4	100.0
Lack of clear management direction from National Park Service	0	0.0	2	28.6	2	28.6	3	42.9	0	0.0	7	100.0
River safety	0	0.0	1	14.3	4	57.1	2	28.6	0	0.0	7	100.0

Manager Changes - 3

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Inadequate distribution of use among outfitters	0	0.0	1	16.7	4	66.7	1	16.7	0	0.0	6	100.0
National Park Service too concerned about preservation and not concerned enough about recreation	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0
NPS river rangers not friendly	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0
Too much enforcement of rules and regulations	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0
Lack of telephones at major access points	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	5	100.0
Lack of drinking water sources at access points	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	5	100.0
Lack of campgrounds in area	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	5	100.0
Lack of campgrounds in park	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	5	100.0
Poor quality campsites along river	0	0.0	1	16.7	4	66.7	1	16.7	0	0.0	6	100.0
Lack of camping spots on the river	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	5	100.0
Unskilled people using the river	0	0.0	1	16.7	4	66.7	1	16.7	0	0.0	6	100.0
People too rowdy on river	0	0.0	0	0.0	6	100.0	0	0.0	0	0.0	6	100.0
Trespass onto private lands	0	0.0	1	14.3	5	71.4	1	14.3	0	0.0	7	100.0
Water level too low	0	0.0	0	0.0	5	100.0	0	0.0	0	0.0	5	100.0

Manager Changes - 4

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Water level too high	0	0.0	0	0.0	4	100.0	0	0.0	0	0.0	4	100.0
Litter from riverbank users	0	0.0	0	0.0	7	100.0	0	0.0	0	0.0	7	100.0
Wildlife harassment	0	0.0	0	0.0	4	100.0	0	0.0	0	0.0	4	100.0
Vandalism	0	0.0	1	14.3	5	71.4	1	14.3	0	0.0	7	100.0
Lack of clear jurisdiction by National Park Service versus West Virginia DNR	0	0.0	2	28.6	4	57.1	1	14.3	0	0.0	7	100.0
Inadequate distribution of use across space on the river	0	0.0	2	33.3	3	50.0	1	16.7	0	0.0	6	100.0
Adequate disposal of human body wastes	0	0.0	2	33.3	3	50.0	1	16.7	0	0.0	6	100.0
Inadequate toilet facilities along river between put-in and take-out points	0	0.0	1	20.0	4	80.0	0	0.0	0	0.0	5	100.0
Erosion of river banks	0	0.0	1	25.0	3	75.0	0	0.0	0	0.0	4	100.0
Water pollution	0	0.0	4	57.1	1	14.3	2	28.6	0	0.0	7	100.0
Motorized boats on the river	0	0.0	2	33.3	4	66.7	0	0.0	0	0.0	6	100.0
Lack of availability of high quality guides	0	0.0	2	33.3	4	66.7	0	0.0	0	0.0	6	100.0
Too many people on the river	0	0.0	2	33.3	4	66.7	0	0.0	0	0.0	6	100.0
Inadequate distribution of use across time	0	0.0	2	33.3	4	66.7	0	0.0	0	0.0	6	100.0
Litter from upstream	1	16.7	0	0.0	5	83.3	0	0.0	0	0.0	6	100.0

Manager Changes - 5

Issue	Much worse		Somewhat worse		About same		Somewhat better		Much better		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Off river vehicles along riverbank	0	0.0	4	57.1	3	42.9	0	0.0	0	0.0	7	100.0
Roads within sight of the river	0	0.0	3	60.0	2	40.0	0	0.0	0	0.0	5	100.0
Destruction of vegetation at access points or lunch stops	1	20.0	1	20.0	3	60.0	0	0.0	0	0.0	5	100.0
Damage to historic structures	1	14.3	4	57.1	2	28.6	0	0.0	0	0.0	7	100.0

APPENDIX H

Outfitter Ranking of Potential Solutions

Note: Actions are ordered by mean scores,
from most supported to least supported solution

