

TOWARD A BETTER UNDERSTANDING OF THE
SOCIAL BENEFITS OF OUTDOOR RECREATION PARTICIPATION

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Abstract.--This paper proposes that recreation resource managers need to give more attention to the benefits that a person derives from participation in recreation activities. Behavioral information is described as one of several types of knowledge needed in recreation planning and management decisions. A model outlining the dynamics of a recreationist's behavior is presented. Within that model sequences of specific types of recreation behavior are traced from: deciding on a particular recreation activity, planning and preparation, on-site engagement, recall, realizing satisfying experiences, to gaining the ultimate benefits these experiences can produce. Personal and social benefits of recreation participation are defined as the ways in which an individual functions or performs more effectively because of his having participated in a recreation activity. The importance to recreation resource management of information on these benefits is described as is the state of knowledge for identifying and measuring them. Throughout, the need for additional research is emphasized.

Keywords: recreation benefits, recreation aspirations, recreation experiences.

This paper is addressed to three questions: (1) Why should recreation resource planners and managers give more attention to the human benefits "produced" from recreation opportunities? (2) How can information on these benefits be obtained? and (3) How does this behavioral information fit with the other types needed in planning and management?

The word "benefit" is used in reference to how participation in recreation activities enhances or improves the user's ability to function more effectively after having participated. Such improved functioning could be physiological (better physical health), psychological (improved mental health) or sociological (increased commitments of recreationists to wise resource management because of knowledge gained from participation). Also, the improvements in effective functioning could be realized on the job (greater volume or increased quality of work accomplished), at home (increased family solidarity), or in any environment.

The words "recreation experiences" are used in a context that should be explained. At a broad level, a recreation experience is the sum of a participant's mental, spiritual, physiological or other responses to a recreational engagement. Such an overall experience might be satisfying or pleasurable,

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or it might not be satisfying; there are "bad" as well as "good" experiences. At this broad level there are general activity-dependent experiences, such as a white-water canoeing experience for example. This general experience would include all responses from anticipation to recall (Clawson and Knetsch 1966). At a narrower level there are several specific experiences associated with participation in a particular activity. These specific experiences help define the attractiveness of an activity or environment to a particular user group and the type of satisfaction realized from that activity. In white-water canoeing, specific experiences could include: taking risks, testing skills, being with like-minded associates, exercising, enjoying nature, displaying equipment, introspecting-seeking privacy, or avoiding temporarily a problem experienced back home or on the job. These might be called the specific attributes that define a general white-water canoeing experience. Each will be giving satisfaction (or dissatisfaction) simultaneously, but some will be more satisfying than others.^{2/} For that reason potential white-water canoers will value some of these specific experiences higher than others when deciding whether or not to make a white-water canoeing trip.

Some specific experiences are highly dependent on the characteristic of the physical resources (fast water). Others are more dependent on the facilities or equipment (sturdy canoes) and still others on the characteristic of the users (personality trait, age, sex, etc...; or interpersonal things such as a desire to win the approval of others). The degree of "resource-dependency" varies between activities. For example, some experiences (matching wits with a trophy deer, skillfully negotiating the rapids, learning about prehistoric man, enjoying a spectacular view) are more dependent on the physical resources than are others (being with friends, exercising, general nature learning, etc.). The trick in management is to allocate the resources to their highest potential for providing opportunities for specific desired experiences and their consequent human benefits.

PURPOSES

The tasks assigned for this paper were:

1. To describe the state of knowledge for identifying and measuring the personal-social benefits of recreation,^{3/}
2. To interpret the relevancy of that body of knowledge for recreation resource planning and management, especially those operating in the public sector, and
3. To outline important research needs on that subject.

^{2/} Elsewhere, these simultaneously occurring experiences have been identified as a "package of experiences" (Driver and Tocher, 1974) and as "multiple satisfactions" (Hendee 1974).

^{3/} The words "personal" and "social" benefits are used interchangeably in the paper. Alternative words could be "private" benefits (to the user) and "collective" benefits (to others because of an individual's participation) so long as enhanced effective performance of the participant (or of others) is the criterion.

The first task is both easy and impossible. It is easy to say that the state of the art is in its embryonic stage because relatively little research has been directed at quantification of recreation benefits. This "easy out" begs the question, though. Many theories and methods in the behavioral sciences are applicable to the subject of this paper even though few of these applications have been made. It is an impossible task, however, to consider the many diverse theories of human behavior which can be interpreted with respect to what they might say about man's beneficial psychological, physiological or sociological responses to recreational engagement. These theories range from Freud's (1955) and Piaget's (1962) thoughts on the value of play in social and cognitive development through Berlyne's (1960, 1969) concepts regarding arousal seeking and exploratory preferences to the work of physiologists and parapsychologists on relationships between mind control techniques and physical-mental relaxation.

Because of the complexity of the subject, this paper will describe only one approach to identifying and measuring the personal-social benefits of recreation and discuss briefly the state of knowledge about that approach. That approach has been followed in recent years by a growing number of researchers who feel it is theoretically realistic, managerially relevant and relatively easily understood by managers who do not have intensive training in the social or human behavioral sciences. Briefly, the approach adopts the view that most human behavior is purposeful, in that recreationists select particular activities because of the satisfying experiences they expect and desire from that activity.

Future research needs are a part of the discussion because of the limited number of studies conducted so far on recreation benefits. Throughout, the importance to managers of information on recreation benefits is emphasized. Also, footnotes are used frequently to qualify concepts that might be novel and to help avoid possible misinterpretation.

WHY CONSIDER PERSONAL BENEFITS?

Numbers of visitors to outdoor recreation areas have increased by greater than a 5 percent compound annual rate for the past several decades. In the most recent years, the rate has been even higher, up to 15 to 20 percent, for specific areas and activities such as back-country and lift skiing. These are interesting statistics when compared with selected baseline social indicators. Increases in population and personal disposable income have both increased at less than 3 percent per year, and per capita consumption of energy (in BTU's) has increased at less than 5 percent during the past decade.

Despite these trends in use and the fact that each year more resources are allocated to supply additional recreation opportunities, we do not have adequate measures of the social costs and benefits of these allocations.

This paper does not consider the costs or all of the different types of benefits. Instead, it focuses on a particular type of benefit which is defined behaviorally in terms of user response.^{4/} The major thesis is that,

^{4/} In addition to the increased effective functioning of the recreationists, other benefits of recreation allocations could include: local income benefits; benefits to animal species from hunting-generated revenues; and preservation of options for future generations to benefit.

within this behavioral perspective, several limitations in knowledge are especially constraining. In particular, more objective measures are needed of the following four related sets of variables:

1. The attributes (or characteristics) of the physical (and social) setting that are perceived by potential users to be necessary for a quality recreation experience.
2. The type and number of recreation experiences sought from specific recreation environments both on-site and by "appreciative" off-site users, who enjoy the existence of these opportunities and desire to preserve the options for possible on-site engagement by themselves or others.
3. The characteristics of potential and actual recreationists having demands for different types of recreation experiences and the cause-effect relationships between these characteristics and recreation demand.
4. The personal experiences and benefits realized from specific recreation opportunities.

