The Role of FEES *in Campers' Decisions*

by Wilbur F. LaPage

U.S. FOREST SERVICE RESEARCH PAPER NE-118
1968
NORTHEASTERN FOREST EXPERIMENT STATION, UPPER DARBY, PA.
FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE
RICHARD D. LANE, DIRECTOR

The Author

WILBUR F. LAPAGE, a project leader for research in the recreational use of forest lands, joined the Forest Service in 1959 and transferred to the Northeastern Station in 1962. His training includes Bachelor's and Master's degrees in forestry from the University of New Hampshire and advanced work in social research methods at the University of Michigan; and he is now completing requirements for a doctorate in public administration at Syracuse University.

The Role of FEES in Campers' Decisions

TO CAMP OR NOT TO CAMP?

THE DECISION that sends a family on a camping trip to a public park or a private recreation area raises all sorts of questions for the resource manager: To build a new campground, or not?; to raise camping fees, or lower them?; to lengthen the camping season, or shorten it?; how to advertise, and where?; and what new services and facilities to provide?

Although it takes thousands of individual family decisions to generate these administrative problems, we often must look to the individual decisions themselves for a means of resolving the problems. For example, what role do camping fees play in decisions of where to camp and how long to stay? How influential is a campground's advertising, accessibility, and reputation? How far in advance is the family camping decision made? What alternatives are considered, and how are they eliminated?

To probe into some of these questions, the Northeastern Forest

Experiment Station, in cooperation with the New Hampshire Division of Parks, made a study of 712 family camping groups to determine how user-fees affect their camping decisions. The study was designed to survey a cross-section sample of campers who visited the New Hampshire state park system between mid-June and Labor Day 1967.[1]

Our sample of 712 camping families (approximately 1 percent of the state park system's 1967 attendance) averaged four camping trips, involving 23 days during the year. Collectively, they camped on 2,900 separate occasions; consequently they made at least that many camping decisions in 1967.

THE DECISIONS

The decision to camp is not a simple, spontaneous, one-step affair. At least three decisions are involved — to camp?, where to camp?, and when to camp? A number of predisposing forces influence all three decisions, such as: (1) the amount and variety of a family's past camping experience; (2) the amount of money invested in camping equipment; (3) preferences for specific campground facilities, locations, and management; (4) awareness of alternatives; and (5) a variety of other factors such as weather, health, and personal finances.

The Main Influences

The more money a family has invested in camping equipment, the less the problem in making the first decision — to camp. This is practically predetermined. So, according to how much our sample of campers has invested for equipment, we should expect to see different patterns of decision-making. For example, large investments seem to lead to longer periods of planning before a camping trip:

Equipment investment (dollars)	*Destination selected over 1 month ago (percent)*
Less than 250	24
250 to 1,000	33
Over 1,000	43

[1] See Appendix for a description of the sampling procedures.

Table 1.—*Differences in factors that influence camping decisions among three categories of past camping experiences.*

Item	Years of experience		
	0 to 1	2 to 4	Over 4
	Percent	*Percent*	*Percent*
Destination of trip decided over 1 month ago*	25	30	37
Campground reputation was most influential in the trip decision***	31	19	12
Have previously visited this campground***	33	51	64
Have invested at least $500 in equipment***	31	45	57
Expenses on this trip exceed $100*	35	40	48

* The differences in these factors among the 3 past camping-experience categories are significant at the 0.10 probability level.

*** Significant at the 0.01 level.

Similarly, a family's years of past camping experience will tend to influence not only the decision to camp, but also where and when to camp. These two types of investment — time and money—are inevitably related (table 1). Not only do the more experienced campers tend to have larger investments in equipment: their trip expenses run higher too.

In deciding whether to visit a campground where they have not previously camped, the family tend to evaluate it by one of four methods: (1) by reading descriptions of it in camping directories — 19 percent; (2) by questioning friends who may have camped there — 13 percent; (3) by inspecting the campground in advance — 6 percent; or (4) by using some combination of all three — 58 percent. Almost none of the campers used all the methods we suggested in the interview; and very few wrote to the campground for information, checked with camping clubs, or went to the campground with a contingency plan in mind in case they did not like it.