Outfitter Solution - 1

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Require guests to wear life jackets in major rapids	0	0.0	0	0.0	0	0.0	0	0.0	18	100.0	18	100.0
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	0	0.0	0	0.0	0	0.0	0	0.0	20	100.0	20	100.0
NPS take lead to build more hiking trails within park boundary	0	0.0	0	0.0	1	5.0	2	10.0	17	85.0	20	100.0
NPS and Corps of Engineers cooperate to remove litter from river at damsite	1	5.0	0	0.0	0	0.0	1	5.0	18	90.0	20	100.0
NPS provide programs on park management, resource protection, water safety, and litter to area schools and communities	0	0.0	0	0.0	3	15.0	3	15.0	14	70.0	20	100.0
NPS provide toilets at river access points	0	0.0	0	0.0	3	15.0	6	30.0	11	55.0	20	100.0
Place NPS entrance signs along roads at park boundaries	0	0.0	0	0.0	4	20.0	5	25.0	11	55.0	20	100.0
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	1	5.0	1	5.0	2	10.0	3	15.0	13	65.0	20	100.0
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	3	15.0	0	0.0	0	0.0	2	10.0	15	75.0	20	100.0

Outfitter Solution - 2

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS and outfitters negotiate with the railroad to provide scenic train rides along river	0	0.0	2	10.0	2	10.0	5	25.0	11	55.0	20	100.0
Annual river clean up day sponsored by outfitters and NPS	1	5.0	0	0.0	2	10.0	7	35.0	10	50.0	20	100.0
NPS and outfitters cooperate to develop a policy on which historic structures along the river to visit and which not to	0	0.0	0	0.0	5	25.0	6	30.0	9	45.0	20	100.0
Require outfitters to provide each boat with a rope or towline for safety purposes	1	5.0	3	15.0	1	5.0	1	5.0	14	70.0	20	100.0
NPS provide phones at public river access points	0	0.0	2	10.0	3	15.0	5	25.0	10	50.0	20	100.0
NPS boat patrol give litter bags and anti-litter messages to river bank users	1	5.0	1	5.0	3	15.0	5	25.0	10	50.0	20	100.0
Place uniformed NPS personnel at major access points to greet river guests, indicate NPS presence, and assist in safety emergencies	0	0.0	3	15.0	2	10.0	6	30.0	9	45.0	20	100.0
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to their guests	0	0.0	2	10.0	2	10.0	9	45.0	7	35.0	20	100.0

Outfitter Solution - 3

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Place informational bulletin boards at access points	0	0.0	1	5.0	6	30.0	4	20.0	9	45.0	20	100.0
NPS facilitate the development of horseback riding stables and trails in park	1	5.0	1	5.0	4	20.0	5	25.0	9	45.0	20	100.0
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	1	5.0	1	5.0	4	20.0	5	25.0	9	45.0	20	100.0
NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	1	5.0	3	15.0	1	5.0	5	25.0	10	50.0	20	100.0
NPS develop literature on nature and history of river for outfitters to send to guests before their arrival	1	5.0	2	10.0	2	10.0	6	30.0	9	45.0	20	100.0
NPS provide more parking spaces at existing access points on the river	1	5.0	1	5.0	2	10.0	10	50.0	6	30.0	20	100.0
NPS and outfitters cooperate to develop a procedure to equitably and efficiently collect and remove litter at river access points, lunch stops, and campsites	1	5.0	0	0.0	5	25.0	7	35.0	7	35.0	20	100.0
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	1	5.0	1	5.0	7	35.0	1	5.0	10	50.0	20	100.0

Outfitter Solution - 4

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS provide more drinking water sources at river access points	1	5.0	0	0.0	7	35.0	5	25.0	7	35.0	20	100.0
Have NPS patrols floating river throughout high use season to assist river users and enforce regulations	0	0.0	4	20.0	1	5.0	9	45.0	6	30.0	20	100.0
Search for natural ways to reduce black flies	3	15.0	1	5.0	3	15.0	3	15.0	10	50.0	20	100.0
NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g., marketing of canoeing potential)	1	5.0	4	20.0	2	10.0	4	20.0	9	45.0	20	100.0
NPS and outfitters cooperate to provide mandatory safety training course for guides	2	10.0	2	10.0	2	10.0	7	35.0	7	35.0	20	100.0
Restrict motorized recreational watercraft to certain times and places on the river	2	10.0	1	5.0	4	20.0	7	35.0	6	30.0	20	100.0
NPS construct more river access points	3	15.0	2	10.0	2	10.0	4	20.0	9	45.0	20	100.0
NPS and landowners cooperate to provide signing of public and private land along the river	0	0.0	1	5.0	8	40.0	7	35.0	4	20.0	20	100.0
NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics	2	10.0	2	10.0	3	15.0	7	35.0	6	30.0	20	100.0