Such measures would not be needed in recreation planning and management if our intuitions and judgments about recreation aspirations, experiences and benefits are realistic. Past studies have indicated, however, that the managers' intuitions and the users' opinions about the recreational values of the facilities frequently differ (Lucas 1964, Hendee and Harris 1970, Clark et al. 1971, and Peterson 1971 and 1974b).

In the past, policy makers and planners have had to define these values intuitively because there was little else to go on. And they have done a good job, given the budgets and the complexity and uncertainty within which they were working. However, as the demands grow for all of the goods and services produced by our nation's natural resources, more objective measures are needed; in the face of this increased relative scarcity managers no longer have the room for error they once did in their decision processes.

Objective measures of recreation values are especially needed in allocation decisions to compare the social benefits and costs of different types of recreation opportunities and the values receivable from alternative uses. For example, past measures of the outputs of recreation areas have used variables such as numbers of visitors and visitor days. Although necessary in planning and management decisions, these variables are little more than counts of people using the system and do not tell us much about the number, type and magnitude of benefits produced. The major problem is that counts of users are of too little value in defining managerial objectives (or even policy guidelines) about what specifically is to be produced or in evaluating the degree to which these objectives are realized. It is hard to "manage by objectives" when realistic, relevant and quantifiable targets cannot be set to measure accomplishments. And numbers of users are not completely adequate targets.

By analogy, we have a better understanding of what other social service "systems" (education, sanitation, communication, housing, transportation and medicine) are "doing for" the users of those services. For example, if counts of users were the primary guide for the administration of colleges, common management operations would become less relevant. These would include establishing entrance requirements, screening faculty, designing curricula, administering qualifying exams and maintaining standards for certification. Each of these operations exists to help assure a quality product rather than to accommodate as many students as possible.

What is being suggested is that the management of recreation resources is a production process, as is timber management, wildlife management and watershed management. The problem is that the "products" of recreation management are harder to define.^{5/} Nevertheless, we need to go beyond the conventional wisdom that the product of recreation management is recreation opportunities and identify more clearly what it is that these opportunities do for the user. This idea has been elaborated elsewhere (Hendee 1974, Driver and Brown 1975)^{6/}.

^{5/} This inadequate definition of the social values of recreation has probably contributed to the view that recreation goods and services are of less relative importance to society than are other goods and services that compete locally and nationally for scarce budgets and other resources. For example, established recreation areas are frequently converted to housing, sewer, and highway developments.

^{6/} It is beyond the scope of this paper to elaborate on the additional relevance to management of better information on user expectations, experiences and benefits. It might be useful to footnote, however, that this information is fundamental to the resolution of several problems within the field of outdoor recreation resource management. These include: (1) identifying more clearly what recreational benefits can (and should) be produced most appropriately by different public and private agencies; (2) defining better the "merit good" aspects of recreation behavior (i.e., to what degree does one person's recreation participation benefit other people who do not participate) in an attempt to help identify the degree to which specific opportunities should be financed through taxation by all users who benefit either directly or indirectly or alternatively through user prices, when benefits are limited primarily to the participants; (3) determining relationships between recreation behavior and "off-system" variables such as those defining the users' home and work environments; (4) defining latent demands of those potential users not included in statistics on past use rates; (5) identifying and appraising trade-offs and substitutibilities between different recreation activities and between recreation and other uses of the same resources; (6) determining the probable "performance" of physical-resource settings in meeting user expectations and classifying the resources for their highest use in terms of experience potential and the resource dependency of these experiences; (7) determining means of reducing conflicts between users with opposing recreation-related demands and appraising the interpersonal-congestion dimensions of area carrying capacity; and (8) evaluating the effectiveness of different visitor management methods such as incentive systems and education.

BUT BEHAVIORAL INFORMATION IS NOT ENOUGH

Despite the importance of behavioral data, it should be emphasized that behavioral information is only one of at least five types of knowledge bases that must be considered by outdoor recreation resource planners and managers (Knopf et al. 1973, Driver 1972). To help iterate this point, it might be useful to group the different types of knowledge bases into five topical sets identified as: Resource-Location, Historical Use, Economic, Administrative-Political, and Behavioral.

Although the five types of knowledge bases are not mutually exclusive, each one does define a rather specific type of information. Also, each group reflects a rather distinct approach to recreation planning and management because each type of information also defines the types of problems for which that information is most relevant. Each will be described briefly:

Resource Location:

Information on the setting and suitability of the physical resources has strongly influenced the kinds and levels of recreation opportunities developed. That information has been obtained from: inventorying, classifying and zoning; appraising the resources within the context of their larger settings; identifying locational relationships, especially distances to centers of population; specifying hazards; and otherwise appraising the recreation resources in terms of their relative scarcity, uniqueness, ecological carrying capacity, and other measures of appropriateness for providing specific recreation opportunities. This type of information defines a supply oriented approach that has been criticized as over-emphasizing supply considerations and slighting demand factors. This might result in creating many similar recreation opportunities on a given resource base within a single region (Twiss 1974). Despite that possible deficiency, this type of information is necessary. However, it can be integrated better with the other four types in recreation planning and management. For example, we might be able to inventory the resources a little better in terms of their potential for providing opportunities for specific recreation experiences or in terms of the resource dependency of specific experiences.

Historical Use:

Descriptive statistical information on past use is relied upon heavily in what could be called the past and current participation approach. Here statistics on past trends of participation "tell" the planner and manager what to do.

The information obtained from this approach has been quite useful in recreation planning. Its five major deficiencies are: (1) it assumes that high levels of participation indicate "successful" planning; (2) it equates past participation with demand and assumes that future demand will follow some historical trend, and thereby, it tends to be self-reinforcing by perpetuating into the future those opportunities which have been supplied in the past, and does not consider latent demand or demand not revealed in past participation (Knetsch 1974); (3) it provides little to no information on substitutability between activities; (4) it defines recreation as an activity, not as an experience, and therefore offers little insight into the social utility of the opportunities provided; and (5) it nurtures a rather static concept of recre-

ation demand within which explicit questions are not raised about relationships between that demand and changing social conditions, such as energy "crises."