Decisions of when and where to camp did not follow any single pattern. Most of the decisions for a camping trip were made at least 2 weeks in advance:

Date of decision	*Percent of sample*
Today	12
Yesterday	9
In the past week	23
2 to 4 weeks ago	22
Over 4 weeks ago	32

Despite lengthy planning periods, few campers (27 percent) considered any alternative destinations, and only 5 percent of the campers considered more than one alternative. And because camping is basically a family affair, we were surprised to find that children and family-group decisions played such a small roll in determining when and where to camp:

Who made the decision?	*Percent of sample*
Yourself or spouse	59
Your children	4
Someone else	14
Group decision	6
Don't know	17

Familiarity with the Destination

Because a campground visit at some time in the past is known to influence subsequent trips to the same campground,[2] we decided to examine the camping decisions of campers having different 1967 visit patterns to the New Hampshire park system. Some campers (32 percent) were extremely loyal to the system and camped almost exclusively at New Hampshire parks. Another group (40 percent) camped regularly within the park system, but also did about one-half of their annual camping elsewhere. And a third group (28 percent) used the system on a transient basis, spending only about 15 percent of their 1967 camping time at New Hampshire parks. The loyalty of these three groups toward the park system in 1967 is consistently reflected in their camping patterns during the previous three camping seasons (table 2). And there is a direct relationship between this loyalty

[2] LaPage, Wilbur F. SUCCESSFUL PRIVATE CAMPGROUNDS: A STUDY OF FACTORS THAT INFLUENCE THE LENGTH AND FREQUENCY OF CAMPER VISITS. U. S. Forest Serv. Res. Paper NE-58. 22 pp. NE. Forest Exp. Sta., Upper Darby, Pa. 1967.

and the incidence of a past visit to the campground where the campers were interviewed:

	Campers having been there before (percent)
Transients	28
Regulars	56
Loyalists	67

One of the most striking differences between these three groups is in the trend of their camping participation. From 1964 to 1967, the average number of days camped per year increased by nine days for the transients and by four days for the regulars, but declined by one day for the loyalists (table 3). This more active participation by transients is also reflected in their generally larger investments in camping equipment.

Table 2.—*The percentages of campers who did less than one-third of their annual camping at New Hampshire State parks during 1964, 1965, and 1966, according to three "brand loyalty" classes**

Loyalty class	1964	1965	1966
	Percent	*Percent*	*Percent*
Transients	91	91	85
Regulars	62	57	52
Loyalists	50	51	43

*These percentages are based on the actual number of campers in each loyalty class who camped in each of the given years. There is an annual accretion of between 10 and 16 percent, with the result that out of 704 campers in 1967, only 505 were also campers in 1964.

Table 3.—*The average number[1] of days camped annually by campers who use the New Hampshire state parks system on a transient, regular, and exclusive basis*

Year	Transients	Regulars	Loyalists
	Days	*Days*	*Days*
1964	20	21	18
1965	22	22	17
1966	23	23	17
1967	29	25	17

[1]Corrected to reflect only those campers in the sample who actually camped in each of the years.

Though the loyal campers camp less per year, their individual visits are longer, and are nearly always at a New Hampshire park; and this makes them a very important part of the system's clientele. The average visit lengths for each of the groups were: transients 3 nights, regulars 5 nights, and loyalists 7 nights.

In addition to these differences in camping trend and style, there are a number of significant differences in their decision processes and their travel attitudes. Decisions of when and where to camp were made less than 48 hours in advance by 40 percent of the transients, by 33 percent of the regulars, and by 10 percent of the loyalists. Also, when seeking information about campgrounds they might like to visit, loyalists are much more likely than transients (21 percent versus 7 percent) to seek the advice of other campers. Transients, on the other hand, were about twice as likely to consult guidebooks and directories (35 percent versus 15 percent).

Almost three-fourths of the transient campers would travel over 100 miles for a 2-day camping trip, over 200 miles for 3 to 5 days, and over 500 miles for longer trips. Only about one-third of the loyalists would travel these distances for the same periods of camping.

ATTITUDES TOWARD USER-FEES

Willingness to Pay

Practically without exception, these campers were in favor of paying a fee for the use of public campgrounds. Only seven campers (1 percent) opposed the idea of charging, or were undecided whether they favored a fee or not. Most of these campers defended the fee as a legitimate means of paying the cost of maintaining public camping facilities. Four campers also suggested that fees were a useful method of minimizing crowded campground conditions; and they said that if fees were to be reduced they would probably camp less frequently.

