

Opinions of Campers and Boaters at the Allegheny Reservoir



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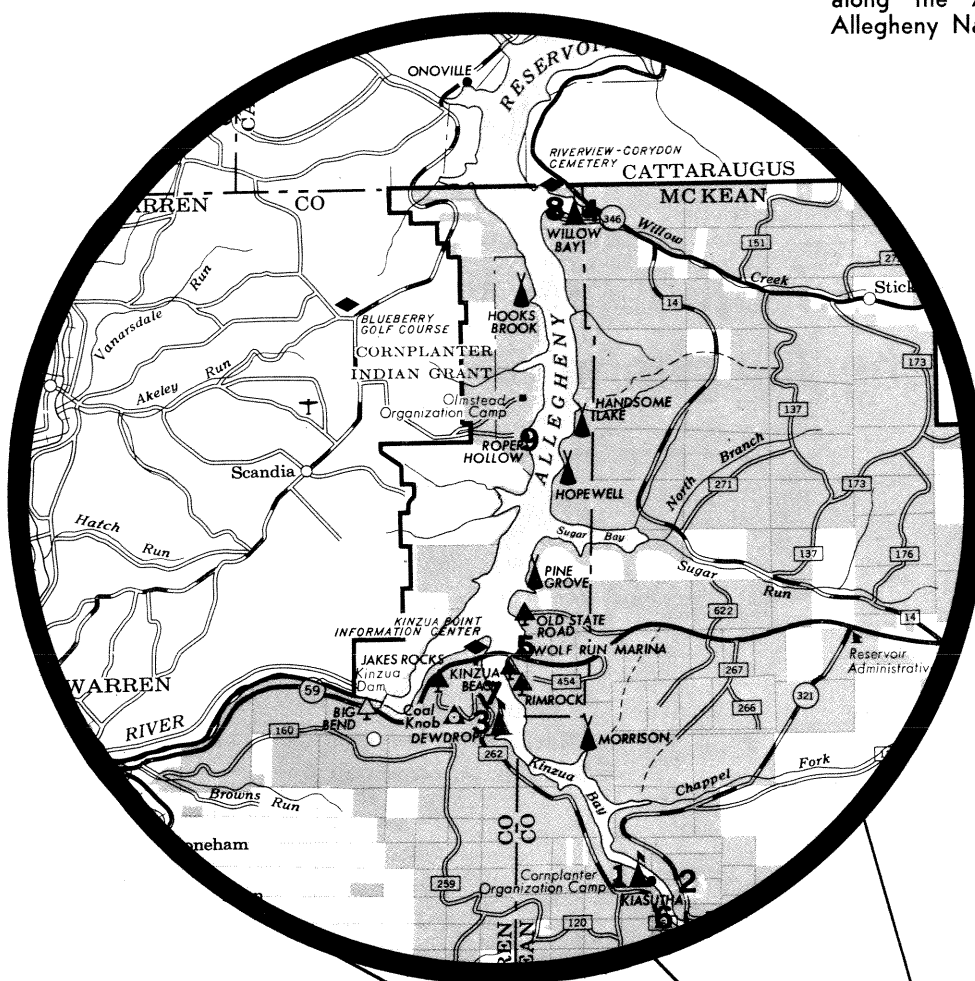
Opinions of Campers and Boaters at the Allegheny Reservoir

by George H. Moeller
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ABSTRACT

Interviews with 157 campers and 281 boaters near the Allegheny reservoir on the Allegheny National Forest revealed that their perceptions of management problems differed from those of managers. Different users had different attitudes toward recreation use controls, fee policies, recreation zoning, law enforcement, and facility development needs. This diversity indicates that changes in recreation management policy will not affect all recreation users equally; their impact will depend on how active the users are, the number of activities they participate in, and how familiar they are with the area.

Figure 1. — Sampling locations along the Allegheny Reservoir, Allegheny National Forest.



Parties
Sampled

CAMPGROUNDS

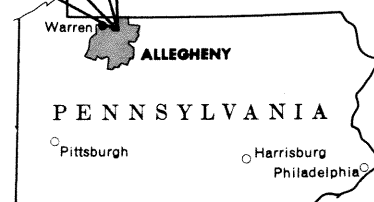
1. Kiasutha.	53
2. Red Bridge.	30
3. Dew Drop.	38
4. Willow Bay.	15

Total	136
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BOAT LAUNCH SITES

5. Wolf Run Marina . . .	60
6. Kiasutha.	76
7. Dew Drop.	53
8. Willow Bay.	59
9. Roper Hollow.	33

Total	281
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THE STUDY PROBLEM

Recreation resource managers are confronted with the problem of managing fixed resources for growing recreation needs. Management programs must be developed to balance conflicting recreation demands equitably while, at the same time, maintaining the integrity of the natural resource.

Recreation management decisions continue to be made without adequate knowledge of the recreation user, his attitudes, and his opinions of management policies and problem solutions. Past research has shown that resource managers are not always able to perceive objectively management policies that are acceptable to recreation users (*Hendee and Harris 1970*).

The purpose of this study was to provide resource managers and planners with information about the attitudes and opinions of recreation users. Interviews were conducted with campers and boaters near the Allegheny reservoir in the Allegheny National Forest, in northwestern Pennsylvania. The results of this study should provide recreation managers elsewhere with better information on which to base critical management decisions. Although some recreation management problems concern a particular area, many problems discussed in this study—overuse of facilities, control of resource use, law enforcement, facility development, and user fees—are common to other heavily used recreation areas.

THE STUDY AREA

The Kinzua Dam in northwestern Pennsylvania, 9.5 miles east of Warren, Pennsylvania, impounds the 12,080 acre Allegheny Reservoir, 7,634 acres of which are in Pennsylvania and the remainder in New York

State. At normal summer pool, the reservoir is 27 miles long and has 91 miles of shoreline.

Most of the land around the Pennsylvania portion of the reservoir is administered by the U. S. Forest Service as part of the Allegheny National Forest. Others with vested management responsibilities include the U. S. Army Corps of Engineers, Seneca Nation of Indians, New York State Department of Environmental Conservation, Cattaraugus County, New York, and various private landowners.

The Forest Service has developed 17 recreation areas on or directly adjacent to the reservoir. These provide for a wide range of recreational activities that include boating, swimming, camping, picnicking, and sight-seeing. Information about facilities and services is provided through a centrally located Forest Service information center near the Kinzua Dam. The capacity of developed recreation facilities was increased from 2,480 people at one time in 1966 to 13,460 in 1972.

The Allegheny Reservoir has the potential to be a major recreation attraction. It is within 1 day's drive for over 80 million people (fig. 1). Since 1966, when the reservoir and recreation adjacent facilities opened, recreation use has increased from 91,900 to approximately 772,600 visitor-days per year.¹ Projections are that recreation use could reach 5 million visitor-days by the year 2000.²

¹ A visitor-day consists of 12 user-hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons.

² Projection obtained from 1972 Reservoir Management Plan. The possibility of reaching the projected level depends on many companion factors such as improved road systems, program funding, and recreation facility development by government and private interests.

STUDY METHOD

Visitors were sampled at four developed campgrounds and five boat-launching sites. They were selected on 20 randomly selected weekend days and eight weekdays during June, July, and August, 1971. The self-designated "head" of the camping group was interviewed for the study of campers (Appendix B). Boaters were contacted as they returned to launching sites. Interviewers briefly explained the purpose of the study and handed the person who was driving a questionnaire to be returned by mail (Appendix C). For non-power boats, the apparent "head" of the group was the respondent.