Economic:

In economic terms, recreation resources are viewed as (scarce) economic goods for which there are individual and collective willingnesses to pay. This approach urges particularly for the use of more market-like signals, especially prices, in the allocation of recreation resources. To the extent that the market is unable to do this, the approach calls for the systematic application of principles of public finance in the allocation process. It is concerned with problems relating to the appropriate role of government in bearing the costs of providing recreation opportunities, the efficient level of investment in recreation resource development, and the need for better methods of determining the trade-offs between alternative uses. The data required focus particularly on questions concerning: the benefits and costs of providing different facilities in different locations; the scale of development; the social time preferences for different types of recreation opportunities, and how the opportunities should be financed. The growing relative scarcity of our recreation resources has caused this approach to receive the increased attention it should (Clawson and Knetsch 1966). Some economists, however, fail to recognize sufficiently; (1) several of the deficiencies in their assumptions, such as those regarding existing distributions of income or wealth; (2) the need to sample sub-populations and not rely too strongly on aggregative data; (3) the insufficiencies of the market mechanism; and (4) that other than economic variables must also enter the recreation allocation calculus.

Administrative-Political:

A prudent recreation resource manager certainly must have a reasonable understanding of the administrative-political processes of a democracy. As a general statement, it can be said that the administrative-political approach is one in which primary reliance is placed on the democratic-political process to allocate recreation resources. Under this approach special interests, such as wilderness groups, vie in the political arena for the use of scarce resources according to their preferences. In that arena decisions are made about the rights of future generations of users, the equity of the distribution of opportunities and of tax burdens. Also, the "appropriate" roles of the private and the public sectors are at least discussed if not determined.

Information on recreation resource management is obtained in a variety of ways within this approach. These activities include observing voter behaviors, obtaining information through public involvement and hearings, and analyzing the consequences of interest groups' reliance on the judicial processes. Given the social context within which recreation allocation decisions are made, the practice of pluralism is vital even though it is always accompanied by the potential for the abuse of power, or an inappropriate distribution of such. The information obtained in the other four approaches generally must be processed within the guidelines set by the administrative-political approach.

Behavioral:

Within a behavioral perspective, recreation allocation decisions are not influenced primarily by the inherent capability of physical settings for specific activities, by past trends in use, by the economic characteristics of the resources and its users, or by the administrative-political process. In addition, recreation is viewed as an experience (Driver and Brown 1975).^{7/} This approach addresses: the reasons why a person participates; what is done while participating; what is derived personally from participation; and the positive and negative influence of environmental factors (including management decisions) on the recreationist's experiences and behavior. Under this approach, recreation demand is for the opportunity to engage in activities from which desired consequences (i.e., satisfying experiences) are expected. Therefore, the demand is for experiences as well as for opportunities. In addition to experiences, the ultimate social services provided by the opportunities are human benefits. The remainder of this paper describes this approach in considerable detail, and it should become apparent that much additional information on recreation behavior is needed. Despite these gaps in knowledge, behavioral information can be integrated better than it has been with the other four knowledge components of management just outlined (Wagar 1964, Burch 1965, Hendee 1971, Brown et al. 1973, Driver and Tocher 1974).

Integration:

The major point of the foregoing discussion is that different problems facing recreation managers require different amounts of each of the five types of knowledge. Another important point is that information from all five knowledge bases needs to be integrated to the extent it is relevant. Thereby, we will help avoid a disciplinary approach to recreation problem solving, which has occurred too frequently, and put more emphasis on an interdisciplinary or multidisciplinary approach.

Certainly, it is no easy task to integrate the relevant knowledge from all five information bases. To do so, recreation planners and managers must have a high degree of technical expertise and work with an interdisciplinary team of technically proficient experts each of whom must have the ability to communicate to other members of the team and to compromise. Also, the task of integration is always formidable because each relevant knowledge base defines sub-problems of the larger whole, and a holistic approach is difficult to achieve and maintain because the recreation system being evaluated is always a part of a larger system. Data are never equally or sufficiently available

^{7/} Some confusion has existed in the past by use of the words "Behavioral Approach." A disclaimer might help. A strict "behavioristic," or stimulus-response, approach is not being advocated or taken. Instead, the intent is to focus more attention on the social-behavioral aspects of user demand, on-site engagement, satisfaction and benefit. Explicitly, recreation is defined as a particular type of human experience that finds its source in intrinsically (or self) rewarding voluntary engagements (mental or physical) during non-obligated time. These experiences result from participating in an activity, so that participation (or observable behavior) is instrumental (or is a "tool") for realizing the experiences--the desires for which prompted the behavior in the first place. For an elaboration see Driver and Tocher, 1974.

on any of the parts. These problems of achieving integrated planning and management are not unique to recreation, and exist in every field of environmental planning.

In sum, behavioral information is only one type that needs to be considered by planners and managers. The following section explains some of the characteristics of that type of information, especially that dealing with recreation experiences and benefits.

CONCEPTUALIZATION OF RECREATION EXPERIENCES AND BENEFITS^{8/}

In this section a simple and integrated model of recreation behavior is described to help structure thinking about the relation between recreationists, their aspirations, the opportunities provided and the social-benefits of these recreation services. The model described is a general one of human behavior in which many different perspectives within the social-behavioral sciences can fit. Heavy reliance is placed on the idea that man is a complex information processing and problem solving organism because that orientation makes explicit (1) the goal-directed nature, or purposefulness, of recreation behavior and (2) the need to look beyond on-site activity in evaluations of recreation demand and behavior.

Many authors have proposed directly or indirectly that most human behavior is problem solving behavior (Marshall 1890, Luce and Raiffa 1957, Festinger 1958, White 1959, Miller, Galanter and Pribram 1960, Howand and Scott 1965). In this approach a problem is not defined as a negative-adversive state but simply as a gap between an existing (or perceived probable) state and one that is more preferred. Therefore, any life situation may be defined as a problem posed to an individual according to this "relative preference" criterion. A person would have a "problem" if he were in a state of bliss and preferred more bliss; he is experiencing a gap. The problem is solved as the gap is closed.^{9/}

By definition then, recreation behavior is engaged in to help people solve problems (or reach preferred states) which they find better solved in recreational pursuits or they cannot solve in their non-recreational times or environments.^{10/} Identifying those particular preferred states which people desire

^{8/} This section draws heavily on a recent paper that was written on the social-psychological determinants of recreation demand (Driver and Brown 1975). The conceptual model presented is described in considerably more detail in that paper.

^{9/} Some problem states do not "mobilize" problem solving behavior because they are relatively unimportant and are maintained rather than solved. Others cannot be solved because of constraints, including the constraint imposed by not knowing clearly what the problem is.