Outfitter Solution - 5

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	2	10.0	4	20.0	3	15.0	3	15.0	8	40.0	20	100.0
Have West Virginia DNR continue to manage the outfitter permit system	4	20.0	2	10.0	2	10.0	4	20.0	8	40.0	20	100.0
NPS clarify who has law enforcement authority to deal with alcohol-related problems in river corridor	2	10.0	1	5.0	6	30.0	7	35.0	4	20.0	20	100.0
NPS construct primitive toilets at designated lunch spots and campsites	1	5.0	5	25.0	2	10.0	7	35.0	5	25.0	20	100.0
NPS build more river access campsites along the river	2	10.0	4	20.0	3	15.0	5	25.0	6	30.0	20	100.0
NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	0	0.0	5	25.0	6	30.0	4	20.0	5	25.0	20	100.0
Ban glass containers and cans on the river	3	15.0	3	15.0	4	20.0	3	15.0	7	35.0	20	100.0
NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	0	0.0	6	30.0	6	30.0	4	20.0	4	20.0	20	100.0
NPS and outfitters cooperate to provide mandatory training course for guides on nature and history of river	4	20.0	2	10.0	4	20.0	4	20.0	6	30.0	20	100.0

Outfitter Solution - 6

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS and outfitters cooperate to develop a mandatory guest education program on respecting property rights along river	0	0.0	3	15.0	10	50.0	6	30.0	1	5.0	20	100.0
Prohibit motorized recreational watercraft on the river	4	20.0	2	10.0	6	30.0	2	10.0	6	30.0	20	100.0
Outfitters give litter bags provided by NPS to each river trip	3	15.0	3	15.0	6	30.0	3	15.0	5	25.0	20	100.0
Require guests to wear helmets in major rapids	5	25.0	4	20.0	1	5.0	2	10.0	8	40.0	20	100.0
NPS should assume a greater and more consistent role in reducing alcohol-related problems and rowdyism in the river corridor	2	10.0	3	15.0	8	40.0	4	20.0	3	15.0	20	100.0
NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	1	5.0	6	30.0	6	30.0	4	20.0	3	15.0	20	100.0
Spray to reduce black flies/gnats	7	35.0	1	5.0	2	10.0	4	20.0	6	30.0	20	100.0
Assign uniformed UPS personnel to popular stopping points and gathering places along the river	1	5.0	6	30.0	6	30.0	5	25.0	2	10.0	20	100.0
NPS build car campgrounds in park	6	30.0	2	10.0	4	20.0	2	10.0	6	30.0	20	100.0

Outfitter Solution - 7

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	4	20.0	6	30.0	1	5.0	4	20.0	5	25.0	20	100.0
NPS install shoreline markers that indicate distance to and location of major take-out points	5	25.0	4	20.0	3	15.0	5	25.0	3	15.0	20	100.0
Impose an "open bottle" regulation on the river--i.e., drinking of alcohol permitted on land but not while on the water	4	20.0	5	25.0	5	25.0	2	10.0	4	20.0	20	100.0
Have NPS assume management of the outfitter permit system	5	26.3	4	21.1	2	10.5	5	26.3	3	15.8	19	100.0
Each season, assign outfitter to his own lunch spot	7	35.0	3	15.0	3	15.0	2	10.0	5	25.0	20	100.0
Prohibit drinking of alcoholic beverages within park boundaries	9	45.0	6	30.0	0	0.0	0	0.0	5	25.0	20	100.0
Require portable toilets on each outfitted river trip	12	60.0	2	10.0	2	10.0	1	5.0	3	15.0	20	100.0

APPENDIX I

Manager Ranking of Potential Solutions

Note: Actions are ordered by mean scores,
from most supported to least supported solution

Manager Solutions - 1

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Prohibit off-road vehicles in the vicinity of the river, except on roads and highways	0	0.0	0	0.0	0	0.0	0	0.0	7	100.0	7	100.0
NPS seek cooperation of railroad to permit use of tracks for emergency evacuation purposes	0	0.0	0	0.0	0	0.0	0	0.0	7	100.0	7	100.0
NPS take lead to build more hiking trails within park boundary	0	0.0	0	0.0	0	0.0	1	14.3	6	85.7	7	100.0
NPS provide their seasonal employees with training course on river resources, facilities, visitor safety, and role and services of river outfitters	0	0.0	0	0.0	0	0.0	1	14.3	6	85.7	7	100.0
NPS boat patrol give litter bags and anti-litter messages to river bank users	0	0.0	0	0.0	0	0.0	1	14.3	6	85.7	7	100.0
Annual river clean up day sponsored by outfitters and NPS	0	0.0	0	0.0	0	0.0	1	14.3	6	85.7	7	100.0
NPS accomplish resource protection and rule enforcement more through friendly persuasion than through arrests and law enforcement tactics	0	0.0	0	0.0	0	0.0	1	14.3	6	85.7	7	100.0
Place informational bulletin boards at access points	0	0.0	0	0.0	0	0.0	1	14.3	6	85.7	7	100.0
NPS provide toilets at river access points	0	0.0	0	0.0	0	0.0	2	28.6	5	71.4	7	100.0