On their current trips, these 712 families spent nearly $15,000 in camping fees, an average of $20 per family (not all at New

Table 4. — *Percent of campers whose camping frequency would not change at fee levels of $1 to $5, by average daily expenditure categories on current trip*

Fee level	Daily expenditure		
	Under $10	About $14	Over $16
	Percent	*Percent*	*Percent*
$1	81	86	92
$2	96	96	94
$3	72	77	79
$4	23	30	35
$5	9	10	16

Hampshire state parks). The amount spent on camping fees represents about one-fifth of their average total-trip expenses ($103). Daily camping expenditures spanned a wide range, but averaged about $11 per family. Campers with high trip costs were more likely to feel that their camping was too expensive, but they were also less likely to reduce their camping frequency if fees were increased (table 4).

Most of these campers felt that a reasonable charge for a campsite (comparable to the one they were camping at) would be in the $2 to $3 range; 65 percent said $3, and 30 percent favored $2. Of the remainder, 3 percent felt that $1 per night was reasonable, while 2 percent were willing to go as high as $6 for daily campsite rentals.

All the campers in this survey were paying at least $1.50 per night at areas without swimming, but not more than $3 per night at campgrounds with swimming facilities. Within this range, we found that approximately 15 percent of the campers were willing to pay more than they had paid for their campsites, and another 15 percent wanted to pay less.

At campgrounds where swimming and boating were available, campers were asked how much they would be willing to pay for their campsites if these attractions were not available. Sixty-five percent said they either would not come at all or would expect to pay less. At campgrounds without these facilities, 32 percent said they would be willing to pay a larger camping fee if swim-

ming and boating were made available (about $1 more). Apparently about two-thirds of the campers at both water-oriented and non-water-oriented campgrounds are attracted to these campgrounds for what they are now, and would not care to see any major change in facilities.

Methods of Payment

The way a camping fee is charged is conceivably just as influential in shaping camping decisions as the amount of the fee. For example, camping fees can be charged on a per person or per-campsite basis; they can be paid in advance or on arrival; and they can be collected manually or mechanically. A majority of the campers (64 percent) wanted the fee to be based on a flat campsite rental charge. Another 29 percent preferred a per-person charge, like that in use by the New Hampshire park system at the time of the survey. And the remaining 7 percent wanted to pay on some other basis — such as an automobile entry fee — or on a graduated scale for the use of special services and facilities.

We presented four alternative methods of payment to each camper. (1) advance payment, on a seasonal-pass basis, for the use of a single campground; (2) a seasonal pass that would be honored throughout all campgrounds of an entire park system; (3) payment by the visit; and (4) payment after the visit through a charge system. No one chose the "camp now — pay later" option. One-fourth favored advance payment, but most of these wanted a system-wide pass rather than a single campground pass.

Because the idea of a system-wide seasonal pass had already been developed for the use of federal outdoor recreation areas,[3] we pursued the method-of-payment question to see what kind of reception the federal pass had received among campers at New Hampshire state parks. Thirty-one percent of the campers had never heard of it, and 60 percent had heard of it but never pur-

[3] The Golden Eagle Passport, authorized by the Land and Water Conservation Fund Act (PL 88-578) of 1965, is not a seasonal camping pass. The annual passport will admit the purchaser, and all who accompany him in a private vehicle, to any federal recreation area at which entrance or admission fees are charged. It does not in most cases cover the cost of use-fees such as for camping facilities in developed campgrounds.

chased one. Nine percent had purchased a pass on at least one occasion, but only two campers had consistently bought one during the 3-year period in which they had been available. Of the 63 purchasers of federal recreation-area entrance permits, 33 felt that their purchase had influenced them to camp more at federal campgrounds than they otherwise would have. All 63 felt that the $7 fee for the annual pass was reasonable; and a few said that it was probably too reasonable and should have been more.

The one out of every four campers who wanted to purchase a seasonal camping pass differed from the others in several obvious but important ways. For example, season-pass advocates were not only much more likely to be on a repeat visit at the time of the interview, but they have consistently spent a higher proportion of their annual camping time at New Hampshire state parks. They also camp more frequently (5 trips versus 3 trips per year), and they spend less money per trip (under $75 on the average). A season-pass is obviously more attractive to those who use the park system regularly than it is to transients.