Interviews were allocated to recreation sites in approximate proportion to their use on the sampling day. A total of 157 campers and 281 boaters responded. Only two campers refused to participate in the study. An 89-percent response was obtained from boaters after one follow-up mailing of the questionnaire.

STUDY RESULTS

Respondent Profiles

A brief discussion of the characteristics of respondents will provide some background for the attitudes and opinions discussed later. More details are given in Appendix A. It should be recognized that the two groups surveyed were not mutually exclusive—that is, many campers boated and many boaters camped.

The average camper respondent was 42 years old and had a high school education. His \$11,000 median annual family income exceeded the current national median by \$500. Chances are even that he had camped on the Allegheny before the study. He had an average of 6 years total camping experience. His average investment in camping equipment—typically a tent or tent trailer—was \$1,400. He traveled an average distance of 160 miles in 3 hours to reach the reservoir and stayed for 5 nights. His group typically included five people, husband, wife, and children. They participated in a wide variety of ac-

tivities, with fishing and visiting scenic overlooks as the most common.

The average boater respondent was 41 years old and had 2 years of college. His \$11,150 median annual family income exceeded the current national median by \$650. He tended to work in a managerial or related occupation. Chances are four to one that he had previously boated on the Allegheny Reservoir. If so, he averaged 2.4 years of boating on the reservoir, and had spent 11 days boating on the reservoir in the year before the study. He averaged 8 years of total boating experience. Most typically he used a 16-foot boat powered by a 26- to 80-horsepower motor. His average investment in boating equipment was \$2,500. He traveled an average distance of 78 miles in less than 2 hours to reach the reservoir. Chances are about even that he was also a camper. If so, he stayed an average of 4 nights. If he did not camp, he stayed on the water for an average of 5 hours. His group averaged 3.5 people, and chances were about even that it included children. In addition to pleasure boating, his most typical water activity was waterskiing, followed by fishing and swimming.

User Attitudes

What kinds of management problems do users perceive and which do they think are most important? How do users feel about current management? What are their opinions about management alternatives?

Most campers did not feel that facilities were overused. But they did see uncontrolled camping—camping in areas other than designated campgrounds—as a problem. Campers criticized current management for not having better facilities, more specialized services, better information services, and site registration procedures. The majority of campers supported limiting the number of campers, opposed higher fees, felt camping should be allowed only in designated areas, and favored regular law enforcement with appropriate punishment for violators.

Most boaters did not view the reservoir as overused, nor did they recognize any major management problems. They did criticize current management for not enforcing

regulations, and saw a need for more launching sites, docks, campgrounds, and toilets. Their general reaction toward various management proposals was that zoning was not needed but that more boat patrols, along with appropriate punishment of violators, were needed. They were divided in their opinion of boat-launching fees.

Criticism of Current Management

A management problem common to many recreation sites is the excessive wear of facilities and vegetation caused by heavy use. But when users were asked whether they felt the reservoir area was "overused," only 34 percent of the campers and 15 percent of the boaters said yes. Yet the reservoir and surrounding facilities are used to overflow design capacity on most summer weekends.

Of those who considered overuse a problem, few related it to impact on natural conditions. Most found it difficult to define "overuse." A common definition referred to "overcrowded facilities." Only 1 out of 10 campers defined overuse in relation to damage to the natural environment. Boaters connected overuse with crowding at launching sites.

Campers

Three out of four campers expressed a concern for management of the Allegheny area. They were most concerned about the facilities and services available at campgrounds. Although the campgrounds used in the study are already highly developed, with flush toilets and showers, campers felt that electricity should be available and that concessions and firewood should be provided. Second in importance were questions of administration and management policy. Campers wanted more information and closer regulation through site registration. Campers showed little concern about management outside the immediate area where they were camping.

Overall, 6 out of 10 campers mentioned two or more problems related to management. But their amount of past camping experience in the Allegheny Reservoir area and the composition of the camping group

were correlated with their reaction. Seventy-two percent of those who had camped in the area for 10 or more days in the previous year mentioned two or more management problems, as compared to 26 percent of those who had camped less than 9 days ($P < .001$).³ Sixty percent of campers who had not camped on the reservoir during the previous year mentioned two or more problems.

Respondents from large groups and those in groups with larger numbers of children mentioned more problems. Fifty percent of the respondents from groups of four or fewer mentioned two or more problems, as compared to 70 percent from groups of five or more ($P < .05$). The number of children in the group, a closely correlated variable, showed a similar distribution, with 80 percent of the respondents from groups with four children or more suggesting at least two management problems, as compared to 47 percent for groups with three or fewer children ($P < .01$).

Boaters

Three out of four boaters felt that there was at least one problem in reservoir management. Their criticisms fell into three categories: reservoir water management, water facilities, and land facilities. The most frequently expressed concern about water management was the need for more patrols and better enforcement of regulations. On the water, boaters wanted more launching sites and docks; on land, more campgrounds and toilets were the needs most often mentioned.

Local boaters, those who traveled 25 miles or less to the reservoir, were more dissatisfied with reservoir management than other boaters. While 86 percent of local boaters registered at least one complaint, only 55 percent of those who traveled over 25 miles had a complaint ($P < .01$).

Other characteristics of the respondents that were correlated with their satisfaction with management were income and conservation group membership. Thirty percent of

³ Chi-square level of significance.

boaters with family incomes less than \$8,000 registered complete satisfaction, as compared to 16 percent with incomes in excess of \$12,000 ($P < .10$). More boaters who were members of conservation groups were satisfied (34 percent) than boaters who were not members of conservation groups (22 percent) ($P < .10$).

The type of boating equipment used was also correlated with satisfaction. Boaters who used engines of 25 horsepower or less were significantly ($P < .01$) more satisfied (55 percent) than boaters who used 60 horsepower or larger engines (18 percent). A closely correlated variable, investment in boating equipment, showed a similar relationship, with satisfaction decreasing as investment increased.

Boaters who participated in land activities were significantly ($P < .05$) less satisfied (18 percent) than boaters who only boated

(32 percent). The more familiar boaters were with the reservoir, the more likely they were to have a management complaint. Three in 10 of those who boated within 1 mile of launching sites were satisfied, as compared to 2 in 10 of those who traveled greater distances ($P < .10$).

