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EXCHANGE SATISFACTION FOR FEES: WILLINGNESS TO PAY FOR A PARK ENVIRONMENT

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ABSTRACT

Instituting fees for participation in public parkland recreation may change role relations between park users and management. Social exchange theory was used to predict how a visitor's level of satisfaction with a park experience related to a willingness-to-pay fee. Three separate studies were analyzed to test a satisfaction/pay option. The results derived from exchange theory indicated that the more satisfied user of public parklands would be more willing to spend a higher dollar amount for a continued satisfying experience.

The prospect of initiating or increasing user fees for public parkland recreation has become an important recreation management issue. By instituting an expanded program of fee enhancement, a park manager's objective may be riveted to a single intention of generating additional revenue. Increasing a fee charge or deciding to implement a fee appears to be a relatively simple decision to reach. It is relatively easy to be blinded by only economic consideration since deficits portend to be a serious issue in society. But therein lies the real danger, since the fee issue appears to have a simple solution and a single economic consequent. It is also very easy to forget that "social activities have both intended and unintended consequences, and only rarely, if at all, is there a direct

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intentional connection between these individual activities and the forms that the relevant social structures take" [1, p. 35]. While economists evaluate merit associated with cost-benefit ratios, we will evaluate the merit of charging a fee (cost) by measuring an individual's level of satisfaction (reward) and possible unintended consequences associated with their willingness to pay.

Instituting a "direct user fee policy" may change role relations between visitor and management; may change visitor expectations toward programs, facilities, and services; and may increase the real potential for adversary confrontations. In the end, what may happen could well prove to be the opposite of good intentions to generate revenue. It may cost more to directly take up fees than to provide them indirectly through already available pricing methods, such as taxes. Before a direct fee method is accepted as policy, public reaction should be considered in the decision-making process. The possibilities regarding a public's expectations toward a willingness to pay a fee will be examined from the perspective of exchange theory.

TRANSACTIONAL MODEL

Social exchange theory attempts to explain transactions between parties in a larger context of options that could influence an individual's level of satisfaction. Social transaction theorists generally define behavior as an exchange of rewards and costs between individuals who are motivated by a pursuit of material and nonmaterial values such as status, social approval or satisfaction which fulfill social needs. The social exchange theorist assumes that "feelings of satisfaction, warmth, love, rejection, or bitterness, are usually all that is consciously experienced, but that these feelings nevertheless result from an unconscious assessment of the balance between outcomes, expectations and alternatives" [1, p. 40]. Perhaps unconscious is too strong a term since cognitive perceptions are really more subconsensual to borrow a term from the symbolic interactionist. While satisfaction is a relatively common approach to measuring rewards, there is also the cost side of the equation to consider. "Virtually any action resulting in reward entails some kind of associated cost" [2, p. 303]. Exchange theory holds promise for explaining how fees which may be considered part of the cost of an experience will be perceived and received by a public. If costs become too great then the frequency of pursuing that behavior will be reduced. Any final calculation of rewards will always be reduced by costs. The result of an exchange is evaluated not by some highly rational social formula, nor by just pecuniary debits or credits, but on the uncertain basis of a probable success.

Specific transactional hypotheses will be tested, but each is formulated on the most general premise of exchange theory. That premise identifies individuals as "seeking to exchange treatments at maximal advantage to themselves, providing treatments that cost as little as possible to produce . . . in exchange for treatments

that have the greatest possible value to them" [3, p. 60]. Assuming such a social process, a park user should be expected to demand something in return for willingness to pay a fee.

A number of specific questions will be asked given an exchange principle of maximizing gain–minimizing cost when applied to evaluate a park experience. First, why would any visitor to a national park who is already satisfied with their experience be willing to pay more for it? As suggested by social exchange theory, you would expect the visitors to want to pay as little as possible for as much as they can experience without additional cost. Moreover, if they were willing to pay anything, you might expect that they would not be overly generous and agree only to pay a token amount since they are already satisfied. According to Thrasher and Dunkerley [4, p. 356] and Bredemeir [5] exchange theory assumes individuals make a "series of calculations in deciding to exchange." The necessity of calculating outcomes is simply to "obtain rewards and avoid costs" as perceived by the individual. The following hypothesis extrapolates from the above discussion:

> *Hypothesis 1*–If visitors are satisfied with a park experience, there would be no need to pay more for that experience. The visitor would conserve resources and be unwilling to pay more in return for what they already have received and found to be satisfying.