CAMPING FEES AND CAMPING DEMAND

The Hypothetical Demand Curve

When consumers are presented with an array of decreasing or increasing prices for a commodity, the amount of the commodity they would buy at the several price levels can be graphed to produce a demand curve for the commodity. When a hypothetical range of standardized camping fees is presented to campers, they probably cannot predict accurately the amount of camping they would buy at each fee level. So we simply asked each camper whether he would camp "much more," "much less," or "about as much as he camps now" at standard family camping fees of $1, $2, $3, $4, and $5 per night. Then by assigning an arbitrary but reasonable multiplier to the "much less" and "much more" categories, at each fee level, we could construct a rough demand curve. For example, 1967 camping frequencies could be doubled

for campers who would camp much more, and halved for those who would camp much less at each consecutively higher fee level. This procedure was followed to produce the curve shown in figure 1. The detailed procedure for constructing the curve is explained in the Appendix.

A number of assumptions are built into a curve of this type. The most critical are the reasonableness of the multiplier chosen and the depth of consideration given to answers during the interview. The contribution of the "much more" category to the curve is relatively minor, occurring almost entirely at a fee level of $1, and involving only 1 of every 7 campers (table 5). This is fortunate because there is some doubt about the validity of these responses.

At a later point in the interview, each camper was asked whether he was now camping as much as he would like, and if not why not. The responses of these campers to the latter question appears to be quite inconsistent with their intent to camp more at the $1 fee level. Of these campers, 21 said they were camping as much as they cared to, 56 would like to camp more but do not have the time, only 8 were camping less because of cost, and one actually said he was camping more than he liked to at present.

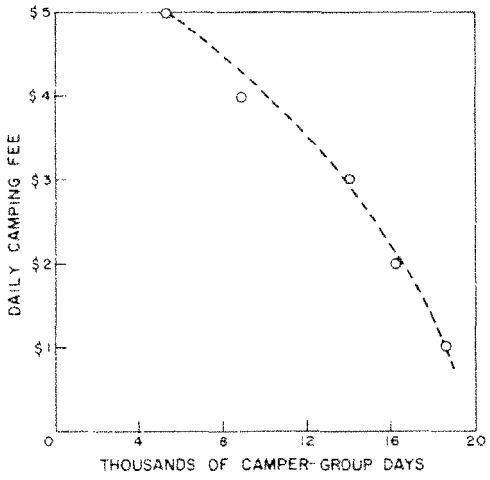

Figure 1.—The demand for camping (as a function of current camping) for our sample of 712 campers at fee levels of $1, $2, $3, $4, and $5 per family night.

Table 5. — *Percent of campers whose camping would be "much less," "much more," or "about the same as now" at standard fee levels of $1 to $5 per night*

Fee per night	Much less	About same	Much more
	Percent	*Percent*	*Percent*
$1	1	84	15
$2	1	96	3
$3	25	74	1
$4	73	27	0
$5	89	11	0

Two groups of campers merit a detailed examination: (1) those whose camping would significantly decline at the $3 level, and (2) those whose camping would remain unchanged at the $4 level. These two groups exemplify the conditions of fee-elasticity and fee-inelasticity, respectively, in their demand for New Hampshire state park camping. That is, a reduction in camping at the level of $3 reflects an immediate responsiveness to fees, or elasticity, while unaffected participation at a $4 level indicates inelasticity.

In terms of annual camping, the "$3 dropouts" are more active campers, so they have a larger volume of camping to bargain with than do the "$4 holdouts." As prices go up, they can afford either to camp less or to do more of their camping elsewhere. Their increased participation takes the form of more trips and shorter trips. Yet for these two groups the averages of days spent camping are not widely different: 27 and 21 days respectively (table 6).

Besides having more flexibility in planning, afforded by more frequent trips, the fee-elastic group is also a younger class of campers. They have fewer established preferences for state park camping, proportionally less experience at New Hampshire state parks, and are more likely to consider alternative destinations. They are also less likely to have experienced higher fees in the past, they are more interested in purchasing a season camping pass, and they are generally more willing to pay extra for a

Table 6. — *Comparison of campers having elastic or inelastic demands for New Hampshire state park camping*