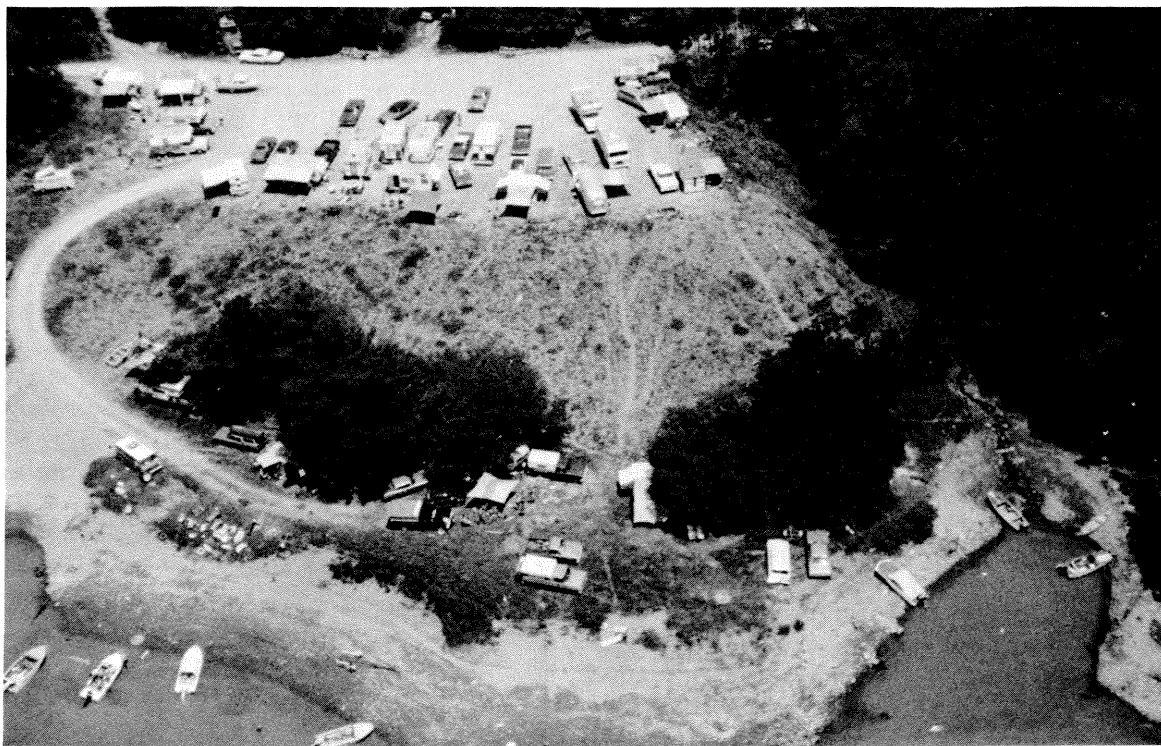
Perception of Management Problems

Campers

Campers were asked to give their impressions of the severity of four management problems. In order of perceived importance, they were: uncontrolled camping, unsanitary conditions, destruction of vegetation, and littering.

Uncontrolled camping—camping in areas other than designated campgrounds—was seen as a problem by 6 out of 10 campers (fig. 2). But campers who traveled less than

Figure 2.—Aerial view of undesignated camping along reservoir shoreline. Such indiscriminate camping creates critical management problems of law enforcement, site degeneration, and sanitation.



100 miles to reach the reservoir were more likely (76 percent) to consider it a problem than campers who traveled 100 miles or more (42 percent) ($P < .05$). Responses also differed between respondents from small and large groups. While 70 percent of the campers from groups of four or fewer felt uncontrolled camping was a problem, only 46 percent of those from larger groups felt the same ($P < .10$).

Overall, one in three campers felt that unsanitary conditions were a problem in campgrounds. But among first-year campers, 2 in 10 felt that unsanitary conditions were a problem, as compared to 4 in 10 who had camped on the reservoir for two or more years ($P < .10$).

Destruction of vegetation in and around campgrounds was viewed as a problem by one out of four campers. But as camping experience increased, a greater proportion felt it was a problem—17 percent of first-time campers, compared to 54 percent of campers who had camped on the Allegheny before ($P < .05$).

Only one out of 10 campers perceived littering as a problem.

Boaters

Boaters were asked to estimate the severity of four problems. In order of perceived importance, they were: overcrowding, water pollution, lack of rule enforcement, and conflicting water uses. More than half of the boaters felt that none of these was a problem.

Overcrowding. — Thirty-seven percent of the boaters perceived overcrowding as a problem on the reservoir, and the more experience they had, the more likely they were to see it as a problem. Of local users, those who traveled 25 miles or less, 59 percent felt that crowding was a problem as compared to 20 percent of non-local users ($P < .001$). While 16 percent of those who were first-year boaters on the reservoir thought that crowding was a problem, 47 percent of those who had boated 2 years or more felt it was a problem ($P < .001$). Of those who had boated on the reservoir in the year before the study, perception of crowding increased as number of days' boating increased: 10

days or less, 38 percent; 10 to 29 days, 47 percent; 30 days or more, 55 percent ($P < .001$).

The type of water activity he engaged in did not correlate with the boater's perception of crowding, but the number of different activities did. Twice as many boaters who engaged in three or more water activities felt crowding was a problem as compared to those who engaged in fewer activities ($P < .001$).

Boaters' perception of crowding appears to be related to past boating experience and activity patterns. Where few types of water activities are available, the manager can expect fewer complaints about water areas that receive a high proportion of nonlocal and first-time boaters.

Water pollution. — Water pollution was seen as a problem by 3 out of 10 boaters. Significant differences were observed in boaters' perception of water pollution between local and nonlocal boaters, among boaters with different amounts of boating experience on the reservoir, and among boaters with different educational backgrounds.

While 45 percent of local boaters thought pollution was a problem, only 19 percent of nonlocals felt it a problem ($P < .01$). More of the boaters who had boated on the reservoir for 2 or more years felt that pollution was a problem (41 percent) than first-time or first-year boaters ($P < .01$). Similarly, 38 percent of boaters who had boated during the previous year felt that pollution was a problem, as compared to 17 percent of those who did not boat during the previous year ($P < .05$).

The number of water activities engaged in was also correlated with perception of pollution. While 4 out of 10 boaters who engaged in 3 or more water activities felt that pollution was a problem, 3 out of 10 who engaged in fewer activities felt it a problem ($P < .10$). Finally, almost twice as many boaters with high school or less education felt pollution was a problem as boaters with some college training ($P < .05$).

Lack of rule enforcement. — One out of four boaters felt that lack of rule enforcement was a problem. Differences in percep-

tion of enforcement were closely related to differences in perception of other management problems. Past boating experience, activity, and group size were correlated with perception of rule enforcement.

While 3 out of 10 local boaters perceived lack of rule enforcement as a problem, only 2 out of 10 nonlocal users felt the same ($P < .10$). Over half of the nonpower boaters, twice as many as power boaters, felt that lack of rule enforcement was a problem ($P < .10$). The proportion of boaters who felt that lack of enforcement was a problem increased as boating experience increased—17 percent of first-year boaters, 29 percent of 2- to 5-year boaters, and 33 percent of 6- or more year boaters ($P < .05$). Respondents from boating groups of two or less, who tended to be fishermen, more often found lack of rule enforcement a problem than boaters from larger groups ($P < .10$).

Conflicting use.—One out of four boaters thought that conflicts between water activities were a problem. The proportion decreased as motor size and investment in boating equipment increased ($P < .001$). More than twice as many boaters who used motors of 25 horsepower or less (53 percent) felt conflicting use to be a problem as did boaters with larger motors. Forty-four percent of nonpower boaters felt it to be a problem. Although half of the boaters with \$600 or less invested in equipment felt conflicting use to be a problem, only 14 percent of those with \$3,000 or more invested felt the same. Whether a boater was a fisherman or not influenced his perception of conflicting use. While only 2 in 10 nonfishermen felt it was a problem, nearly 5 in 10 fishermen thought so ($P < .05$).

Where motors of different sizes are permitted, and where fishing is allowed in addition to other activities, the manager can expect conflicting attitudes toward water use. The boater with a large motor appears to be unaffected by boaters with small motors. The opposite is not true—fishermen are influenced negatively by other activities but they have little influence on other activities.

Reaction to Management Proposals

Campers

As recreation pressures increase, controls are necessary to maximize the amount and quality of recreation while preserving the resource (*Lime and Stankey 1971*). Yet managers have often been reluctant to control use because of anticipated adverse reaction.

The reactions of campers to seven control proposals were investigated: limiting the number of people allowed to use a campground; charging increased entrance fees; limiting all camping to designated areas; strengthening enforcement of rules and regulations; increasing patrols by uniformed law enforcement officers; developing more facilities; and restricting further campground development along the water.

Direct controls on use.—Campers were asked whether they felt capacities should be established for developed campgrounds and use kept at or below these levels.