Manager Solutions - 2

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS and Corps of Engineers cooperate to remove litter from river at damsite	0	0.0	0	0.0	1	14.3	0	0.0	6	85.7	7	100.0
NPS and outfitters cooperate to develop a procedure to equitably and efficiently collect and remove litter at river access points, lunch stops, and campsites	0	0.0	0	0.0	1	14.3	0	0.0	6	85.7	7	100.0
NPS provide programs on park management, resource protection, water safety, and litter to area schools and communities	0	0.0	0	0.0	0	0.0	2	28.6	5	71.4	7	100.0
NPS and outfitters cooperate to provide mandatory safety training course for guides	0	0.0	0	0.0	1	14.3	0	0.0	6	85.7	7	100.0
Require outfitters to provide each boat with a rope or towline for safety purposes	0	0.0	0	0.0	1	16.7	0	0.0	5	83.3	7	100.0
NPS cooperate with state agencies to improve existing roads to put-in and take-out points	0	0.0	0	0.0	0	0.0	3	42.9	4	57.1	7	100.0
Have NPS patrols floating river throughout high use season to assist river users and enforce regulations	0	0.0	0	0.0	0	0.0	3	42.9	4	57.1	7	100.0
Place NPS entrance signs along roads at park boundaries	0	0.0	0	0.0	1	14.3	1	14.3	5	71.4	7	100.0

Manager Solutions - 3

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS develop literature on nature and history of river for outfitters to send to guests before their arrival	0	0.0	0	0.0	0	0.0	3	42.9	4	57.1	7	100.0
Require guests to wear life jackets in major rapids	0	0.0	1	14.3	0	0.0	0	0.0	6	85.7	7	100.0
NPS and outfitters negotiate with the railroad to provide scenic train rides along river	0	0.0	0	0.0	1	14.3	2	28.6	4	57.1	7	100.0
NPS and outfitters cooperate to develop a policy on which historic structures along the river to visit and which not to	0	0.0	0	0.0	1	14.3	2	28.6	4	57.1	7	100.0
NPS and outfitters cooperate to develop a river map which lists river attractions and facilities to distribute to river guests	0	0.0	0	0.0	1	14.3	2	28.6	4	57.1	7	100.0
NPS and outfitters cooperate to facilitate increased boating use of river upstream of gorge (e.g., marketing of canoeing potential)	0	0.0	0	0.0	1	14.3	3	42.9	3	42.9	7	100.0
NPS and outfitters cooperate to develop literature on national park status and river recreation opportunities for outfitters to send to their guests	0	0.0	0	0.0	0	0.0	5	71.4	2	28.6	7	100.0
NPS and Corps of Engineers work cooperatively to provide more ideal water flow for river recreation	0	0.0	1	14.3	0	0.0	2	28.6	4	57.1	7	100.0

Manager Solutions - 4

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS and outfitters cooperate to provide mandatory training course for guides on nature and history of river	0	0.0	0	0.0	1	14.3	3	42.9	3	42.9	7	100.0
Restrict motorized recreational watercraft to certain times and places on the river	0	0.0	1	14.3	0	0.0	3	42.9	3	42.9	7	100.0
NPS should assume a greater and more consistent role in reducing alcohol-related problems and rowdyism in the river corridor	0	0.0	0	0.0	2	28.6	2	28.6	3	42.9	7	100.0
Require guests to wear helmets in major rapids	0	0.0	1	14.3	0	0.0	3	42.9	3	42.9	7	100.0
NPS build more river access campsites along the river	1	14.3	0	0.0	1	14.3	1	14.3	4	57.1	7	100.0
NPS and landowners cooperate to provide signing of public and private land along the river	0	0.0	0	0.0	0	0.0	6	100.0	0	0.0	6	100.0
NPS and outfitters cooperate to develop and implement a mutually agreeable mandatory safety instruction program for river guests	0	0.0	2	28.6	0	0.0	1	14.3	4	57.1	7	100.0
Assign uniformed NPS personnel to popular stopping points and gathering places along the river	0	0.0	0	0.0	1	14.3	6	85.7	0	0.0	7	100.0