Item	Elastic[1]	Moderately elastic[2]	Inelastic[3]
	Percent	*Percent*	*Percent*
Decision made at least 1 month ago	27	29	42
No alternative destinations considered	67	72	81
Most important consideration was convenience to travel route or to destination	26	29	42
Most important consideration was convenience to home	23	18	13
Generally prefers to camp at state-owned campgrounds	35	44	51
Generally prefers a per-site fee rather than per-person fee	71	66	56
Feels that $2 per day is a fair camping fee	83	69	[4]40
Is willing to pay more for a waterfront campsite	21	16	13
Would like to be able to purchase a season pass	34	25	17
Has experienced fee levels of at least $4 in the past	26	31	40
Went on over four camping trips in 1967	46	37	29
Spent 90 to 100 percent of annual camping at N. H. parks in:			
1964	15	17	[5]29
1965	15	13	31
1966	20	20	31
1967	25	33	38
Would not travel more than 100 miles for 1 to 2 day trip	43	38	31
Would not travel more than 200 miles for 3 to 5 day trip	46	41	38
Would not travel more than 300 miles for longer trip	30	29	34
Current trip is over 8 days in length	38	49	67
Is spending maximum length of time (14) days at this park	10	13	18
Spent over $18 on fees during this trip	30	51	52
Total trip costs exceed the average ($100)	32	39	58
Head of party is under 40 years of age	64	56	43
Number of camping groups in this category	175	341	188
Average number of days camped in 1967	27	23	21

[1] Campers who would camp much less at a standard fee level of $3.

[2] Campers who would camp much less at a standard fee level of $4.

[3] Campers whose participation would remain unchanged at a $4 level.

[4] Only 4 percent of the inelastic group favored a $4 fee.

[5] These percentages are based on the number of campers who actually camped in each of the years.

campsite that has a waterfront. A detailed examination of these two groups is presented in table 6, along with a third, "moderately elastic," group of 341 campers whose camping would begin to decline at the $4 fee level.

The wide differences between the "fee-elastic" and the "fee-inelastic" campers, on over 20 different items (table 6) follow logical patterns of expected behavior and tend to validate the camper's predicted response to the hypothetical fee levels. For example, campers with a fee-elastic demand for state park camping could be expected to have looser decision-making processes and a greater flexibility in their preferences and trip plans. And we were not at all surprised to find that past experience to high camping fees may result in a certain amount of fee conditioning, or lowered resistance, when high fees are next encountered (table 7). Similarly, it is predictable that campers who take relatively few camping trips per year will be less flexible in planning and

Table 7. — *Predicted change in camping activity with changes in daily fees of $1 through $5, by categories of maximum past fee experiences*

Daily fee	Proportion of 1967 camping at maximum exposure of —		
	$1 to $2	$3	$4 to $6
$1	1.15	1.14	1.17
$2	.99	1.02	1.04
$3	.81	.86	.88
$4	.49	.56	.57
$5	.29	.32	.34

Table 8. — *Predicted change in camping activity with changes in daily fees of $1 through $5, by two categories of annual camping participation*

Daily fee	Proportion of 1967 camping by campers who annually take —	
	1 to 3 trips	4 or more trips
$1	1.14	1.17
$2	1.03	1.02
$3	.89	.84
$4	.60	.52
$5	.36	.30

consequently will be less willing to readjust their plans because of relatively minor fee changes (table 8).

The Geography of Fee Attitudes

The use of fee attitudes as a means of studying camping demand has obviously useful aspects. Specifically, the shape the fee curve assumes for different regions and at different types of campgrounds indicates how useful — or useless — fees may be as a management tool. An inelastic demand is unlikely to be responsive to management's changes in fee structures. However, this refers only to the size of fees. Method of charging fees is also a potential management tool, and one that might be useful even in situations of inelasticity.

The demand for state park camping is slightly less elastic in northern New Hampshire than in the southern part of the State (fig. 2), which undoubtedly reflects the northern campgrounds' greater distance from population centers and the consequently lower rate of repeat visits (41 percent in the north versus 70 percent in the south). Incidental to the lower rate of repeat visits is an understandably lower interest in season camping passes in the north (12 percent versus 34 percent).

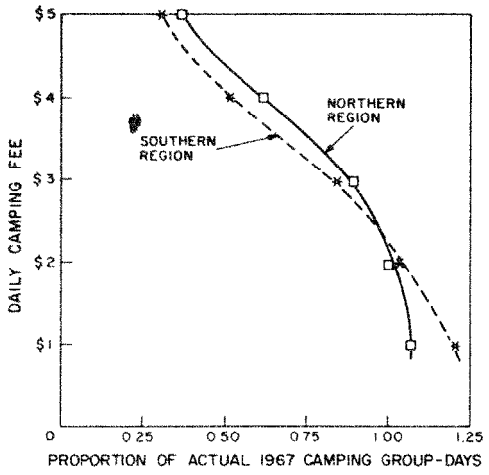

Figure 2. — The demand for state park camping in two regions of New Hampshire, at five daily fee levels, based on the proportion of 1967 camping activity and the camper's predicted response to each of the hypothetical fee levels.

Although campers in the northern part of the State were more reluctant to adjust their camping frequency in response to fees, they were also strongly in favor of a fee system based on a daily campsite rental charge rather than one based on a per-person charge. At the southern parks 57 percent preferred the per-site fee, but at the northern parks 74 percent favored it over the present per-person fee system.

We found some differences in fee-elasticity projections between campgrounds as well as between regions (table 9). The percentage of annual camping that would be influenced by a $3 daily fee ranged from 95 percent to 81 percent at swimming parks, and from 81 percent to 61 percent at parks without swimming. Camping at White Lake State Park apparently would remain almost unchanged between fees of $1 and $3, which bears out its brochure description as "one of the State's most popular campgrounds" (fig. 3).

Table 9. — *Elasticity projections of 1967 camping at five daily fee levels, for each of 11 camping parks and 3 groups of parks in New Hampshire*

Park	Proportion of 1967 camping at daily fees of —				
	$1	$2	$3	$4	$5
Bear Brook (68)[1]	1.22	1.02	0.81	0.48	0.30
Pawtuckaway (58)	1.21	1.04	.85	.52	.29
Greenfield (58)	1.18	1.04	.87	.52	.29
Southern swimming parks:	1.20	1.04	0.85	0.51	0.29
White Lake (68)	1.07	1.02	0.95	0.73	0.43
Lafayette (26)	1.05	1.00	.89	.56	.33
Moose Brook (10)	1.09	1.01	.87	.57	.33
Northern swimming parks:	1.07	1.01	0.91	0.63	0.37
Monadnock (50)	1.05	1.00	0.81	0.62	0.51
Pillsbury (62)	1.46	.96	.80	.45	.28
Crawford (20)	2.00	2.00	.78	.39	.19
Coleman (47)	1.08	1.02	.72	.47	.28
Milan (50)	1.00	1.00	.61	.29	.13
Non-swimming parks:	1.22	1.05	0.77	0.50	0.34

[1]Number in parentheses is the percent of repeat visits in the sample of campers at that state park.

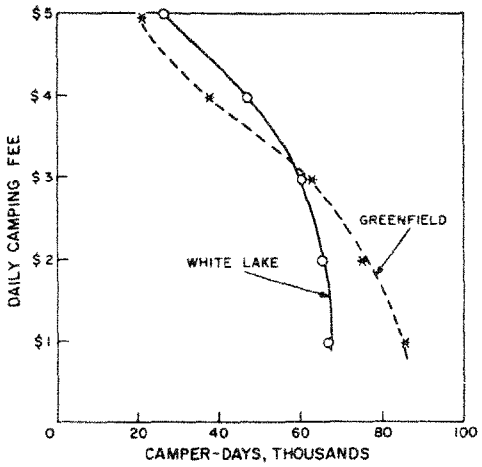

Figure 3—Estimated total attendance at two major New Hampshire parks at five camping-fee levels. Based on 1967 park attendance and visitor response to fee changes.

CONCLUSIONS AND DISCUSSION

It would be a mistake to assume, because fees represent a small portion of the cost of camping, that they are insignificant in the decisions "how much to camp," where to camp, and "when to camp." The evidence in our survey of state park campers shows that both the size of camping fees and the method of payment can influence these decisions. Half of the purchasers of federal recreation-area passports said that their purchase had influenced them to camp more often at federal campgrounds. And about one-fourth of the campers surveyed have a demand for New Hampshire state park camping that could reasonably be termed fee-elastic, because they said they would visit New Hampshire parks much less frequently if they had to pay an average of $3 per day in fees; another 50 percent would do so too at the $4 fee level.

Historically, one of the basic arguments of those who advocate fees and charges for the use of public outdoor recreation resources is their market-like utility. That is, the willingness of people to pay for certain types of recreation gives management a sounder basis for program planning and operation. Although the process of constructing demand curves has limited utility

for the setting of public recreation fees,[4] these curves do contain information for solving problems other than fee setting.

Most obviously, they demonstrate the responsiveness of camping frequency to relatively slight fee adjustments within the $2 to $4 range. This responsiveness suggests a possibility for redistributing demand away from over-popular parks that cannot conveniently absorb all of the demand their popularity creates, and into under-utilized parks of comparable quality and convenience. Such a use of fees would, in fact, be a very logical extension of established practices of charging higher rates at water-oriented campgrounds.