Half the campers felt that capacities should be established and enforced. When asked why they felt this way, nearly 7 in 10 said that such control would eliminate overcrowding. Reasons for opposing controls were equally divided among: "It would be unfair to people traveling long distances," "all people have the right to use a public recreation area," "there simply is no need to control use because no problem exists," and "maximum consideration should be given to provide for as many users as possible without controls."

Childhood residence and length of trip were significantly ($P < .05$) correlated with attitude toward use controls. Twenty-two percent of campers who grew up in farm or rural areas felt that use should not be controlled, as compared to 67 percent of campers from urban backgrounds. Campers who stayed 8 days or more showed less support for limits on use than those who stayed shorter periods—66 and 40 percent, respectively.

Entrance fees.—Campers were asked whether camping fees should be increased above the existing \$2.00. They were told

that a fee increase would more fully cover campground maintenance and development costs. Campers were also asked what fee level seemed most reasonable. Thirty-seven percent felt that, if necessary, fees should be increased; 56 percent felt that fees should not be increased; and 7 percent expressed no opinion.

Most campers felt that higher fees were justified only if additional facilities and services, like electricity and water connections, were made available at campsites. Campers who opposed higher fees argued that people should be able to use public recreation facilities at a minimal charge or free.

Practically all campers agreed that a fee should be charged. One in 10 said the fee should be less than the current \$2.00, 6 in 10 said a \$2.00 fee was about right, and the

remainder felt a fee from \$2.01 to \$3.00 was reasonable. Few campers felt a fee higher than \$3.00 should be charged, even with substantial facility improvements. The overall average of fees campers considered "most reasonable" was \$2.16 (fig. 3).

Campers from urban backgrounds were twice as likely to support an increase in fees as those from farm and rural backgrounds ($P < .05$). The total number of days they camped during their current trip was also related to campers' opinions of increased fees, with half of the campers who stayed 7 days or less approving an increased fee, as compared to 20 percent of those who stayed 8 days or more ($P < .05$).

Controlled camping.— Respondents were asked whether people should be free to camp anywhere or allowed to camp only in designated areas. Sixty-five percent felt that

Figure 3.—Central entrance points to designated campgrounds are used to control use and collect fees. Although campers feel existing fee levels are justified, most are not willing to pay more even if additional facilities are provided.

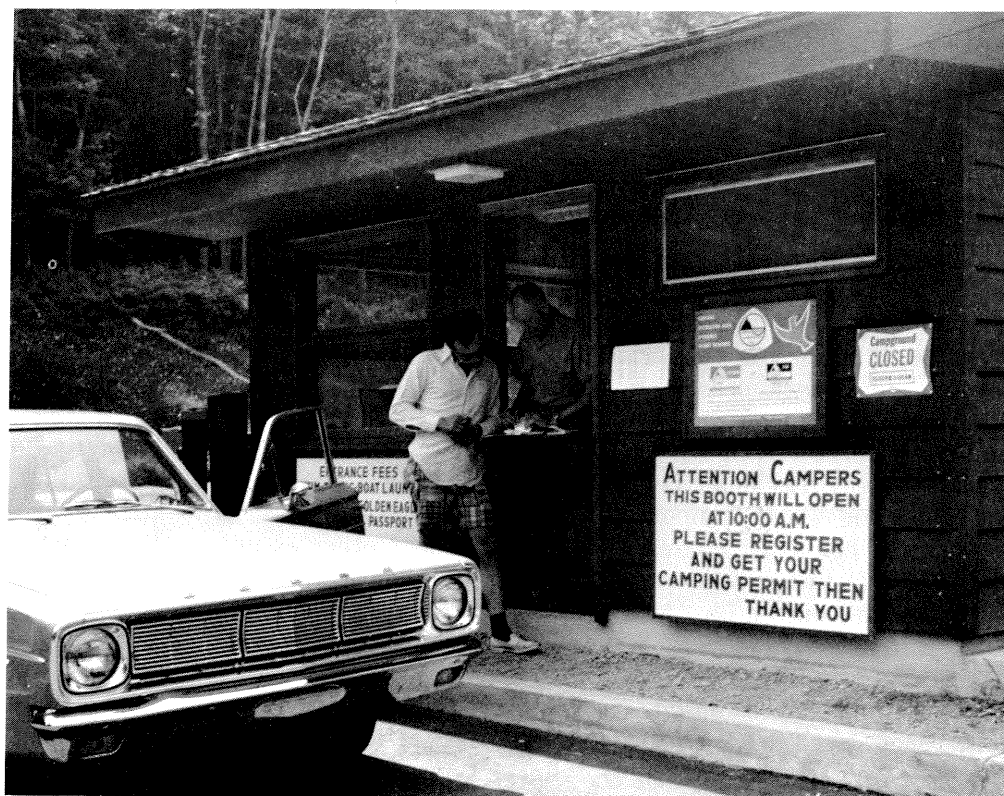




Figure 4.—On weekends and holidays, undesignated camping areas spring up all around the reservoir area wherever access is available.

camping should be restricted to specified areas. Although most agreed with a restrictive policy, respondents felt that the policy would not work unless sufficient overflow camping areas were provided (fig. 4).

Campers who opposed use controls argued that the policy would restrict the freedom of those who sought a camping experience in a semi-primitive environment. Their general opinion was that "uncontrolled camping" was not a problem.

Over half of the respondents who lived in small cities and towns supported a controlled camping policy as compared to 77 percent of those from large cities ($P < .05$). The more people camped in the reservoir area, the less likely they were to support controls. Half of those who camped for 8 days or more felt that camping should be restricted as compared to 75 percent of those who stayed 7 days or less ($P < .05$). Sim-

ilarly, campers who had camped on the Allegheny for more years showed less support for controls than first-year campers ($P < .05$).

Enforcement of rules and regulations.—All campers agreed that some form of reprimand or punishment should be given for violation of rules and regulations. When asked why they felt this way, three out of five said reprimand or punishment is necessary to prevent destruction of resources and facilities. One out of five felt that punishment was necessary to guarantee the freedom of other campers. The remainder said that the threat of punishment was the only way to enforce rules and regulations effectively.

Campers were asked what kind of punishment they would recommend for destroying vegetation or facilities. They suggested four types of punishment: fines of \$25.00 to

\$100.00 (69 percent); restricting the culprit's use of the facilities (12 percent); compulsory work to restore the area (15 percent); and a verbal reprimand for first-time offenders (14 percent).

Law enforcement.—Eighty percent of the campers felt that regular patrols by uniformed law enforcement officers were desirable. Four reasons were given: to protect campers and their equipment (24 percent); to enforce rules and regulations (20 percent); to protect the resources and facilities (18 percent); and to give information and assistance (15 percent). Campers who opposed regular patrols felt that either they were not needed or that regular patrols would restrict individual freedom.

As might be expected, only 70 percent of the campers with less than \$1,500 invested in their equipment felt the need for increased patrols, as compared to 90 percent of those with greater investments ($P < .05$).

Increased facilities.—About half of the respondents felt that additional facilities were needed. Respondents with different backgrounds, those from different sizes of camping groups, those with different kinds of camping equipment, and those with different amounts of camping experience showed different response patterns.

Respondents from urban backgrounds were twice as likely to express a need for increased facilities as those from rural backgrounds ($P < .05$). Similarly, twice as many campers from groups of three or more adults wanted more facilities as did campers from smaller groups ($P < .05$).

As would be expected, style of camping influenced campers' attitudes toward facility development. Tenters were evenly divided on the need for more facilities. Only 4 out of 10 who used tent trailers felt the need for increased facilities as compared to 6 out of 10 mobile home users ($P < .10$).