Manager Solutions - 5

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS and outfitters cooperate to provide a guest education program on effects of drinking alcohol on boating safety	0	0.0	1	14.3	1	14.3	3	42.9	2	28.6	7	100.0
NPS construct more river access points	0	0.0	2	28.5	0	0.0	3	42.9	2	28.6	7	100.0
Place uniformed NPS personnel at major access points to greet river guests, indicate NPS presence, and assist in safety emergencies	0	0.0	2	28.6	0	0.0	3	42.9	2	28.6	7	100.0
NPS clarify who has law enforcement authority to deal with alcohol-related problems in river corridor	0	0.0	0	0.0	3	42.9	3	42.9	1	14.3	7	100.0
NPS and outfitters cooperate to develop a mandatory guest education program on respecting property rights along river	0	0.0	0	0.0	2	28.6	5	71.4	0	0.0	7	100.0
NPS construct primitive toilets at designated lunch spots and campsites	0	0.0	2	28.6	0	0.0	3	42.9	2	28.6	7	100.0
Outfitters give litter bags provided by NPS to each river trip	0	0.0	2	28.6	1	14.3	1	14.3	3	42.9	7	100.0
NPS and outfitters cooperate to develop a mandatory guest education program on proper river etiquette	1	14.3	1	14.3	0	0.0	2	28.6	3	12.9	7	100.0
Require portable toilets on each outfitted river trip	1	16.7	0	0.0	1	16.7	2	33.3	2	33.3	6	100.0

Manager Solutions - 6

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS install shoreline markers that indicate distance to and location of major take-out points	0	0.0	2	28.6	1	14.3	2	28.6	2	28.6	7	100.0
NPS provide more parking spaces at existing access points on the river	0	0.0	2	28.6	1	14.3	2	28.6	2	28.6	7	100.0
NPS provide more drinking water sources at river access points	0	0.0	2	28.6	1	14.3	2	28.6	2	28.6	7	100.0
Impose an "open bottle" regulation on the river--i.e., drinking of alcohol permitted on land but not while on the water	1	14.3	1	14.3	0	0.0	3	42.9	2	28.6	7	100.0
Have NPS assume management of the outfitter permit system	1	14.3	2	28.6	0	0.0	1	14.3	3	42.9	7	100.0
Search for natural ways to reduce black flies	1	14.3	1	14.3	2	28.6	0	0.0	3	42.9	7	100.0
NPS provide phones at public river access points	1	14.3	1	14.3	2	28.6	0	0.0	3	42.9	7	100.0
Ban glass containers and cans on the river	0	0.0	3	42.9	1	14.3	0	0.0	3	42.9	7	100.0
NPS and outfitters cooperate to develop literature on proper river etiquette for outfitters to send to their guests	1	14.3	1	14.3	1	14.3	2	28.6	2	28.6	7	100.0
Prohibit the use of cans, bottles, and other nonburnable disposable containers on the river	1	14.3	2	28.6	1	14.3	1	14.3	2	28.6	7	100.0

Manager Solutions - 7

Issue	Strongly oppose		Oppose		Neutral		Favor		Strongly favor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
NPS facilitate the development of horseback riding stables and trails in park	0	0.0	4	57.1	1	14.3	0	0.0	2	28.6	7	100.0
Have West Virginia DNR continue to manage the outfitter permit system	2	28.6	2	28.6	0	0.0	2	28.6	1	14.3	7	100.0
Prohibit motorized recreational watercraft on the river	1	14.3	3	42.9	1	14.3	1	14.3	1	14.3	7	100.0
NPS construct scenic loop highway around park inside park boundaries	3	42.9	1	14.3	1	14.3	0	0.0	2	28.6	7	100.0
NPS build car campgrounds in park	3	42.9	1	14.3	1	14.3	0	0.0	2	28.6	7	100.0
Each season, assign outfitter to his own lunch spot	0	0.0	5	71.4	0	0.0	2	28.6	0	0.0	7	100.0
Spray to reduce black flies/gnats	3	42.9	2	28.6	1	14.3	0	0.0	1	14.3	7	100.0
Prohibit drinking of alcoholic beverages within park boundaries	5	71.4	2	28.6	0	0.0	0	0.0	0	0.0	7	100.0