^{10/} An earlier paper (Knopf et al. 1973) defined recreation behavior as a means of helping the users realize their "unmet needs" that could not, or for some reason, were not met in non-recreational times or spaces. The view offered here is the same if one accepts the idea that needs are defined as preferences under the philosophical suggestion that humans have no needs, only strong preferences, such as to stay alive.

to realize while recreating is one way of defining the types and relative importance of the experiences desired (or demanded) from recreation opportunities and at least inferentially of identifying the social-individual benefits gained. To illustrate, assume that a potential recreationist is experiencing a problem which causes him to desire a specific type of gratification during leisure time. The recreationist's problem, within the constraints that govern his behavior, is one of finding a recreational opportunity which will provide that gratifying experience.

Using this "conceptual framework," certain questions about recreation-related desires, experiences, and benefits become more explicit. Do the problem states that prompt a choice of wilderness camping differ from those that prompt using state parks? If so, how and why? Or, how do the recreation-related problem states of low-income residents of inner cities differ from those of affluent suburbanites, and are these problems really being solved through present recreational engagements or should they be? Specifically, are the available recreation opportunities being used primarily as a means of temporarily escaping problems that reappear when the recreationist goes back home? If so, are we dealing more with symptoms than causes? Also, how can managers as problem solvers better help the recreationist solve his recreation-related "problems?" The model illustrated in Figure 1 can help guide investigations directed toward questions such as these.

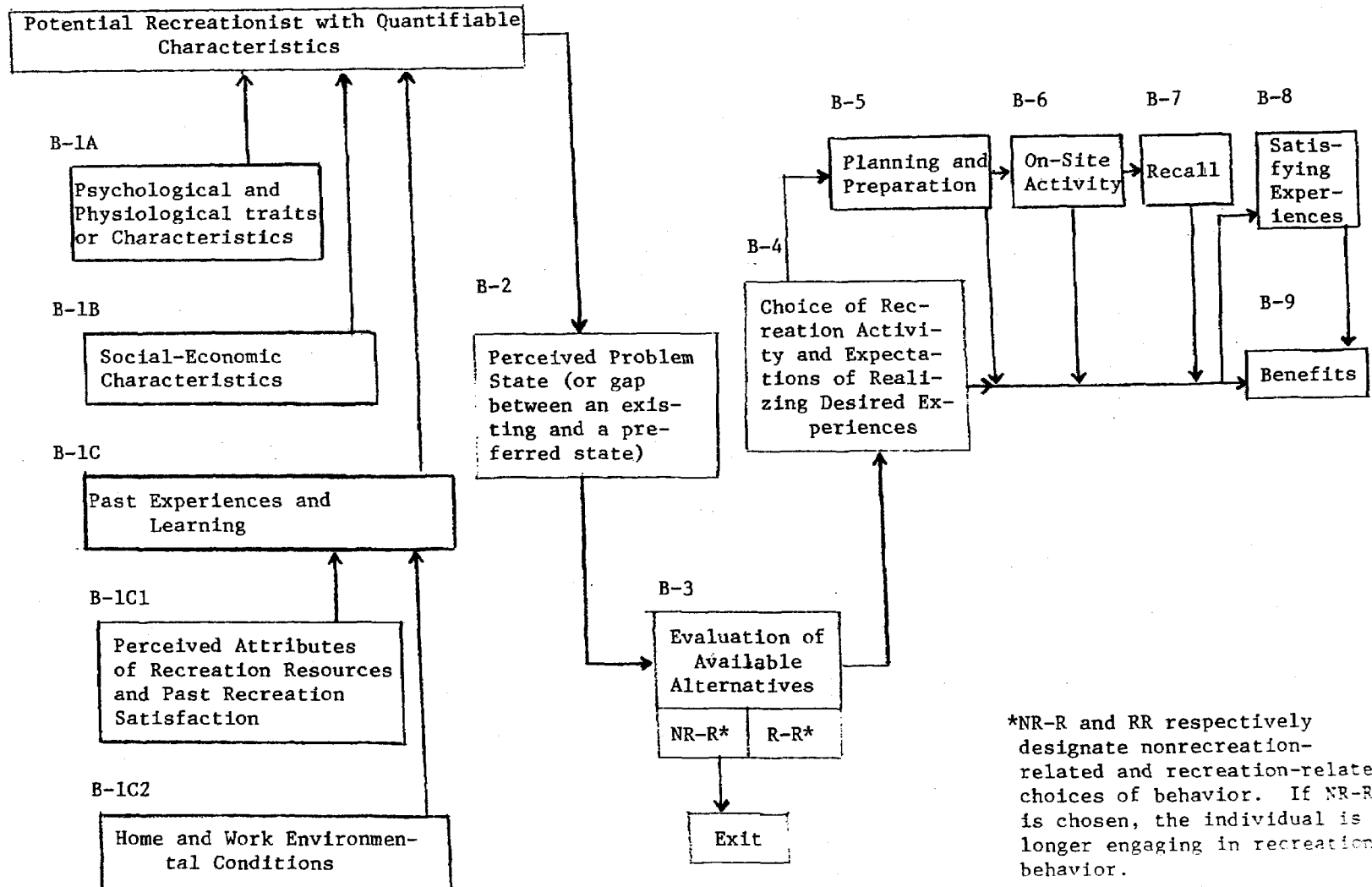
Basically, Figure 1 attempts to illustrate simply how the factors influencing or defining recreation behavior can be grouped into quantifiable sets. The nature of the model should become clearer as a hypothetical recreationist is walked through it rather quickly. The many feedback loops and the dynamic, ongoing effect of current environmental influences are omitted for purposes of simplicity.

The model proposes that a potential recreationist (B-1) has several quantifiable characteristics (such as B-1A to B-1C) each of which can help cause a particular problem state and its associated preferences to become dominant (B-2) at a particular time. To satisfy these preferences (i.e., resolve the problem), the individual considers his options (constraints and possibilities) and their expected-probable consequences (B-3). Through this decision process, he decides at some level (psychological or physiological) to (1) commit his subsequent behavior to recreational activity, or (2) engage in some other type of behavior (i.e., exit the recreation behavioral sequence)^{11/}. If subsequent behavior is committed to recreational activity, the individual

^{11/} Alternately, it can be explained that the recreationist is appraising the expected utility to him of various available options in an attempt to realize a satisfactory (and not necessarily optimal) solution to his problem to the extent he is aware of the problem. That "awareness" might not be very conscious and could even be physiological and still prompt the behavior indicated. Space does not permit an elaboration of this decision-making process. It should be pointed out though that no claim is being made for a perfectly rational "economic man" who always acts in his best interest. All that is being suggested is that the decision is a purposeful one, whether or not the desired consequences are really in the best interest of the recreationist.

Figure 1: Quantifiable sets of variables within a sequential model of recreation behavior

B-1



*NR-R and RR respectively designate nonrecreation-related and recreation-related choices of behavior. If NR-R is chosen, the individual is no longer engaging in recreation behavior.

has purposefully chosen a specific recreation activity or environment^{12/}, and this choice is accompanied by expectations of realizing desired consequences (or satisfying experiences) which are viewed as attainable (B-4). Further commitments of behavior are made to planning (B-5), traveling to the site or facility, on-site engagement (B-6, which could be a mental "site" and engagement only, say in fantasy), traveling home, and recall (B-7). From each of these behaviors (B-5 to B-7), the recreationist can realize satisfying experiences (B-8) and personal benefits (B-9)^{13/}. The benefits can be gained without conscious awareness, such as better muscle tone from walking an interpreted nature trail to learn.

To summarize, Figure 1 simplifies recreation behavior in an attempt to chart sequences of behavior so we can identify specific sets of variables and decision points. The model is founded in the assumption that recreation behavior is not random but instead has causes and direction even though: (1) the recreationist need not be consciously aware of these causes and preferences; (2) the behavior can be exploratory or trial and error (heuristic) as well as habitual or engrained in learning from similar past recreation experiences, and (3) the recreationist need not attempt to maximize his expected returns as would the classical economic man. Within the model, recreation satisfaction or pleasure is a feeling that finds its source in a variety of specific recreation experiences, some of which will be more satisfying than others. Furthermore, the model incorporates the idea that recreation activities are selected to realize a variety of experiences simultaneously, but that specific activities are selected by particular recreationists, within the bounds of their constraints, to realize those experiences that are of highest relative importance at any particular time. Therefore, explicit to the model is the idea that an activity will attract users who expect satisfying experiences that are relatively unique to that activity.^{14/} For example, the more satisfying aspects (experiences) of hunting differ from those associated with visiting an historic ruin. The challenge is to define which types of experiences are expected by which types of users, which activities best provide opportunities for specific types of experiences and which benefits are realized

^{12/} Although purposeful, the decision might be an exploratory one involving heuristic (trial and error or searching behavior) rather than more habitual-predictable behavior. Also, the decision might be quite spontaneous, or spur of the moment, although most outdoor recreation decisions would appear to involve more planning.

^{13/} A recent publication by the US Office of Management and Budget (Executive Office of the President, 1973) suggests that social planning should be evaluated by criteria (or social indicators) that "measure end products of, rather than inputs into, social systems." Boxes 8 and 9 of Figure 1 specify the end products of recreation "systems."

^{14/} Opportunities to realize these specific satisfying experiences are dependent on specific attributes of the resources, the facilities, the equipment, the users' peers and other users engaging in a particular activity. These attributes serve to facilitate (scenic mountains, big fish, few people) or to constrain (polluted streams, little fish, crowds of people) the realization of those expected and desired consequences (or pleasurable experiences) that give satisfaction. Since various recreationists perceive and value these attributes differently, they will engage in different activities.

from these experiences.^{15/}

The model suggests a three-step procedure for identifying and quantifying the personal-social benefits of recreational engagements as follows:

1. First, identify and measure the relative importance of the desired and expected consequences (i.e., expected satisfying experiences) of different types of recreationists (characterized by the various descriptors inherent in B-1A to B-1C of Figure 1) who are engaging in specific recreation activities.
2. Second, assume that the desired and expected consequences of large groups of recreationists (most of whom have participated in similar activities in the past) are reasonably well related to the personal and social benefits "sought." Then form hypotheses about the personal-social benefits derived by clearly defined types of users who rate particular activities high in importance for providing certain types of experiences. For example, it could be hypothesized that a specifically defined user group who places high importance on a certain type of fishing for purposes of "skill development" (an expected desired consequence or desired experience) realize greater self-confidence (a possible mental health benefit).
3. Test the hypotheses under experimental-controlled conditions, including the evaluation of benefits over time.

The question then arises: Can this procedure be followed and give reliable and accurate results? My answer is yes, it can to a very useful degree.

IMPLEMENTING THE PROPOSED APPROACH AND SOME METHODOLOGICAL ISSUES

For the purposes of this paper, it seems inappropriate to go into a detailed dissertation on the research procedures for, and methodological problems of, measuring social benefits. Instead a more general overview will consider these four issues: (1) how well can the expected and desired experiences and benefits be identified and measured; (2) which experiences and benefits are worth measuring; (3) what are the possible effects of researcher biases; and (4) which alternative methodologies are most suitable or appropriate?

How Well Can the Expected Experiences and Benefits Be Measured?:

Early work by Lewin (1951) and recent work in motivation psychology (McClelland et al. 1953, Birch and Veroff 1966, Atkinson and Birch 1972), and works of other social psychologists (Jones et al. 1972) indicate that we do most things for a reason and these reasons are influenced by our personalities, our values (and those of our associates), and the resources (or options) available to us, including information and our perceptions of our

^{15/} Activities providing similar "packages" of experiences and which are equivalent in costs (dollar, time, etc.) are probably substitutes for each other.

skills and abilities. In the language of a motivation psychologist, the relative strength of a particular "behavioral tendency" and the "motivational determinants" of that tendency can be identified and measured. The current work of Fishbein and Ajzen (1974 and 1975) suggests that specific intended or planned behaviors are closely related to subsequent actual behaviors to the extent that specific consequences of the intended behaviors are known, expected, and valued. Put more simply, subjective appraisals (attitudes, opinions, expectations, etc.) and actual behaviors are in relatively close agreement when these subjective appraisals are realistic with respect to the specific consequences that are most likely to result from specific behaviors. Much poorer relationships exist when there is little knowledge on probable consequences and when the possible consequences are of little importance. This theory is relevant to recreation then if the probable consequences of a specific recreation activity are known, expected, and valued by recreationists who intend to engage in that activity.

Most recreation opportunities are not used by recreationists who are participating for the first time, so these users have knowledge of the consequences from past participation. And many first-time participants have heard of the likely consequences from friends. Therefore, most of the people for whom public and private sector recreation demand and benefit analyses are most relevant probably have reasonably accurate ideas about the likely consequences of their recreation choices.^{16/} These expected consequences are obviously valued as desirable, else the activity would not have been chosen. And if interviewing is done on-site, intended behaviors are manifested by the actual participation. The problem then becomes one of measuring the expected and desired consequences.

I believe the most pervasive and managerially relevant expectations can be measured reasonably accurately for any large group of users with similar characteristics (such as day users picnicking at a particular site during a particular time who are similar in age, income, size of home city, past picnicking experience, etc.) The desired and expected consequences of recreationists not having the benefit of past experience (i.e., not having the same predictability of probable consequences) can be measured less well. Also, the postulated close relationship between expected and actual experiences cannot be assumed as readily for this group even though information on likely consequences is frequently passed from a past to a potential participant. It is more difficult, therefore, to measure the latent or unrevealed demands of non-users. Figure 1 does, however, help define more clearly what the concept of latent demand is.^{17/}

^{16/} This is not to say that all expectations are met. It would seem, however, that most expectations of users that stay in the "market" are met.