Campers who stayed relatively short periods and those who stayed relatively long periods wanted added facilities. Of those campers who stayed 3 nights or less, 64 percent wanted increased facilities as did 56 percent who stayed 8 nights or more. But only 40 percent of those who stayed from 4

to 7 nights wanted additional facilities ($P < .10$). Campers who had been coming to the Allegheny for at least 2 years felt that additional facilities were needed twice as often as did those who were camping there for the first year ($P < .05$).

Restrict shoreline development.—Six out of ten respondents disapproved of further campground development along the reservoir shoreline. But they differed according to the distance they traveled, their camping style, and their past camping experience. Campers who had traveled less than 100 miles to reach the reservoir showed almost twice as much support for restricting development as those who had traveled longer distances ($P < .05$). Although only 4 out of 10 tent campers were for restricting campground development, 7 out of 10 mobile home campers supported it ($P < .05$). Campers who had camped on the reservoir for 2 years or more were more likely to support restricted development than those who were camping there for the first year ($P < .05$).

Boaters

As the demand for water-based recreation grows, managers are increasingly concerned with maximizing use without adversely influencing either water quality or boater safety. Boaters were asked for their views on five water-management policies: zoning the reservoir for recreational uses; charging boat-launching fees; increasing punishment for violators of water regulations; increasing water patrols; and increasing facilities.

Zoning.—Four out of 10 boaters felt that recreational uses of the reservoir should be separated by zones. Reasons given were that each water activity could proceed unhindered and that boating would be safer. Major reasons for opposition to zoning were that zoning simply was not needed and that it would unduly restrict individual freedom.

Boaters' attitudes toward zoning differed with characteristics of the boating group. For example, only 37 percent of the respondents from groups with children supported zoning, but 51 percent from groups without children supported it ($P < .05$). Boaters under 50 years of age were almost twice as

likely to support zoning as those over 50 ($P < .01$).

Part of the difference in boaters' attitudes toward zoning depended on their activities. Although 73 percent of the respondents who fished favored zoning, only 39 percent of those who did not fish felt zoning was needed ($P < .05$). The more active boaters were less likely to support zoning. Half of the boaters who engaged in only one water activity favored zoning, while 3 out of 10 who participated in two or more activities supported it ($P < .05$). Fifty-five percent of the respondents who did their boating within 1 mile of their launch site supported zoning, as compared to 38 percent of those who visited more remote parts of the reservoir ($P < .05$). Boaters who also camped were twice as likely to support zoning as day-use boaters ($P < .05$).

Launching fees.—Boaters were evenly divided on their attitude toward boat-launching fees. Of those who opposed launching fees, half felt that the public should not be charged for using public boat launchings. Another ten percent said that launching fees would discriminate against the economically disadvantaged. Others felt that launching fees should be included in camping fees and that separate launching fees would be appropriate only for day-users.

Boaters who were for charging a fee said it would be justified only if existing launching facilities were improved. The daily fee suggested by 9 out of 10 boaters who supported launching fees averaged \$1.25. Some boaters felt an annual fee would be more equitable.

The only difference among groups in their attitude toward launching fees was that twice as many respondents from groups without children were willing to pay a fee as those from groups with children ($P < .05$). A closely correlated variable, total group size, showed a similar relationship.

Punishment for violations.—Nearly all boaters favored some form of punishment for violation of water regulations. Half of them felt that adequate punishment would prevent damage to the reservoir and improve water safety. One-quarter felt punish-

ments were necessary to protect individual freedom.

When boaters were asked what kind of action should be taken against first-time violators, responses were equally divided among a verbal reprimand, suspension of boating privileges, a mandatory water safety education program, and a fine of from \$1 to \$100.

Regular water patrols.—Boaters were asked whether they felt regular water patrols were needed. Eighty-eight percent said they were. Half of those who favored patrols felt they were needed to enforce rules and regulations. Another one-quarter said regular patrols would improve water safety, and 10 percent said patrols would provide assistance when needed. No characteristics of the respondent or group were found to be related to the boater's attitude toward regular water patrols.

Increase facilities.—Overall, 6 out of 10 boater-respondents wanted more boating facilities, such as docks, launching sites, and marinas. But this attitude was not shared evenly by all segments of the boating population.

Although 78 percent of the boaters under 40 years of age expressed a desire for more facilities, only 40 percent of those 40 or over felt the same ($P < .05$). Local boaters—those who had traveled 25 miles or less—were twice as likely to express a desire for increased facilities as boaters who had travel 200 miles or more ($P < .05$).

The length of time boaters were on the reservoir the day they were interviewed was also related to their attitude toward facility needs. Among day-use boaters, 7 out of 10 of those who boated 4 hours or less wanted increased facilities, as compared to 4 out of 10 of those who boated 5 hours or more ($P < .01$). Fifty-nine percent of boaters who camped overnight at campgrounds accessible by boat desired increased facilities.

The type of boating equipment and the amount invested in it were related to the boater's attitude toward the need for more facilities. Among power boaters, those who used motors of 30 horsepower or more were three times as likely to express a desire for increased facilities as those who used small-

er motors ($P < .01$). The proportion of boaters who wanted more facilities also increased as the amount invested in equipment increased—17 percent, 53 percent, and 64 percent, respectively, for boaters with equipment investments of less than \$600, \$600 to \$1,500, and more than \$1,500 ($P < .01$).

MANAGEMENT IMPLICATIONS

The results of this study have direct application to planning and management of the Allegheny Reservoir area. But the information should be useful in other places where management decisions need to be made and where knowledge of the recreation user, his attitudes and opinions, is incomplete. Our data on the characteristics of recreation users can be compared to the characteristics of users in other areas to estimate the applicability of our results.

Differences Between Users

Few differences were found between campers and boaters in age, income, or occupation. They did differ, however, in past visitation, length of stay, distance traveled, education, investment in equipment, group composition, and recreation activities.

Recognition of similarities and differences between groups of users provides insight into their needs. For example, both campers and boaters averaged more than 5 years of previous experience, but campers were more likely to be first-year visitors. Knowing this makes it possible to direct orientation programs toward those most in need of them.

Information on how long people stay is also valuable in making management decisions. In this study, over half of all campers stayed 6 days or more. Half of the boaters were day-users. Most boaters who camped stayed 5 days or less. Although most boating takes place on weekends, camping is more evenly distributed through the week. This information can help to establish more effective administrative staffing and maintenance schedules, and to develop policies designed to reduce peak use pressures.

A relationship was found between distance

traveled and length of stay—the farther people traveled, the longer they stayed. This relationship has direct application to facility and administrative planning. Data on the origins of visitors can be used to make consumption forecasts that reflect changes in population distribution and travel systems. Visitor-origin data can also be used to direct information and education more selectively through press releases, radio, and television.

The modern camper is often thought of as using highly mobile, self-contained, sophisticated camping equipment. Our study results indicate that this type of camper has not entirely replaced the conventional tent camper. On the other hand, 95 percent of the boaters used power boats, and most used motors of more than 40 horsepower. These different visitors require different kinds of facilities. As this study shows, users are not unanimous in their assessment of facility needs.

Both differences and similarities were found between campers and boaters. These can be important considerations in planning and designing facilities.

User Satisfaction

Although managers commonly feel that recreation resources are overused, neither group in this study felt overuse to be a serious problem. They tended to see "overuse" as crowding that influenced their own recreation experiences. Few related overuse to impact on natural resources. At least in the mind of the user, the carrying capacity of a recreation resource is determined more by the effect of crowding on user satisfaction than by site deterioration (fig. 5).