Recreational opportunities in national parks have been a good bargain. A number of recent studies of park users indicate that a substantial segment of the participating public would only be willing to marginally pay or slightly increase payment for a park experience. In one case, "A substantial number of respondents (21.5%) were not willing to pay any fee" for a river visit [6]. A median payment of $3.16 was accepted as an adequate entrance fee while only 16.1 percent would pay $5.00 or more for a river visit. The vast majority (62.4%) would tolerate a fee no greater than $5.00 for a usual once-a-year experience. While parking and access to a river may not be seen as harboring large development and maintenance costs for a river visit, more developed outdoor recreation facilities such as campgrounds might sustain greater support for fee increases. In evaluating the likelihood of visitors using more developed campgrounds adjacent to a park, only 23 percent were willing to pay fifty cents more for that service. The actual charge was calculated from a base rate of $3.00 a night [7] which was at the lower end of the cost scale.

These frugal attitudes should not be surprising with respect to the direct underwriting of park costs. Strong traditional beliefs exist which are part of our democratic heritage and fosters commitment to zero cost or nearly free outdoor recreation [8]. Any question of increased fees or even charging a fee is viewed as being inconsistent with past public policy. A recent nationwide review of fees charged for entering the National Park System found only 20 percent of the parks charging a fee of anywhere from 50 cents to $3.00. Legislation has also

frozen entrance fees at 1979 levels, further limiting a direct pay policy. Thirty-one percent of the national parks charged a recreation fee that was largely based on campground receipts, but such charges are modest in comparison to commercial fees outside a park. The evidence does not favor public support for attitudes toward paying for outdoor recreation. And governmental policy, until recent questioning, has been only supportive of an indirect play-pay pricing method.

Beginning with the same exchange principle of maximizing gain and minimizing costs, there is another complimentary viewpoint which argues that costs are concomitant for the benefit received from a park experience. Rewards will be proportional to costs. If the value of a reward is high then we would expect that the cost in achieving it would also be proportionately high [4]. Because the visitors' experience provides good value, there would be no question of providing additional support. Since satisfaction is already so widespread among park visitors, it is expected that they would be more than willing to pay for continued support of the parks. The following hypothesis represents such an alternative position:

> *Hypothesis 2*–If visitors are satisfied with a park experience, there would be a willingness to provide support for that experience by offering payment. Visitors would be more willing to spend a higher dollar amount for a continued satisfying experience.

Research studies have repeatedly found that there is an increased willingness to pay for an outdoor experience. Knetsch and Davis for example, found that a "zero unwillingness to pay was encountered in only three interviews. At the other extreme, one or two respondents were unable to place an upper limit on their willingness to pay" [9, p. 183]. More recently, social surveys of outdoor recreationists clearly indicate that a majority of visitors are agreeable to paying for an outdoor experience. Licensing programs have traditionally underwritten programs in areas such as hunting, fishing, and boating and more recently are being extended to other outdoor activities. Visitor services like the tram transportation system in Grand Canyon are favorably viewed by visitors, in which "63.5 percent favored adding a dollar to the entrance fee, 33.4 percent favored a $2- to $3-dollar ticket" [10, p. 7].

The argument supporting this premise of exchange theory is grounded on the belief that outdoor recreation costs are excellent value for the benefits received. Consequently, costs need to be increased to upgrade the perceived value of the experience which the visiting public holds in high esteem. The marginal increase required appears to be an insignificant price to pay when you consider the years of support received through public taxation. Present costs are judged to be a bargain in comparison to commercial recreation. Whether this kind of explanation possesses any merit will be tested along with the converse hypothesis claiming visitors to a park quite likely would not be willing to pay since they already possess what they desire. The implications of these two

hypotheses will be examined by analyzing data from three separate site-specific surveys conducted over a number of years.

METHODOLOGY

Three independent studies were used to test the two previously stated hypotheses: 1) the Whitewater River Study [11]; 2) the Rafting Study [12]; and 3) the Deer Hunting Study [13].

Study I: Whitewater River Study

Study area – The Big South Fork of the Cumberland River, located within the boundary of the Big South Fork National River and Recreation Area (BSFNRRA), served as the study area. The BSFNRRA is located in north central Tennessee and southeastern Kentucky and is under the jurisdiction of the National Park Service. The river segment between Burnt Mill Bridge and Leatherwood Ford was identified as the specific river study area. This river segment is the most heavily floated. The distance of the river trip is approximately eleven miles with an average drop of twenty feet per mile and takes about five and a half hours. This river stretch has a difficulty rating of Class III-IV.

Sampling procedure – Sampling was conducted during the Spring of 1984 from March through May. Individuals were contacted at Leatherwood Ford, the most popular take-out location. An attempt was made to contact all individuals fourteen years of age or older. Sampling was conducted between the hours of 1:00 p.m. and 8:00 p.m. Sampling was limited to a seven-week period on weekends during which time thirteen days were selected for sampling. The greatest amount of use occurs on weekends during the specified time period and it was determined that further sampling would not be necessary.

Each individual contacted was requested to complete a "River Use Survey Form" which took one to two minutes to complete. A total of 402 visitors completed this form. The purpose of the contact form was to obtain names and addresses of visitors. These names and addresses were used to select a representative sample of river visitors who would then receive a questionnaire in the mail at a later date.

Data collection instrument – A questionnaire was sent to a representative sample of visitors. Three follow-up reminders were utilized to increase the response rate. Of the 263 questionnaires mailed, 233 were returned for a response rate of 88.6 percent [11].

The questionnaire ascertained information on visitor satisfaction and willingness to pay for a river visit. Respondents indicated their feelings about each of twelve satisfaction-related statements as to whether they agreed or

disagreed with each statement. Respondents rated these items on a 5-point Likert scale labeled: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, and 5 = Strongly Agree. Twelve items representing a visitor satisfaction dimension were combined into a visitor satisfaction index. The satisfaction index was created by summing the ratings for the twelve items for each respondent and then divided by twelve to maintain the 5-point Likert format. The monetary value an individual was willing to pay for a river visit was obtained by the following question: What is the maximum amount of money you would be willing to pay for an entry fee per river trip at the Big South Fork?

Study II: Rafting Study

Study area – The Chattahoochee River, managed by the National Park Service, includes 6,300 acres of land along a forty-eight-mile stretch of river between Buford Dam at Lake Sidney Lanier and Peachtree Creek in Atlanta, Georgia. The river segment between Morgan Falls and the Palisades Unit near U.S. Highway 41 was selected as the study area during the 1979 Chattahoochee River Raft Race. The float trip is about nine miles and takes about two and a half hours. This river stretch is characterized as non-whitewater and can be classified as Class I.

Sampling procedure – Sampling was conducted during the 1979 Chattahoochee River Raft Race. Throughout the day of the raft race, a team of twenty interviewers obtained the names and addresses of rafters between the hours of 9:00 a.m. and 7:00 p.m. at fixed time intervals. Rafters were contacted at four locations: 1) starting location of Morgan Falls, 2) finishing location of Palisades Unit, 3) Johnson Ferry Road, and 4) Powers Ferry. Interviewers obtained the names and addresses of 825 rafters.

Data collection instrument – A questionnaire was sent to each rafter contacted. In an effort to obtain a respectable response rate, two follow-up reminders were sent to all rafters who had not returned the questionnaire at each follow-up phase. Of the 825 questionnaires mailed, 493 were returned for a response rate of 59.8 percent [12].

The questionnaire contained items pertaining to visitor satisfaction and willingness to pay for a registration fee. Respondents indicated how satisfied they were with twenty-four satisfaction items. Respondents rated each item on a 5-point Likert scale labeled: 1 = Very Satisfied, 2 = Satisfied, 3 = Neutral, 4 = Dissatisfied, and 5 = Very Dissatisfied. The rating scale was inverted so that a higher number represented a higher satisfaction level in order to correspond with similar satisfaction ratings for the other two studies. These twenty-four items were combined into a satisfaction index. The satisfaction index was created by summing the ratings for the twenty-four items for each respondent and dividing by twenty-four to maintain the 5-point Likert format. An individual's

willingness to pay was determined by the following question: How much would you be willing to pay for a registration fee for the raft race to provide for bus transportation, litter clean-up, and other organizational costs?

Study III: Deer Hunter Study

The Big South Fork National River and Recreation Area (BSFNRRA) was the location of the deer hunting study. Authorized by Congress in 1974, the BSFNRRA preserves over 100,000 acres of river and backcountry in southeast Kentucky and northcentral Tennessee. Hunting has been traditionally good in the area. Popular game includes white-tailed deer, raccoon, gray squirrel, rabbit, grouse, dove, and quail. The specific study area was located in the Tennessee portion of the BSFNRRA.

Sampling procedure – Sampling was conducted during the 1984 fall deer hunting season–November 17 through December 2. Sampling occurred for nine days during the deer season. The majority of the sampling occurred on weekends. On selected sampling days, individuals were contacted between 8:00 a.m. and 6:00 p.m. Interviewers contacted deer hunters at campsites, along access roads, deer check-in stations, campsite permit stations, and the visitor center. An attempt was made to contact all deer hunters fourteen years of age or older at these locations.

Each deer hunter contacted was requested to complete a "Deer Hunter Contact Form" which took one to two minutes to complete. A total of 300 deer hunters completed this form. The purpose of the contact form was to obtain the names and addresses of deer hunters in order to mail a questionnaire at a later date.

Data collection instrument – A questionnaire was mailed to 300 deer hunters who completed the contact form. In an effort to increase the response rate, three follow-up reminders were sent to all deer hunters who had not returned the questionnaire at each follow-up phase. Of the 300 questionnaires mailed, 260 were returned for a response rate of 86.7 percent [13].

The questionnaire contained items designed to determine deer hunters' satisfaction with their visit and their willingness to pay for a one-day hunting permit. Five satisfaction related statements were rated by respondents as to whether they agreed or disagreed with the statement. These statements were rated on a 5-point Likert scale labeled: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, and 5 = Strongly Agree. These five statements were then combined into a visitor satisfaction index. The satisfaction index was created by summing the rating for the five items for each respondent and then divided by five to maintain the 5-point Likert format. An individual's willingness to pay for a one-day hunting permit was obtained by the following question: What is the maximum amount of money you would be willing to pay

for a one-day permit to hunt deer with a firearm at the Big South Fork Recreation Area?

DATA ANALYSIS

Data analysis for each of the three studies involved Pearson correlation analysis and analysis of variance with an associated Duncan's multiple range test. Pearson correlations were used to determine the relationship between individuals' satisfaction with their visit and their willingness to pay. To examine the previously stated hypotheses, visitor satisfaction was determined to be the independent variable with willingness to pay the dependent variable. User satisfaction was separated into three satisfaction levels labeled low, medium, and high for each study in order to obtain better referents relative to the fee levels involved. The cells were kept in approximate equal proportion to the total sample for each study. Analysis of variance was used to determine if willingness to pay differed among the three satisfaction levels.

RESULTS

Visitor Satisfaction

Table 1 shows the ratings of visitor satisfaction for the three studies. The mean values for the studies (4.02, 3.61, 4.03) indicate that visitors were satisfied with their experience. Furthermore, Cronbach's alpha indicates the strength at which the items in each satisfaction index represent the common underlying dimension of visitor satisfaction. These values range from 0.73 for the whitewater visitor satisfaction index (Study I) to 0.89 for the rafting visitor satisfaction index (Study II). These values represent acceptable alpha values [14].

Willingness To Pay

Willingness to pay information is displayed in Table 2. Whitewater river visitors were willing to pay $4.19 for an entry fee per river trip on the Big South

Table 1. Visitor Satisfaction Indices for the Three Studies

Criteria	*Study I (N = 216)*	*Study II (N = 172)*	*Study III (N = 241)*
Mean[a]	4.02	3.61	4.03
Standard deviation	0.39	0.53	0.67
Cronbach's alpha	0.73	0.89	0.74

[a] Mean values represent visitor ratings on a 5-point Likert scale with the higher rating indicating a greater level of visitor satisfaction.

Table 2. Visitor's Willingness to Pay Values for the Three Studies

Criteria	*Study I (N = 216)* $	*Study II (N = 172)* $	*Study III (N = 241)* $
Mean	4.19	7.12	2.59
Standard deviation	4.53	8.77	3.63
Range	0.00-25.00	0.00-98.00	0.00-25.00

Fork of the Cumberland River. Rafters on the Chattahoochee River were willing to pay $7.12 for a registration fee. Deer hunters were willing to pay $2.59 for a 1-day hunting permit at the Big South Fork National River and Recreation Area. All willingness to pay values are modest in respect to the cost of providing the recreation opportunity.

Relationship between Visitor Satisfaction and Willingess to Pay

Pearson correlation coefficients were calculated for each study expressing the relationship between visitor satisfaction and willingess to pay. The correlation value for two of the three studies revealed a significant relationship between visitor satisfaction and willingness to pay (Table 3). There was no significant relationship between visitor satisfaction of deer hunters and the maximum amount of money deer hunters were willing to pay for a one-day hunting permit (r = 0.09; p = 0.076) but the results pointed in the right direction. The satisfaction level of whitewater river visitors was positively related to their willingness to pay for an entry fee per river trip; the more satisfied river visitors were, the more they were willing to pay (r = 0.21; p = 0.001). Similar findings occurred for rafters on the Chattahoochee River. The correlation value of r = 0.21 and associated probability, p = 0.003, indicates that the more satisfied rafters were, the more they were willing to pay for a registration fee.

Analysis of Variance

Pearson correlation analysis allowed for the identification of a relationship between visitor satisfaction and willingness to pay. Analysis of variance can take this process one step further and identify differences in willingness to pay among the different satisfaction levels. The analysis of variance results are presented in Table 4.

For the whitewater river and rafting studies, there was a statistically significant difference for the amount visitors were willing to pay at the different levels of visitor satisfaction; $F = 7.93, p = 0.01$ and $F = 3.96, p = 0.02$, respectively.

Table 3. Relationship between Visitor Satisfaction and Willingess to Pay Expressed as Pearson Correlation Coefficients for Each of the Three Studies

	Willingness to Pay		
	Study I (N = 216)	*Study II (N = 172)*	*Study III (N = 241)*
Visitor Satisfaction	$r = 0.21$ $p = 0.001$	$r = 0.21$ $p = 0.003$	$r = 0.09$ $p = 0.076$

Table 4. Analysis of Variance Results Reflecting the Differences Among Satisfaction Levels and Willingness to Pay for the Three Studies

Satisfaction Index Level	*Willingness to Pay*		
	Study I	*Study II*	*Study III*
Low	$\$3.33_a$	$\$6.12_a$	\$2.42
(*N*) =	(80)	(58)	(85)
Medium	3.55_a	5.64_a	2.33
(*N*) =	(75)	(58)	(70)
High	6.04_b	9.80_b	2.97
(*N*) =	(63)	(56)	(86)
F-Value	7.93	3.96	0.74
Probability level	0.01	0.02	0.48

Note: Different subscripts within columns represents a significant mean difference for the levels of satisfaction, Duncan's multiple range test, $p < 0.05$.

In both studies, there was no difference in willingness to pay between the low and medium levels of visitor satisfaction; however, the high satisfaction group was willing to pay more than either the low or medium groups (Duncan's multiple range test, $p \leqslant 0.05$). There were no differences among the three levels of satisfaction for deer hunters and the amount they were willing to pay ($F = 0.74, p = 0.48$).

DISCUSSION

A park experience is comparatively inexpensive, especially when conducted on a day-use basis or combined with a vacation and holiday trip. The public's recognition of the value of a park experience and need to ensure its continuence when satisfaction is high may be a prime motivation behind a willingness to pay. There are also various institutional objectives which can be obtained through a

fee. "In the broad context of social policy, there are other goals in addition to economic efficiency, e.g., equity, community stability, and environmental quality" [15, p. 196]. These objectives are not to be confused with providing a user with a satisfying opportunity.

That a fee system may be used to ration a scarce resource, reduce negative ecological impacts, and generate revenues for self-sufficiency are just a few of the other motivations for instituting a fee-collection program. At present, no coordinated universal policy exists for public land management agencies to direct the collection of fees. In fact, park managers may be opposed to such a practice, given no "official" uniform policy. In a recent study, "It was evident that a significant number of (park managers) were less than enthusiastic (and even openly hostile) to any type of park fee or revenue management activity" [16].

A number of distinguished founders of the park movement also promoted a free-access policy for the masses by applying a libertarian ideology to outdoor recreation. Cockrell and Wellman [8, p. 9] "believe there are philosophical, psychological and social reasons why a democratic society should provide parks and recreation opportunities for its populace at no or negligible cost to the user." Most of these reasons relate to expression of "personal freedom," a cherished value which could be encumbered by a requirement to pay. It would seem from our analyses, however, that a level of increasing satisfaction could override any encumbrance posed by a requirement to pay. Whatever the causes for high satisfaction, they initiate a reciprocal response from the visitor to increase their willingness to pay. The fee charges, especially such token sums now exacted, may be too small a price for the visitor to pay for a very satisfying experience, and despite what some planners, managers and bureaucrats think and feel.

The social exchange model provided a theoretical framework to test hypotheses which offered two options for cost and reward. We found support for the argument that if park visitors are highly satisfied, they will be willing to pay more for a park experience. Park management is faced with the requirement of making available a satisfying experience if they intend to charge a fee. That is certainly part of the price park management will pay if a widespread fee system is adopted. Such a requirement poses a necessary burden of responsibility. Increasing interaction between staff and user will develop if a fee system is adopted to ensure continued satisfaction with services, facilities and programs offered in the park. Passive visitor management will not be a viable option. Park managers will have to compete for disposable income which changes their role requiring much greater knowledge and understanding of the user market.

REFERENCES

1. P. F. Secord, The Origin and Maintenance of Social Roles: The Case of Sex Roles, in *Personality Roles, and Social Behavior*, W. Ickes and E. S. Knowles, (eds.), Springer-Verlag, New York, pp. 33-54, 1982.

2. J. Stolte, Sociological Exchange Theory: Ascent of the Structural Viewpoint, *International Review of Modern Sociology*, pp. 299-324, January-December, 1981.
3. M. Athay and J. A. Darley, Social Roles as Interaction Competencies, in *Personality Roles, and Social Behavior*, W. Ickes and E. S. Knowles (eds.), Springer-Verlag, New York, pp. 55-76, 1982.
4. M. Thrasher and D. Dunkerley, A Social Exchange Approach to Implementation Analysis, *Social Science*, *21*:3, pp. 349-382, 1982.
5. H. C. Bredemeir, Exchange Theory, in *A History of Sociological Analysis*, H. Bottomore and R. Nisbet (eds.), Heinemann, London, 1979.
6. C. D. McDonald, W. E. Hammitt, and F. D. Dottavio, An Individual's Willingness to Pay for a River Visit, Proc., 1984 National River Recreation Symposium, Baton Rouge, Louisiana, pp. 605-618, 1984.
7. W. E. Hammitt and C. S. Stromeier, The Likelihood of Public Campers to Use Nearby Private Campgrounds, *Journal of Travel Research*, pp. 15-17, Summer, 1983.
8. D. Cockrell and J. D. Wellman, Democracy and Leisure: Reflections on Pay-as-You-Go Outdoor Recreation, submitted to *Journal of Park and Recreation Administration*, pp. 1-13, 1985.
9. J. Knetsch and R. K. Davis, Comparisons of Methods for Recreation Evaluation, in *Land and Leisure*, D. W. Fisher, G. E. Louis, and G. B. Priddle (eds.), Maaroufa Press, Chicago, pp. 175-191, 1973.
10. A. H. Underhill, Grand Canyon National Park Visitors, Technical Report No. 14, C.P.S.U., University of Arizona. pp. 1-35, 1984.
11. C. D. McDonald and W. E. Hammitt, A Whitewater Visitor Survey of the Big South Fork National River and Recreation Area, Report on file, Southeast Region, National Park Service, Atlanta, Georgia, 185 pp., 1985.
12. A. Aveni, Ramblin' Raft Race: A Single Variable Summary of Floaters on the Chattahoochee River, Report on file, Southeast Region, National Park Service, Atlanta, Georgia, 1980.
13. C. D. McDonald and W. E. Hammitt, A Deer Hunter Survey of the Big South Fork National River and Recreation Area, Report on file, Southeast Region, National Park Service, Atlanta, Georgia, 151 pp., 1985.
14. R. Zeller and E. Carmines, *Measurement in the Social Sciences*, Cambridge University Press, New York, 198 pp., 1980.
15. D. H. Rosenthal, J. B. Loomis, and G. L. Peterson, Pricing for Efficiency and Revenue in Public Recreation Areas, *Journal of Leisure Research*, *16*:3, pp. 195-208, 1984.
16. National Park Service, Southeast Regional Office, Atlanta, Georgia, Service-wide Revenue Strategies Assessment Report, 85–05, pp. 1-27, 1985.

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