^{17/} The reader should be leary of results that question non-users of their expectations. It might be instructive though to infer what the demands of clearly defined types of non-users are by comparing them with users having characteristics similar to the non-users. Or useful baseline data might be obtained from research designs which appraise the degree of match between "latent" expectations and actual experiences of control groups of non-users who are provided a "real" opportunity as part of the research design.

In sum, I believe the pervasive expected and desired consequences of clearly defined types of user groups can be quantified to a useful degree given the state of the art of applying behavioral science to recreation management. The following section gives an overview of the different approaches for making these measurements.

Which Research Approach Should Be Used?:

It was stated above that the demand for most types of recreation opportunities is by people who have relatively good knowledge (much of it is experiential) about the types of satisfying experiences realized from engaging in specific activities. Methodologically, the major problem is one of bringing this information to a level of consciousness or awareness at which it can be evaluated systematically so that reasonable inferences and hypotheses can be made about the personal-social benefits associated with these experiences.

At this point, many social-behavioral scientists "part company," and others look on with skepticism, because of different philosophies about the degree to which the expected and desired experiences and benefits can be identified and measured reliably and validly. It is my contention that through the application of different techniques as checks one on the other, user expectations, experiences and benefits can be identified and measured reasonably well (Kerlinger 1964, and Nunnally 1967).^{18/}

To elaborate, the techniques of measuring human behavior can be grouped into three categories which also define three types of behavior. These are expressed in Venn diagrams in Figure 2. The crosshatched areas represent those behavioral responses that are common across two or all three of the alternative types of measurement. These overlapping responses are probably more reliable and accurate indicators of "real" behavior than are responses that do not cross-check. For example, verbal responses might be distorted because a person being researched might be afraid to give a truthful answer, might say something that he thinks the researcher wants to hear, or might wish to bias the research results in a way favorable to his interests.

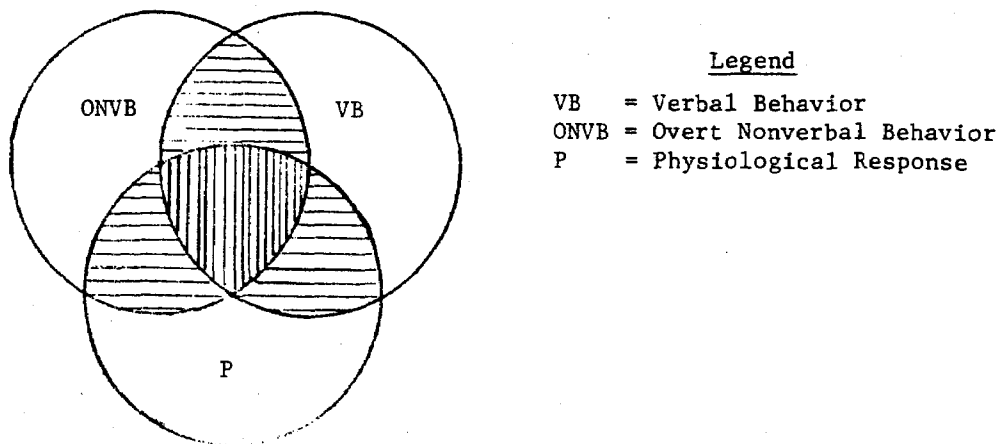


Figure 2: Three types of Human Behavior-Responses.

Questionnaires can be used to measure verbal responses (such as pencil and paper psychological tests of whether a person is an introvert or an extrovert). Unobtrusive methods can be used to examine overt nonverbal behavior (such as observing whether or not the person actually behaves as if he is an extrovert or an introvert). And mechanical-electrical instruments can be used to measure physiological response (such as determining arousal levels and causes, which seem to predict tendencies toward introversion or extroversion under specific conditions).

It is hazardous to rely on only one approach. The trick is to get cross-checking methodologies to converge (or overlap in Figure 2) in support of a particular hypothesis about a specific expected consequence, actual experience or benefit (Campbell and Fiske 1970). For example, it seems possible to measure benefits of a tranquil natural environment (feelings of reduced tension, lower observed levels of interpersonal aggressiveness; and lower blood pressure, pulse rate, etc.) using all three approaches as cross checks. Also, different procedures (such as those using physiological measures) should be used within any one approach (or circle in Figure 2) as cross checks.

In sum, human behavior is complex, but techniques do exist for measuring recreation-related expectations, experiences and benefits.^{19/}

Deciding Which Expectations Are Worth Measuring:

It is known that humans have a wide variety of motivations and experiences (Murray 1938, Laing 1967). There is also a wide variety of recreation-related experiences. The problem is one of deciding which expected and desired experiences should be "pursued" in research concerned with identifying and measuring the social benefits associated with these experiences.

Researchers and managers must work together to resolve this problem. Also, further identification and classification of user expectations must be accomplished before decisions can be made regarding which consequences are most managerially relevant. Criteria will need to be established to guide this decision. Some possible guidelines are offered to illustrate the type of thinking required:

1. The expected and desired consequences or experiences should be managerially relevant or something that managers can influence either directly or indirectly. Alternatively, this criterion can be stated in terms of which types of experiences different types of managers can influence the most.
2. The expected consequences should be desired by a significant number of users (both actual and potential) and not be common to only a

^{18/} If nothing else, and I believe there will be considerably more, we will have enhanced our judgments in the process. Sometimes, asking the right question puts us considerably over halfway toward finding a satisfactory or better answer even with knowledge constraints. Also, it seems apparent that there are never ultimate and final truths (only partial and temporary answers that change as the social and other contexts change) in any field of inquiry.

^{19/} For purposes of simplicity, the words expectations and desires are being used synonymously in this paper although technical arguments (which get complex) can be made that the two differ.

small percentage of the (on-site or off-site appreciative) users of a particular opportunity.

3. The expectations should relate to the administrative jurisdiction or statutory responsibilities of the public agency providing the opportunities if publicly provided.
4. Related to No. 3 above, the expectations should to some reasonable degree be related to or dependent on the resources under the jurisdiction of the supplying agency.
5. The desired experiences should be socially acceptable to a reasonable degree if the opportunities are being provided primarily by public funds.

In sum, the process of deciding what expected consequences or desired experiences and benefits should be researched is one that requires judgment. But as cited below, past outdoor recreation research indicates that certain types of desired experiences are pervasive in importance and are managerially relevant. These include: developing skills; competing or achieving; learning; being creative; exploring; being with friends, the family or like-minded associates; experiencing nature; exercising; taking risks; seeking thrills or stimulation of various types; manipulating machines; seeking privacy-solitude; reflecting-introspecting; and coping with a wide variety of adverse stimuli experienced in home, neighborhood, and work environments.

Problems of Research Bias:

In deciding which desired experiences to research, an ever present methodological question is: How is it known with assurance that the experiences and benefits identified and measured are those most important to the recreationists and not those of importance to the researcher?

Most existing research on recreation behavior reflects strongly the personalities and other personal inclinations of the researchers. This is not necessarily bad, so long as these influences do not also guide the data beyond the limits of the research designs in which they were collected. The likely deficiency is that not enough personal inclinations of recreation researchers are available to represent those of the public! In any event the researcher must be aware of the possibility of mapping his or her values onto those of the people studied. He also should be aware of the different procedures that can be used to cross-check the results of one approach with those from another, and he must work closely with managers.

STATE OF THE ART OF THE DESCRIBED APPROACH

Considerable descriptive research has been directed at determining relationships between recreation participation and socio-economic variables (B-1B, in Figure 1), such as income and occupation. However, most of the behaviorally oriented outdoor recreation research has been attitudinal in nature and has relied on questionnaires designed to solicit subjective responses to conditions specified by the researcher. A few studies have been reported using direct observation techniques to measure overt non-verbal behavior.

Most of the behavioral research has also been applied or strongly managerially oriented rather than basic or developmental. As such, it has not contributed greatly toward the development of a body of knowledge (Driver and Knopf 1975a). Despite these problems, results from past recreation research support the approach proposed in this paper for identifying and measuring benefits. A few representatives of these empirical studies, which are directly relevant to the behavioral scheme offered in Figure 1, will be mentioned.

Empirical research directed specifically at the antecedents of recreation choice and activity support the idea of problem solving during recreation behavior as proposed in this paper. Examples include reports by Catton (1969), Burch (1969), Ferris (1970), Meyersohn (1970), Witt and Bishop (1970), Knopf (1972), Mandell and Marans (1972), Morris et al. (1972), Sofranko and Nolan (1972), Davis (1973), Grubb (1975), Kelly (1974), LaPage and Ragain (1974), Driver and Knopf (1975b), and Foss (1975).

Other studies focusing on specific types of problems indicate a strong influence of home, neighborhood, and work environments on choice of recreation activity, reasons for that choice and amount of participation. For example, Grubb (1975) found relationships between auto workers' perceptions of job boredom, choice of activity, types of experiences sought, and days of participation in those activities which were viewed as more stimulating than the workers' jobs. Several studies (Mandell and Marans 1972, LaPage and Ragain 1974, Driver and Knopf 1975b) found that the relative importance of various types of desired and expected experiences differ for users characterized by different socio-economic variables such as age, sex, income, city size, stage in family-life cycle, perceived quality of home and work environments and other variables. Bassett et al. (1972) found that users of Michigan's AuSable River who differed in their expected consequences also differed in their perceptions of the severity of the conflicts between canoeists and trout fishermen. These differences were especially pronounced between the users who did, and those who did not, desire to see and be with other people on the river.

Knopf (1972) did a rather comprehensive review of the research, through 1971, addressed to relationships between recreation activity and changes in personal-individual traits such as self-esteem, dominance, etc. He also reviewed thoroughly the research literature dealing with the motivational bases of outdoor recreation choice and with the users' perceptions of satisfaction received. The research reviewed and reported since 1971 (e.g., Knopf et al. 1973, More 1973, Potter et al. 1973, Hendee 1974, Peterson 1974a, 1974b, Brown and Hautaluoma 1975, and Orthner 1975) indicate pervasive themes about expected consequences or experiences sought. Some example results from research with which I have been associated will be presented for illustrative purposes.

Tables 1 and 2 show some of the expected consequences sought by the different test groups of recreationists indicated. Sample sizes are small because the purpose of the research was to develop instruments to measure the consequences by using test groups of users rather than to apply the instruments to representative samples of users. The methodology is explained in detail elsewhere (Knopf 1972). Briefly, the procedure consists of asking recreationists to check in a questionnaire how important each of a long list of reasons (i.e., expected consequences) were to them when they decided to engage in the activity

TABLE 1.--Mean scores of 10 different test groups of Michigan recreationists to selected expected consequences scales.^{a/}

Expected consequences	Trail biking	Pic-nick-ing	Social camp-ing	Back country camping	Back country hiking	Trout fish-ing	Warm water fish.	Sail boat-ing	Tennis	Golf
Achievement	5.7	3.0	4.4	3.9	4.9	4.7	4.6	5.7	6.7	5.5
Avoid others' expectations	5.4	5.5	6.0	5.6	5.0	4.9	5.7	4.4	4.3	4.3
Being with others	6.2	5.9	7.0	4.6	5.2	4.0	5.4	5.4	5.7	5.5
Dominance-control	4.1	2.2	3.0	2.7	3.5	2.5	3.1	3.5	3.5	3.4
Exercise-phys. fitness	4.1	4.1	4.5	3.8	5.6	3.6	3.5	4.2	7.3	4.9
Experience nature	5.8	7.0	7.5	7.8	7.6	7.3	6.8	6.2	2.7	5.0
Exploration	6.1	5.2	6.2	5.7	6.7	5.0	5.8	5.7	3.5	3.7
Family togetherness	4.4	5.9	7.4	5.7	4.6	4.0	5.3	4.4	3.5	4.1
General escape	5.9	6.5	6.6	6.4	5.6	6.2	6.0	5.6	4.3	4.7
Mental change	5.4	6.3	6.4	5.4	5.4	5.7	6.0	5.2	5.1	5.2
Social recognition	3.5	2.2	3.2	2.5	3.4	3.3	2.3	3.2	3.6	3.3
Tension release	5.0	5.4	5.4	4.1	4.2	3.9	4.8	4.6	5.8	4.9
Risk-taking	4.3	2.3	2.9	2.4	3.4	2.6	2.9	3.5	2.3	2.9
Sample size	51	56	52	49	47	25	30	49	51	46

^{a/} Responses were to a 9-point scale format on which Extremely Important was coded 9 and Not At All Important was coded 1.

SOURCE: Knopf 1972, pp 111-113.

Table 2.--Ranking of test groups of Colorado snowmobilers' and cross country skiers' expected consequences.

X-C Skiers' expected consequences ranked by importance (N=71)	Mean score ^{a/}	Snowmobilers' expected consequences ranked by importance (N=22)	Mean score ^{a/}
1. Experience nature	4.9	1. Experience nature	4.3
2. Exercise	4.9	2. Family togetherness	4.0
3. Exploration	3.8	3. Being with friends	3.7
4. Being with friends	3.8	4. Exercise	3.5
5. Change-variety	3.6	5. Change-variety	3.5
6. Achievement	3.3	6. Exploration	3.2
7. Mental disengagement	3.2	7. Being with other people	2.9
8. Tension release	3.0	8. Mental disengagement	2.5
9. Independence-autonomy	2.9	9. Tension release	2.3
10. Being with other people	2.4	10. Achievement	2.2
11. Arousal seeking	2.4	11. Arousal seeking	2.2
12. Family togetherness	2.4	12. Independence-autonomy	2.1
13. Dominance-control	2.3	13. Dominance-control	1.3

^{a/} Responses were to a 6-point scale format on which Extremely Important was coded 6 and Not At All Important was coded 1.

in which they were participating when interviewed.^{20/} These reasons were grouped into "Expected Consequences Scales" (shown in the tables) by statistically combining similar reasons. For example, "to exercise," "to keep physically fit," "to improve my physical health" and other similar expected consequences were combined into an Exercise-Physical Fitness Scale. By computing mean responses for each scale, the average importance given to the expected and desired consequences making up that scale could be determined for each recreationist, and thereby an overall mean response could be computed for each type of activity.

Table 1 shows how 10 different test groups of Michigan recreationists varied in the importance they assigned each of 13 different types of expected consequences when they were deciding to engage in the activities shown. It can be noticed that exercising and achievement (skill development) were of the most importance to the 51 tennis players interviewed. Experiencing nature was least important to that group of users but was quite important to the test groups of back country campers and hikers. Other comparisons, such as the

^{20/} Responses could range from Extremely Important to Not At All Important.

trail bikers' desire to take risks, will be left to the reader. The table does indicate that any one activity provides a variety of (and not just one type of) satisfying experiences and also that some of these experiences are more important or satisfying than others for a particular activity.

Table 2 shows similar results for test groups of Colorado snowmobilers and cross-country skiers. That table ranks the relative importance of the expected consequences for both types of user. It is interesting to notice the similarities and differences in their preferences or expectations.

Tables 1 and 2 are examples of the types of results obtainable from the proposed approach. Some of the other studies showing similar findings were referenced above. All of these results help confirm the propositions (1) that specific types of activities are engaged in to realize the satisfying experiences that are relatively unique to that activity, and (2) that many of the experiences are highly dependent on the values inherent in specific resources required for a particular activity. These resources include game animals, tranquil settings, group accommodations, and cultural-historic restorations.

Admittedly, human behavior is complex and the problems of uncontrolled or intervening variables pose difficult problems for research. Nevertheless, progress is being made in structuring behavioral problems in managerial terms and in getting managerially useful results. Much more certainly needs to be done so that the actual and potential users' preferences, actual experiences and benefits can be identified to help assure that recreation resources are allocated to their highest purposes.

NEEDS FOR FUTURE RESEARCH AND SOME PROBLEMS OF IMPLEMENTING THE RESULTS

Since this paper has been a call for more research on the social benefits of outdoor recreation, few additional comments will be made on research needs. To iterate, however: research is needed to define and quantify the expected and desired consequences or experiences sought and the short-term and long-term benefits gained by different types of users who participate in specific types of outdoor recreation activities; the relationships between these benefits and conditions experienced back home need to be investigated more thoroughly; and research designs should employ techniques using subjective-verbal, unobtrusive-observational, and physiological measures.

The need for this type of behavioral research have been recognized in several national evaluations. One of the four chapters in the 1969 National Academy of Sciences' evaluation of outdoor recreation research was addressed to these needs and was entitled "The Social and Behavioral Dimensions of Outdoor Recreation" (NAS, 1969). The 43 managers and researchers at the September 1974 National Outdoor Recreation Research Needs Workshop ranked "Social and Behavioral" studies as an area of high research priority (BOR, 1975). Similarly, the recent publication by the National Academy of Sciences entitled "Assessing the Demand for Outdoor Recreation" called for more behavioral information in recreation demand analyses (NAS, 1975). The point is that the need for this type of information is recognized nationally. However, resources necessary to conduct adequately this type of research need yet to be mobilized. These resources include not only monetary support but also the support and

endorsement of recreation agency administrators. Even if these resources were mobilized, however, the results would not be easy to implement or apply for several reasons.

Although a growing number of managers realize the need for a better understanding of recreation behavior, some of them experience understandable difficulty in relating to that body of knowledge and its applications to management for several reasons. First, many recreation resource planners and managers are not familiar or comfortable with the social-behavioral sciences because most of their training has been in the natural-physical sciences. In fact, many professionals trained in the natural-physical sciences view the social sciences with a certain degree of suspect, part of which is justified. Second, a behavioral interpretation of recreation broadens considerably the scope of many managerial problems, makes explicit certain questions that do not have clearcut answers, and/or the answers are frustrating because they suggest solutions that are not under the discretion-jurisdiction of the manager. Third, human behavior is complex, and behavioral information requires acquiring a new vocabulary or at least gaining an understanding of new concepts and research approaches. Fourth, many of the managerial applications indicated by the research (such as off-site education of users and concern about latent demands) require unusual time and other resources of managers who are operating under everyday constraints and pressures of an immediate nature.

Although there are difficulties, I am optimistic that recreation managers and researchers will be working more closely together in the future to accomplish our mutual objectives. All indications point in that direction.

SUMMARY

This paper has proposed that much additional research on the personal-social benefits of participation in outdoor recreation is needed to take us beyond our current intuitive understandings of these benefits. A model was presented to help show the linkages between user expectations, experiences and benefits. Within that model, the outputs or products of recreation management systems were defined not only as opportunities but also as human experiences and benefits the latter two are the real goods and services produced.

The basic premise on which the conceptual framework of the paper rested was that the most pervasive and managerially relevant satisfying experiences and personal benefits realized from recreation behavior can be identified and measured to a managerially useful degree.

One must acknowledge seriously that there are risks involved of over-rationalizing the field of recreation behavior in attempts to identify users' expectations, experiences and benefits. The subject might be so complex that these variables are, in fact, not measurable, and that we are deluding ourselves to propose otherwise. We must be careful not to "use the users," misrepresent them, or adopt research and management strategies that do not account for all relevant preferences. Real options for choice must be preserved or created to the extent feasible, and the user's self-respect must be protected. To do that, the user must be kept aware that his preferences are being evaluated, and the purposes for doing so must be explained. Also, as a "cross-check" on the researchers and managers, users should be involved in the allocation decision process. Thereby, the use of behavioral information

in planning and management decisions can be reviewed by the publics for whom these decisions are made.

Despite these risks of implementing the proposed approach, the risks of not doing so are equally great and might be quite costly socially. The field is too important socially to continue to rely primarily on intuition to guide most of our recreation management and policy decisions. In the face of increased relative scarcity of our natural resources and with the growing problems associated with urbanization, better measures are needed of what should be produced, for whom, by whom, where, when and at what price. But it will take time and the strong support of managers and administrators.

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