When asked whether capacities should be established and use limited to them, half of the campers felt such a policy would be desirable. Planners and managers should recognize that the level of recreation use can directly influence the quality of the experience. The exact influence that a controlled-use policy would have on user satisfaction is not presently understood.

Our findings support the notion that the carrying capacity of a recreation area is not

Figure 5.—The Allegheny Reservoir near Cornplanter bridge. As recreation use increases from spring to summer, crowding results in physical and biological site degeneration. Recreation users associate crowding with a reduction in the quality of their recreation experience.



determined solely by the ability of the area to sustain heavy use, but also by the ability of the management system to sustain a particular level of user enjoyment (*Chubb and Ashton 1969*).

When asked to criticize management, both campers and boaters emphasized the facilities and services provided. As basic needs are provided for, "needs" seem to become more sophisticated. For example, once an area is designated for camping, facility needs expand from pit to flush toilets, from a cold water faucet to hot showers, and from no services to concession facilities. Boaters' needs expand from launching sites to dock space; from no service facilities to intermediate facilities, such as bait shops, boat rentals, and tour boat rides, and, eventually, to the sophisticated services offered by a full-service marina. Planners and managers must understand the potential consequences of this process—haphazard facility development, added maintenance costs, and disjointed planning. Recreation managers and planners should recognize the commitment they make for the future at each planning step in the recreation development process.

Recreation users are not unanimous in their attitude toward management. Our study indicates that users who are more familiar with a recreation area—because they either come more often, stay longer, come from nearby communities, or are more active—are less satisfied with management than those who are less familiar with the area. Therefore, the manager who serves a population of users who are quite familiar with his area can expect a high proportion of relatively dissatisfied users.

Satisfaction with management also depends on user-group characteristics. For example, this study shows that larger camping groups, particularly those with children, are less satisfied than smaller groups—they require more from management. For boaters, satisfaction with management decreased as investment in equipment and income increased: higher-income users with more expensive equipment expect more from management.

Perception of Management Problems

Recreation users and managers perceived and reacted to management problems differently. While managers thought littering, unsanitary conditions, and destruction of vegetation were serious problems on the Allegheny, campers did not feel that these were problems. But uncontrolled camping was seen as a problem by both managers and campers.

The manager and recreation user look at "management problems" from different perspectives. While the manager is concerned both with meeting present demands and preserving the resource, the user is concerned with short-term consumption of the resource. These two perspectives must be carefully balanced to make equitable decisions about resource policy.

Our study indicates that different users perceive management problems differently. For campers, familiarity with the camping area increases perception of management problems—particularly unsanitary conditions and destruction of vegetation. In camping areas with a large proportion of repeat visitors, the manager can expect more critical users. Uncontrolled camping, as defined in this study, is viewed as a problem by campers who live near the reservoir. They are also likely to be repeat visitors and more familiar with the area. Managers of campgrounds that attract a high percentage of large groups are likely to have difficulty restricting camping to designated areas because, as this study shows, large groups do not perceive uncontrolled camping as a problem.

Boaters differ in their perception of management problems as campers do. Boaters who were familiar with the reservoir, either because they lived nearby, boated more often, or participated in more water activities, perceived more management problems. Boaters who used small motors or none, and those who fished, felt strongly that conflicting uses of the reservoir and lack of adequate rule enforcement were management problems. Nonfishermen and boaters who used large motors did not share these feelings.

Reaction to Management Proposals

Control of recreation use, either through space allocation or direct controls on numbers of users, is seen by both the manager and user as a necessary part of future resource planning. But support for it is not unanimous among all segments of the recreating public.

For campers interviewed in this study, childhood residence — where the respondent lived before the age of 16—was significantly correlated with attitude toward management proposals. Those with rural backgrounds showed less support for controls on recreation use, changes in fees, and added facility development, than campers with urban backgrounds. As urbanization of the population continues, the manager can expect that more campers will support these policies.

A manager who attempts to establish use controls can expect resistance from local users and from those who camp for extended periods. Campers who had camped on the Allegheny during more than 1 year were more in favor of increased facility development and less in favor of restricting further campground development along the shore than were other campers. Campers who camped for longer periods showed less support for establishing capacity use standards, restricting use to designated camping areas, and changing fees.

Camping style was correlated with campers' attitudes toward management. Tent campers were less in favor of restricting where camping is permitted and restricting further campground development along the reservoir than were other campers. Tent campers, who were usually in groups of four or fewer, also did not feel the need for increased facility development as did other campers, who were usually in larger groups.

Different segments of the boating population also react differently to management. In this study, fishermen endorsed zoning, but all other boaters, particularly those with children and those who participated in a large number of water activities, showed little support for zoning. Where many recreational activities are permitted on the same body of

water, the manager can expect controversy over the need for zoning.

Boaters from groups with children and those from larger groups were more likely to be opposed to launching fees than other boaters. Boaters who used the reservoir more—either because they lived nearby, stayed on the water longer, or had larger, more expensive boats—showed more support for augmenting boating facilities than other boaters did.

CONCLUSIONS

Any change in recreation management is likely to have different impacts on different recreation users. Resistance will be encountered unless the change affects all segments of the recreating population favorably. Recreation users are likely to support a policy “as long as it’s fair.” Thus the major issue in changing recreation management policy is defining what is “fair” and what is “unfair” to which segments of the recreating public. The following points, condensed from this study, may help to resolve this issue.

- Recreation users see an infinite resource, if not in space, certainly in time. They are concerned with their own experience which has fixed time and space requirements. This perspective needs to be reconciled with management planning.
- Changes in rules and regulations and their enforcement affect the recreation public equally. Most other changes are likely to affect local users differently from non-local users.
- Policy changes will have different impacts on users depending on how active the users are, either in terms of the number of activities they participate in or the distance they cover.
- Desires and “needs” change with the level of recreation facility development; consequently the impact of management decisions depends on the existing degree of facility development.
- Recreation users agree with decisions that are equitable and do not excessively restrict individual freedom. But the user must be given the rationale for a particular management decision.

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APPENDIX A

Characteristics of Respondents

Table 1.—Distribution of respondents by income class, compared with national population

Annual family income (dollars)	Campers (N=157)	Boaters (N=281)	Census 1970
	— — — Percent — — —		
Less than \$3,000	3	0	9
\$ 3,000 to \$ 8,000	18	16	28
\$ 8,001 to \$12,000	48	43	31
\$12,001 to \$20,000	26	30	21
More than \$20,000	5	11	11

Table 4.—Distance traveled from home to the reservoir

Distance traveled (miles)	Campers (N=157)	Boaters (N=281)
	Percent	Percent
0 - 25	12	36
26 - 50	4	7
51 - 100	17	23
101 - 150	34	21
151 - 200	15	11
201 +	18	3

Table 2.—Camping equipment

Equipment	Campers (N=157)
	Percent
Tent	36
Tent trailer	26
Trailer	24
Pickup camper	10
Mobile home	4

Table 5.—Length of stay

Length of stay (nights)	Campers (N=157)	Boaters (N=281)
	Percent	Percent
0 ^a	0	46
1 - 5	9	19
3 - 5	34	20
6 - 7	23	8
8 - 11	20	5
12 - 14	14	2

^a Did not stay overnight.

Table 3.—Motor size

Horsepower	Boaters (N=267) ^a
	Percent
10 or less	4
11 - 25	6
26 - 40	20
41 - 60	18
61 - 80	22
81 - 100	10
Over 100	20

^a Excludes 5 percent of boats that were non-powered.