A further extension of this philosophy would be to establish variable charges for different classes of campsites depending upon their desirablity and their development cost. For example, waterfront sites, special facility sites, and extra-large sites all have a good potential for increased earning power. Also, fee adjustment through the use of season passes — as a means of redistributing demand — is worth considering. Relatively slight differences in the cost of a season pass for different campgrounds might conceivably influence the volume of local repetitive use. And system-wide passes might influence campers to visit more parks throughout a park system rather than only one or two near home.

In the demand-curve comparison, the shapes these curves assume for different regions, and for different types of campgrounds, indicate how useful fee manipulation may be as a management tool. For example, a comparison of the fee curves for northern and southern New Hampshire indicates that fee manipulation would be a somewhat more potent tool in the southern part of the State for accomplishing non-revenue oriented objectives.

Obviously, there are some situational limitations to the practicality of fee manipulation for obtaining better distributions of demand. For example, campers in this survey responded to the idea of fee increases without being made explicitly aware of the

[4] Thomas I. Hines has pointed out the legal problems of a public agency setting user-fees with the intention of making a profit in THE PRO AND CON OF CHARGES AND FEES, in Parks and Recreation. 48(2): 102-103, 1965.

Table 10. — *The importance of four selected factors in deciding where to camp*

Item	1 Familiarity with campground	2 Reputation of campground	3 Convenience of location	4 Size of camping fee
	Percent	*Percent*	*Percent*	*Percent*
Ranked as most important for this trip	26	19	51[1]	1
Ranked as most important for an average short camping trip	23	14	55	4
Ranked as most important for an average long camping trip[2]	22	28	40	7

[1]Made up of 3 separate elements of convenience: convenient to home (18%), convenient to travel route (12%), and convenient to a geographic area being visited (21%). These separate components were not collected for the average long and short trips. Convenience to home is undoubtedly a major component of convenience on short trips and a minor one on long trips.

[2]One week or longer.

fact that fee changes would inevitably be accompanied by other changes in the campground as well, such as either more or less crowding. And these other changes might have a more potent effect upon future attendance than the actual fee increase itself. Also, a decrease in fees for the purpose of raising attendance might result in the need for an increase in services — and a resultant increase in management costs. An example might be the desire of management to extend the camping season, or to spread some of the week-end attendance out into the mid-week period. And finally, the convenience of a campground's location and its reputation are much more important in camping decisions than are fees (table 10) at present fee levels.

With the continuing need for more public and private outdoor recreational facilities, it is clear that additional financing of new developments and new services will have to be borne more and more by user-fee revenue. Consequently the size of fees, the basis for the charge, and the method of collection will become more important as tools of the outdoor recreation manager. Their effectiveness as tools will depend in large part upon an understanding of the role fees play in campers' decisions.

■

APPENDIX I

Sampling Method

Because the state parks to be sampled in this study were spread throughout the State, and because they varied in size from the 8 camping units at Milan State Park to the 252 units at Greenfield State Park, the most efficient use of interviewers dictated a cluster sample within parks, and assignment of separate interviewers to the northern and southern parts of the State. Since a separate analysis for interviews taken in each part of the State would fail to reveal whether any differences found would be due to interviewer effects or geographic differences in campers, we followed up the interviews with a postcard evaluation of the interviews.[5]

On a weekly basis, interviewers were given a random list of campsite addresses to visit in their part of the state. Each campsite listed was the center of a cluster of 3 or 4 campsites (4 in the north, 3 in the south), at which heads of camping parties were to be interviewed during that week. In the case of vacant assigned addresses, a random method of substitution was provided. Once the assigned campsite was located and the interview was taken, the interviewer proceeded to the nearest 2 or 3 satellite campsites that were occupied. If a satellite site also happened to be the central site for another cluster, another satellite was chosen in its place. Relatively few conflicts of this type developed because most of the interviewing was done on weekends and on days when campgrounds were relatively full of campers.

The assignment of cluster addresses was made through the use of a random-number generator computer program by first totalling all the available campsites in each region of the State, selecting the random addresses, and then converting these back to specific campsite numbers. The sample was therefore a representative one for each half of the state separately, and for the State as a whole. The sample was not intended to be representative of the 1967 attendance at individual parks, particularly the smaller ones that were sampled very lightly. The resulting sampling fractions for each park and each half of the State are presented in table 11. The fractions are also estimates because reported camper-day attendance had to be reduced by estimated factors of party size and length of visit.

[5] Highly significant differences were found in the campers' reactions to the interviewers; yet there is no evidence that the interviewer differences may have biased camper response. Results of this postal survey are presented in THE CAMPER VIEWS THE INTERVIEW, now being prepared for publication by the Northeastern Forest Experiment Station.

Table 11. — *Number of camping grounds interviewed, and estimated sampling fractions, by separate parks, and by northern and southern park groupings*

State park	Estimated 1967 camping groups	Sample size	Estimated sample
	No.	*No.*	*Percent*
Pawtuckaway	1,233	113	0.92
Bear Brook	1,171	94	.80
Greenfield	2,544	175	.69
Monadnock	330	14	.42
Pillsbury	178	13	.73
All southern	5,456	409	0.75
White Lake	2,267	124	.55
Lafayette	1,316	86	.65
Crawford	193	5	.26
Moose Brook	484	67	1.38
Coleman	149	19	1.28
Milan	48	2	.42
All northern	4,457	303	.68
All parks	9,913	712	0.72

Demand Curve Construction

To determine the approximate volume of camping that campers were bargaining with when responding to the series of questions that related predicted participation with increasing fee levels of $1 to $5, we followed these 5 steps:

1. Determine the number of campers whose predicted participation at each fee level would be "much more," "much less," and about "the same as now." This step is presented in percentage form in Table 5.

2. Determine actual 1967 camping participation for all of the campers in each cell of table 5, and check to be sure that the total amount of camping in each participation class equaled the total camping participation for the sample in 1967 (table 12).

Table 12. — *Actual family-days camped in 1967, according to predicted participation levels at daily per campsite fees of $1 through $5*
(In camper-days)

Fee per night	Decreasing participation	Unchanging participation	Increasing participation	Total
$1	122	13,608	2,483	16,213
$2	144	15,896	173	16,213
$3	4,399	11,751	63	16,213
$4	12,197	4,016	0	16,213
$5	14,633	1,580	0	16,213

3. Within table 12, each entry in the "decreasing" column was reduced by the amount of the entry above it, to reflect *net* change at that fee level. For example, at a fee level of $4 there were 12,197 camper-days to be reduced. However, these 12,197 camper-days include 4,399 days that have already been reduced by campers who dropped into the "much less" category at or below the $3 level. Therefore the net change at the $4 level was 12,197 — 4,399, or 7,798 camper-days. These net changes are reflected in table 13.

Table 13. — *1967 camping participation expressed as the net change between increasing daily camping fees*
(In camper-days)

Fee per night	Decreasing participation	Unchanging participation	Increasing participation
$1	122	13,608	2,843
$2	22	15,896	173
$3	4,255	11,751	63
$4	7,798	4,061	0
$5	2,436	1,580	0

4. Within table 13, each entry in the "increasing" column was doubled, since we have decided that "much more" means a doubling in camper-day participation. And each entry in the "decreasing" column was halved, and increased by ½ of the entry immediately above it, ¼ of the entry two lines above it, and so on, reflecting the logic that a camper who would camp much less at x dollars would probably camp much much less at x + 1 dollars. This procedure is summarized in table 14.

5. Finally, each entry in table 14 was summed across the rows to determine the total estimated camping-days at each daily fee level of $1 through $5; and the sums were divided by the actual 1967 camper-day activity (16,213 days) to produce the change ratio at each fee level.

This same procedure was followed in producing each of the separate demand curves presented in this report. It should be noted that this procedure carries an added assumption, over the two presented earlier, that the responses are deliberate and considered, and that the multiplier for "much less" and "much more" are reasonable. The added assumption is explicit in step 4 above, namely that nobody drops out of the camping picture entirely at the range of $1 to $5. They just continually reduce their participation by a factor of 0.5 at each higher fee level.

Table 14. — *Total estimated camping participation at fee levels of $1 to $5*
(In camper-days)

Fee per night	Decreasing participation	Unchanging participation	Increasing participation	Total	Proportion of 1967 camping
$1	61	13,608	4,966	18,635	1.15
$2	41	15,896	346	16,283	1.00
$3	2,149	11,751	126	14,026	.86
$4	4,974	4,016	0	8,990	.55
$5	3,706	1,580	0	5,286	.33