APPENDIX B

Camper Questionnaire

RECREATION MANAGEMENT STUDY - ALLEGHENY NATIONAL FOREST

CAMPER INTERVIEW SCHEDULE

Interviewer Instruction: Interview the head of the camping group. If more than two groups are present at the site, select the respondent by tossing a coin. Record information below and introduce yourself as follows:

"Good morning (afternoon), sir. I am a graduate student at the New York State College of Environmental Science and Forestry at Syracuse, New York. I am conducting a study of camper opinions concerning recreation management problems on the Allegheny National Forest. The study will provide managers with the information they need to improve the recreation services that are provided for people like yourself. You have been randomly selected from among the campers here today to express your opinions concerning management policies. Can you spare 15 minutes for a brief interview? Your answers will be held in strict confidence and will be used only to represent the view of a typical camper."

Fill in this information:

Sex of Respondent: M () F ()	Type of Equipment: Tent _____
Race of Respondent: Black _____	Tent Trailer _____
White _____	Trailer _____
Other _____	Pick-up Camper _____
	Mobile Camper _____

Use intensity estimate:

Campground: Full ()
3/4 Full ()
1/2 Full ()
1/4 Full ()
Or Less ()

Interviewer: _____
Weather: _____
Date: _____
Campground Name: _____
Site Number: _____
Sampling Ratio: _____

Q 1. How many people are in your camping group today?_____

<u>Person</u> (relationship to respondent)	<u>Age</u>
(respondent)	
_____	_____
_____	_____
_____	_____

Q 2. How many years have you been camping?_____

Q 3. How many years have you been coming to the Allegheny National Forest for recreation?_____

Q 4. How many years have you camped on the Allegheny National Forest?_____

Q 5. How many days did you spend camping (anywhere) last year?_____

Q 6. a. How many days did you spend camping on the Allegheny last year?_____

b. How much of this was done on the Reservoir?_____ (days)

Q 7. What are your reasons for visiting the Allegheny National Forest this trip?

Q 8. How many nights have you already spent camping here?_____

How many more nights do you plan to stay?_____

Q 9. On this camping trip, could you tell me the places you have visited on the Allegheny National Forest and what activities you have participated in?

<u>Places</u>	<u>Activities</u>
_____	_____
_____	_____
_____	_____

Q 10. Are you a member of any conservation group, outdoor club, or other organized recreation group? (List):

<u>Memberships</u>	<u>Years in Membership</u>
_____	_____
_____	_____
_____	_____

Interviewer Read: "As a typical camper on the Allegheny National Forest, we are interested in how you feel about management of the campground around the Reservoir."

Q 11. a. Is there anything about these camping areas that you would like to see changed?_____

b. What do you feel recreation managers should do, if anything, about these problems? _____

Q 12. From your experience with these camping areas, would you say that any of the following are problems? (Ask in order and check response):

	<u>Littering</u>	<u>Unsanitary Conditions</u>	<u>Vegetative Destruction</u>	<u>Uncontrolled Camping (define)</u>
Yes	_____	_____	_____	_____
No	_____	_____	_____	_____
Undecided	_____	_____	_____	_____

Q 13. a. What is your impression of the overall use intensity of camping areas around the Reservoir? (Check):

_____ Greatly overused

_____ Slightly overused

_____ Neither overused nor underused

_____ Slightly underused

_____ Greatly underused

_____ No opinion

b. Would you say that this area is being overused today?

() Yes () No () No Opinion

Q 14. Will you tell me what the phrase "overuse" means to you?

Interviewer Read: In order to eliminate problems of overuse and improve the recreation experience, recreation managers have considered several management proposals. We would be interested in your reactions to these proposals.

Q 15. a. Some recreation managers feel that anyone should be able to camp anywhere. Other managers suggest that the number of people per day be limited to reduce problems of littering, sanitation, and vegetative destruction that result from heavy use. How do you feel?

() Agree with unlimited use

() Neutral

() Agree with limited use

b. Why do you feel this way?

- a/
- Q 16. a. Some recreation managers feel that camping should be made available at a minimum fee. Others suggest that a higher fee, more in line with those charged at similar commercial campgrounds, would insure that more money could be available for your proper maintenance and improvement of the area. How do you feel?
- ☐ () Approve minimum fee
☐ () Neutral
☐ () Approve of higher entrance fee
- b. Why do you feel this way? _____

- c. What daily fee seems most reasonable to you? _____
- Q 17. a. Some recreation managers suggest that campers should be allowed to camp anywhere on the Forest. This would provide all recreationists the opportunity to camp where they want to camp. Other managers feel that camping should only be allowed in designated areas to control littering, unsanitary conditions, and vegetative destruction. How do you feel?
- ☐ () Feel that camping should be allowed anywhere on the Forest
☐ () Neutral
☐ () Feel that camping should be only in designated areas
- b. Why do you feel this way? (Key question--probe). _____

- Q 18. a. Some recreationists feel that the enforcement of rules and regulations tends to restrict their sense of freedom in this outdoor environment. Others feel that a reprimand should be given to anyone found defacing recreation facilities or destroying vegetation. Still others feel that offenses such as these warrant some form of punishment. How do you feel?
- ☐ () Want sense of freedom?
☐ () Approve of Reprimand?
☐ () Approve of punishment?
- b. Why do you feel this way? _____

- c. (If respondent approves of reprimand or punishment). If apprehended, what sort of reprimand or punishment should be ordered? _____

a/ The question elements for questions 16 through 21 were reversed on half of the questionnaires to reduce the possibility of response bias due to question structure.

- Q 19. a. Some campers feel that uniformed law enforcement officers regularly patrolling the reservoir area would tend to detract from their recreational experience, while others feel that a patrol would be a good idea. How do you feel?
- ☐ Do not want a regular patrol
 - ☐ Neutral
 - ☐ Agree with value of a regular patrol
- b. Why do you feel this way? _____
-
- Q 20. a. Some visitors feel that the character of the Reservoir area would be ruined with the development of additional facilities. Others feel that the area should be developed with additional facilities. How do you feel?
- ☐ Additional facilities not needed
 - ☐ Neutral
 - ☐ Additional facilities are needed
- b. Why do you feel this way? _____
-
- c. (If respondent wants additional facilities). What additional facilities would you suggest? _____
-
- Q 21. a. Some managers have suggested expansion of shoreline camping facilities. But others feel that the interests of more people would be served, in the long run, if new camping facilities were constructed a mile or more away from the shoreline. How do you feel about this?
- ☐ Agree with expansion of shoreline camping facilities
 - ☐ Neutral
 - ☐ Agree with restricting additional shoreline camping facilities
- b. Why do you feel this way? _____
-
- Q 22. a. How do you feel about the number of recreationists in this vicinity today? Does it tend to reduce the area's recreational appeal?
- ☐ Yes
 - ☐ Neutral
 - ☐ No
- b. Why do you feel this way? _____
-

Interviewer Instruction: (Hand respondent cards and enter appropriate responses.) Using this card and beginning with Question 23, could you please tell me:

- Q 23. The code value of the age class in which you fall?_____
- Q 24. The code value of your present gross family income?_____
- Q 25. How many years of education you have completed--excluding trade schools and military schools?_____
- Q 26. The code value of the amount of money you have invested in your camping equipment? \$_____
- Q 27. On the average, what type of community would you say you resided in before the age of 16?

_____ Farm	_____ Major cities 100,000+
_____ Rural, non-farm	_____ Don't know
_____ City - 10,000 - 99,999	_____ Not ascertained

- Q 28. Where do you now live?_____ (City and State)
- Q 29. Are you married? _____ Yes _____ No
- Q 30. What is your present occupation?_____

_____ Housewife (Go to question 31)

_____ Unemployed

_____ Retired

- Q 31. What is your husband's occupation?_____

Interviewer Instruction:

() Check if respondent wants a copy of the study results.

THANK RESPONDENT AND TERMINATE THE INTERVIEW.

APPENDIX C

Boater Questionnaire

ALLEGHENY NATIONAL FOREST

Interviewer Instruction:

Interview the person in the returning boat who is driving the boat when it is docking. For non-powered boats, interview the head of the group, when it is docking. Interview boaters 18 years of age or older. Introduce yourself as follows:

"Good morning (afternoon) sir: I am a graduate student at the New York State College of Forestry at Syracuse, New York. I am conducting a study of boater opinions concerning recreation management problems on the Allegheny Reservoir. The study will provide managers with the information they need to improve the recreation service for people like yourself. You have been randomly selected from among the returning boaters to express your opinions concerning reservoir management policies. I know that you are in a hurry now and could not spend much time talking to me, so I have prepared a brief mail-back questionnaire for you to fill out at your leisure. A postage paid return envelope is provided for your convenience."

Interviewer fill in this information:

Questionnaire Identification Number: _____

Sex of Respondent: ☐ M ☐ F

Race of Respondent: ☐ White

☐ Black

☐ Other

Use Intensity Estimate:

Parking Lot: ☐ Full

☐ 3/4 Full

☐ 1/2 Full

☐ 1/4 Full or less

Interviewer: _____

Weather: _____

Water Condition: _____

Date: _____

Launch Site Name: _____

Sampling Ratio: _____

Name and Address: _____

Number in Boat: _____

List:

Respondent

Sex

Estimated
Age

BOATING SURVEY QUESTIONNAIRE

Questionnaire Identif No. _____

- Q 1. What kind of boat do you own? Type: (Check):
Power _____ Non-Power _____ Length _____ Horsepower _____
- Q 2. How many years have you been boating (anywhere)? _____ (years)
- Q 3. How many years have you been boating on the Allegheny Reservoir? _____ (years)
- Q 4. How many days did you boat on the Allegheny Reservoir last year? _____ (days)
- Q 5. How long were you on the water the day you received the questionnaire? _____ (hours)
- Q 6. What water activities did you participate in the day you received this questionnaire and where on the Reservoir did you participate in these activities?

Activity

Area of Reservoir

_____	_____
_____	_____
_____	_____

- Q 7. What places on the Allegheny National Forest did you visit the day you received this questionnaire and what activities, other than boating, did you participate in?

Places

Activity

_____	_____
_____	_____
_____	_____

- Q 8. For the trip when you received this questionnaire, how many days did you spend on the Allegheny? _____ (days)
- Q 9. Please list any conservation groups, outdoor clubs, or any other organized recreation groups in which you have a membership.

Group Memberships

"As a typical boater on the Allegheny Reservoir, we are interested in how you feel about management of the Reservoir".

- Q 10. a. Is there anything about the management of the Reservoir or facilities available that you would like to see changed? _____
- _____
- b. What, if anything, do you feel recreation managers should do to alleviate these problems? _____
- _____

- Q 11. From your boating experience on the Reservoir, would you say that any of the following four conditions exist? (Check how you feel along the scale provided).

Problem or Condition	Check how you feel:		
	Not a Problem	Neutral	Yes, a Problem
1. Water pollution	☐	☐	☐
2. Overcrowding	☐	☐	☐
3. Conflicting uses (boating versus fishing, etc.)	☐	☐	☐
4. Lack of enforcing rules and regulations	☐	☐	☐

- Q 12. What is your impression of the use-intensity of the Reservoir? (Check):

- ☐ Greatly overused ☐ Slightly underused
☐ Slightly overused ☐ Greatly underused
☐ Neither overused or underused ☐ No opinion

"In order to improve your recreation experience, managers have considered several management proposals. We would be interested in your reactions to these proposals."

- Q 13. ^{a/} a. Some recreation managers would like to see the Allegheny Reservoir completely free of user zones, that is, areas designated for power boating, fishing, water skiing, etc. Others have suggested that user zones may reduce crowding and improve safety. How do you feel? (Check one):

- ☐ Disagree with zoning for users
☐ Neutral
☐ Agree with user zones

- b. Why do you feel this way? _____

- Q 14. Some recreation managers feel that launching a boat on the Reservoir should be free. Others suggest that a fee, more in line with that charged at commercial facilities, would insure that more money could be available for proper maintenance and improvement of facilities. How do you feel? (Check one):

- ☐ Approve of free launching
☐ Neutral
☐ Approve of a launching fee

^{a/} The question elements for questions 13 through 17 were reversed on half of the questionnaires to reduce the possibility of response bias due to question structure.

- Q 15. a. Some boaters feel that the enforcement of rules and regulations tend to restrict their sense of freedom while on the water. Others feel that a reprimand should be given to anyone found causing unsanitary conditions or wilfully endangering other users of the Reservoir. Still others feel that offenses such as these warrant some form of punishment. How do you feel?
- ☐ Disapprove of either reprimand or punishment
- ☐ Approve of reprimand
- ☐ Approve of punishment
- b. Why do you feel this way? _____
- c. If you suggest either a reprimand or a punishment, what should be ordered if you were apprehended? _____
- Q 16. a. Some boaters feel that uniformed law enforcement officers regularly patrolling the Reservoir would tend to detract from their recreational experience, while others feel that a patrol would be a good idea. How do you feel?
- ☐ Do not want a regular patrol
- ☐ Neutral
- ☐ Agree with the value of a regular patrol
- b. Why do you feel this way? _____
- Q 17. a. Some visitors feel that the natural character of the Reservoir might be ruined with the development of additional facilities such as marinas and more day use areas. Others feel that the Reservoir needs more of this type of development. How do you feel?
- ☐ Additional facilities are not needed.
- ☐ Neutral
- ☐ Additional facilities are needed
- b. Why do you feel this way? _____
- Q 18. Do you feel that the number of boaters on the Reservoir the day you received this questionnaire tended to reduce the Reservoir's recreational appeal?
- ☐ Yes
- ☐ No
- ☐ No Opinion

"We are interested in some personal information about the boaters who use the Allegheny Reservoir. The information you provide will be held in strict confidence, and in no way will ever be identified with your response since your name does not appear on this questionnaire."

Q 19. Please check the gross family income category in which you fall?

- ☐ Less than \$5,000
- ☐ \$3,000 to \$8,000
- ☐ \$8,001 to \$12,000
- ☐ \$12,001 to \$20,000
- ☐ Over \$20,000

Q 20. How many years of education have you completed excluding trade schools and military schools? _____ (years)

Q 21. Please check the category corresponding to the amount you have invested in your boating equipment.

- | | |
|---|--|
| ☐ Less than \$300 | ☐ \$3,000 to \$6,000 |
| ☐ \$300 to \$600 | ☐ Over \$6,000 |
| ☐ \$600 to \$1,500 | ☐ Don't own equipment |
| ☐ \$1,500 to \$3,000 | |

Q 22. What size community did you live in before the age of 16?

- | | |
|---|--|
| ☐ Farm | ☐ City - 10,000 to 99,999 |
| ☐ Rural non-farm | ☐ City - 100,000 or more |
| ☐ City of less than 10,000 | |

Q 23. Where do you live now? City _____ State _____

Q 24. Are you married? ☐ Yes ☐ No

Q 25. What is your present occupation? (Please be specific) _____

☐ Please check box if you would like to receive a copy of the study results.

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE