



EVALUATING SATISFACTION IN THE RIVER RECREATION EXPERIENCE IN BIG BEND NATIONAL PARK

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Introduction

Researchers and resource managers have long regarded satisfaction of outdoor recreationists as both a curiosity and a goal. As a component of the recreation field, however, satisfaction is not well understood. The relative newness of the field of recreation and parks makes professional interest in such phenomena as recreational motivation and satisfaction a recent development. During the first three quarters of this century, both educator and practitioner efforts were aimed primarily at delivering a recreational service or an activity. While satisfaction among recreation consumers was a consideration of resource managers, its scientifically derived measurement was not given high priority, and its attainment was assumed unless public displeasure became obvious or consistent.

Today, recreation resource managers must not only determine goals and objectives in the

delivery of recreational opportunity, but increasing concern for accountability and justification, coupled with simple maturation of the profession, are causing managers to become involved in the empirical measurements needed to ascertain satisfaction in the delivery. Recreation and park agencies are asking, "What motives bring recreationists to a particular location for a specific recreation opportunity? Should we be concerned about satisfaction with the experience? How do we measure satisfaction?"

Likewise, recreation consumers are becoming increasingly organized and involved in heretofore esoteric recreation phenomena. Not only are they concerned with increasing their skills and achievements in a particular activity, but they are inquiring into the physiological and psychological impact of their participation. Recreation consumers are growing in number, they are becoming more conscious of recreation as a need in their routine, and they are more interested in articulating and understanding the benefits of participation.

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These conditions make timely the generation of applied research findings which can assist in both long-term and immediate resource planning and management decisions. From this background comes part of the *raison d'être* for this report. Utilizing results and methodologies substantiated in earlier work, research on satisfaction was conducted on the Rio Grande River in Big Bend National Park (BBNP) in 1976. The study used discrepancy theory, developed for use in measuring job satisfaction, to conceptualize recreational satisfaction.

Discrepancy theory offers two major propositions: (1) satisfaction is determined by the differences between the perceived outcomes an individual receives and the outcomes he wants or thinks he should receive; and (2) overall satisfaction in any situation is influenced by the sum of the discrepancies that exist for each facet of the situation (Lawler, 1972).

Application of this theory is not new in recreation. In 1969, Bultena and Klessig applied these propositions to a camping situation and concluded: "Satisfaction with camping is a function of the degree of congruence between aspirations and the perceived reality of the experience." In 1971, Peterson gave canoeists and resource managers in the Boundary Waters Canoe Area a list of 53 trip objectives and asked them how important each objective was. Afterwards, he repeated the list, asking how well the resource provided each particular opportunity. Comparison of the two responses yielded a measure of discrepancy (or lack of congruence) between the outcomes sought and those received.

The interest in discrepancy theory, coupled with a need to understand more about water-related recreational experiences in Big Bend National Park, led to this report. Empirical social science research techniques were used to determine both motivational factors among Rio Grande float trippers and subsequent satisfaction levels. The study did not correlate motives, satisfaction levels, or types of recreational activity with demographic data about the recreationists, although such relationships could be the subject of future research. The following discussion elaborates upon the techniques employed in the study, the results and some implications for both managers and recreation consumers.

The Study

The Rio Grande forms the southern boundary of Big Bend National Park (BBNP) in Texas

and provides river floating opportunities for increasing numbers of recreationists. A diversity of environmental conditions, ranging from vast, deep canyons to flat desert stretches, and a large number of potential access points allow a wide range of float trip opportunities.

A survey of Rio Grande floaters was conducted during the summer of 1976. A sample of 329 river floaters' names and addresses was drawn from the BBNP file of float trip permits. Each person in the sample was sent a questionnaire designed to measure his or her satisfaction with the important elements of the float trip experience. After two mailings, 77% of the floaters contacted responded to the questionnaires.

Rio Grande floaters were presented with a list of hypothesized motives and asked to indicate how important each item was as a reason for going on a float trip into BBNP. Next, to measure satisfaction, the list of motivational items was repeated to determine how well the Rio Grande experience provided each particular opportunity described. This questioning, in essence, measured the recreationist's perception of the performance of the resource.

Thus, the measures of motive importance indicated the extent to which each relevant outcome was sought by Rio Grande floaters. The measures of performance indicated the extent desired outcomes were obtained as perceived by recreationists. As stated in discrepancy theory, a comparison of these two values indicates satisfaction with each facet of the total recreational experience.

Findings

Float Trip Motivations for BBNP

The desire for *Enjoyment* was rated highest in importance of all motivations for a Rio Grande float trip experience (Table 1). The ranking of the remaining motives provides some insight into the dimensions of motivation which may contribute to an enjoyable float trip experience. *Learning About Nature* and *Stress Release-Solitude* were rated highest of the more specific motives. This finding suggests that a natural, relaxing experience is what is sought most often by Rio Grande floaters.

The next most important motive was *Intra-Group Affiliation*. Big Bend floaters attached relatively high importance to the opportunity for companionship with fellow group members. It is important to note that affiliation with strangers was held to be much less important,

as indicated by the low rating for the motive *Meeting Friendly People*.

Challenge-Adventure-Achievement was the fifth most important motive. The opportunity for *Taking Photos to Show at Home* followed closely in importance. *Autonomy*, or the opportunity to do things independently or on one's own, ranked seventh in importance. Finally, opportunities for *Self-Awareness* (thinking about one's personal worth) and *Status* were ranked least important by the sample of Rio Grande floaters.

Table 1. Average Importance of Float Trip Motives in BBNP

Motive	Average Importance*
Enjoyment	5.29
Learning About Nature	4.53
Stress Release-Solitude	4.27
Intra-Group Affiliation	4.15
Challenge-Adventure-Achievement	3.78
Taking Photos to Show at Home	3.67
Autonomy	3.32
Meeting Friendly People	2.98
Self-Awareness	2.78
Status	2.44

*Expressed as average ratings on a 6-point scale ranging from 1 (not at all important) to 6 (extremely important).

This description of motivations provides only a summary representation of the kinds of experiences sought by BBNP floaters. An important question about motivation remains: Can different types of floating groups be identified which will help to explain diversity in float trip motivations?

Studies in other parts of the country have indicated that floaters with different characteristics and different floating styles are likely to have different motives for floating. For example, perceptions of paddling canoeists in the Boundary Waters Canoe Area were found to be different from those of canoeists using motors (Lucas, 1964). Neilsen and Shelby (1977) found similar differences between participants in paddle-powered and motorized river trips in the Grand Canyon. In Dinosaur National Monument, motivational differences were found among participants in private, commercial and organized educational river trips (Roggenbuck, 1975).

In the Big Bend study, the motivations of a number of identifiable sub-groups of floaters were also compared. Sub-groups were categorized by the size of the float trip party, the river section floated and the type of floating craft used — canoe, raft, kayak, boat. In general, sub-groups were found to exhibit similar motivational profiles. This lack of observed diversity may be explained partially by the fact that all of the Big Bend floaters contacted navigated the river in private floating parties using oar or paddle power.¹

Further examination of the relationships between motivations did suggest, however, that different "types" of floaters could be identified in the Big Bend setting. While two distinct groups were found (Table 2), it must be emphasized that group typology identifies only the motivational characteristics of each. These groups are not recognizable by any other characteristics. However, categorizing by these types helps to increase understanding of float trip motivation in BBNP.

Table 2. Average Motive Importance for Two Major BBNP Floater Groups*

Motive	Group A (43%)	Group B (57%)
Learning About Nature	4.80	4.28
Stress Release-Solitude	4.67	3.95
Challenge-Adventure-Achievement	3.10	4.37

*Expressed as average ratings on a 6-point scale ranging from 1 (not at all important) to 6 (extremely important).

Members of group A felt *Learning About Nature* and *Stress Release-Solitude* were very important while *Challenge-Adventure-Achievement* was relatively unimportant. For members of group B, *Challenge-Adventure-Achievement* was an important motive. Its mean was, in fact, higher than the other two. This motive appears to be the distinguishing characteristic between group A and group B. Its importance varied markedly while the other motives remained relatively similar between groups. Contrary to what would be expected from the overall summary profile discussed earlier,

¹A small percentage (5-10%) of river trips in BBNP is outfitted by a single commercial operator. However, these floaters were not sampled in the study because a record of participants was not available.

more than half of the total sample felt that *Challenge-Adventure-Achievement* was a very important motive.

With this data about float trip motivations in BBNP, it is possible to apply discrepancy theory to measure satisfaction with Rio Grande float trips. If the types of desired opportunities described by the recreationists' motives are viewed as components of the total float trip experience, the degree of fulfillment for each motive can be viewed as a measure of satisfaction with each facet of the experience.

Float Trip Satisfaction for BBNP

Satisfaction with the individual facets of the float trip experience is shown in Table 3. When the difference between a motive's average importance and its average performance was statistically significant, a discrepancy existed between what was sought by the recreationist and what was perceived to have been delivered. If the difference was not significant, such a discrepancy cannot be assumed because the difference may have been the result of chance. Significant differences where importance of the motive was greater than its performance indicated that the motive was not fulfilled to the extent desired by the sample (underperformance). Significant differences where performance was greater than importance indicated that the motive in question was fulfilled above the desired level (overperformance). Satisfaction was indicated by non-significant differences and overperformance, while dissatisfaction was indicated by underperformance.

The underperformance of *Enjoyment* suggests that some floaters were less than completely satisfied with their float trip experience. This finding was verified by a separate measure of overall trip satisfaction taken from the sample. The findings also yielded the following distribution of responses: exceptionally satisfying (25%), very good (45%), good (21%), fair (6%), poor (1%), terrible (2%).

Challenge-Adventure-Achievement was another underperformer, indicating the lack of fulfillment of this particular motive. On the other hand, all other motives appear to have been fulfilled, with opportunities for *Stress Release-Solitude* and *Autonomy* performing above aspiration levels of the sample.

Finally, it is useful to examine variation in satisfaction patterns between groups A and B. Group A showed no underperforming motives while group B echoed the pattern shown by the

sample at large. However, their overall satisfaction ratings were virtually identical. Thus, two groups with different desires perceived differently the experiences they obtained. It seems clear that BBNP is providing different float trip experiences for different people and is providing divergent types of experiences equally well.

Table 3. Effects of Individual Facets of the Float Trip Experience on Total Satisfaction

Sources of Dissatisfaction	Sources of Satisfaction
<i>Underperforming Motives</i>	<i>Overperforming Motives</i>
Challenge-Adventure-Achievement Enjoyment	Stress-Release-Solitude Autonomy
	<i>Motives Fulfilled Approximately as Desired</i>
	Learning about Nature Self-Awareness Status Intra-Group Affiliation Meeting Friendly People Taking Photos to Show at Home

Discussion and Implications

Those questioned in group B (57% of the sample) experienced a lack of fulfillment from the *Challenge-Adventure-Achievement* motive. One must extrapolate from existing data to understand the cause. Resource conditions at the time of the float trip and/or visitor perceptions and anticipations prior to the trip must be considered. For example, there is evidence to indicate that some float trippers visualize a class IV or class V river when anticipating a river experience (see Table 4). The Rio Grande through Big Bend is primarily a class II river with stretches of rough, challenging water represented in the various canyons (see Table 5). Thus, if one's anticipation of a predominantly white water experience persists throughout the execution of the trip, the *Challenge-Adventure-Achievement* motive will not produce satisfaction relative to other motives. If, however, one's anticipations are more in line with reality, satisfaction for the various motives should be measurably greater.

Table 4. International Scale of River Difficulty

If rapids on a river generally fit into one of the following classifications, but the water temperature is below 50 degrees F., or if the trip is an extended trip in a wilderness area, the river should be considered one class more difficult than normal.

Class I.	Moving water with a few ripples and small waves. Few or no obstructions.
Class II.	Easy rapids with waves up to 3 feet, and wide, clear channels that are obvious without scouting. Some maneuvering is required.
Class III.	Rapids with high, irregular waves often capable of swamping an open canoe. Narrow passages that often require complex maneuvering. May require scouting from shore.
Class IV.	Long, difficult rapids with constricted passages that often require precise maneuvering in very turbulent waters. Scouting from shore is often necessary, and conditions make rescue difficult. Generally not possible for open canoes. Boaters in covered canoes and kayaks should be able to Eskimo roll.
Class V.	Extremely difficult, long, and very violent rapids with highly congested routes which nearly always must be scouted from shore. Rescue conditions are difficult and there is a significant hazard to life in event of a mishap. Ability to Eskimo roll is essential for kayaks and canoes.
Class VI.	Difficulties of Class V carried to the extreme of navigability. Nearly impossible and very dangerous. For teams of experts only, after close study and with all precautions taken.

Source: American Whitewater Affiliation, San Bruno, California.

This difference between anticipation/perception and the actual recreational experience has a message for recreation resource managers and for recreationists. If satisfaction in the delivery of recreational experiences is a management goal, then management has three choices: 1) altering the resource so that it better delivers the level of satisfaction anticipated, 2) affecting user motivations prior to the recreational experience, or 3) attempting to better match recreationists' anticipations with those resources most capable of delivering the experience (management for experience).

Realistically, the more complex the recreation resource, the less attainable or desirable is the option of resource alteration. The construction of new rapids or constrictions on the Rio Grande obviously would receive opposition from environmental groups and would necessitate considerable expense. Clearly, this choice, at least in BBNP, is not a viable one for management. On a recreation site where concern for authenticity or quality of the resource base is less, such as in certain urban or

regional locales, resource alteration may be feasible.

Table 5. Rapids Classifications for Major Sections of the Rio Grande in BBNP

River Sections	Rapid Classifications
Colorado Canyon	II, III
Santa Elena	II, VI
Mariscal	II, III, IV
San Vincent and Hot Springs Canyons	II
Boquillas Canyon	II
Lower Canyon	II, III, IV, V

Source: Bob Evans and Ron Josselet, "The Waterways of Texas," Texas Parks and Wildlife Department, December 1977.

If altering the resource is eliminated, alteration of the recreationist's motive to achieve a change in expectation may be considered. Implementing this alternative is a challenge for environmental interpreters because they would have to administer the appropriate messages and measure subsequent user responses. This action would require the visitor to compare his anticipations with the actual character of the river. Success for interpreters would be evident if there was a measurable reduction in the discrepancy between recreationists' anticipated motives and their satisfaction after the event.

Implementation of the third alternative, management for experience, requires environmental interpreters to match recreational possibilities with the aspirations of specific recreationists. The management for experience approach recognizes the diversity of resource conditions within the park, as well as the diversity of anticipations held by floaters. Rather than trying to change motivations, however, this approach seeks to direct individual river floaters to those river sections which are most capable of fulfilling their expectations. Management would generate specific interpretive messages relating to the actual recreational opportunities available.

There is also a fourth choice. Management can reject the hypothesis that visitor satisfaction should be a management objective. Perhaps management should not be concerned with improving the delivery of satisfactory recreational experiences, particularly on large, resource-based sites like BBNP. The alternative recognizes that certain characteristics, including risk, aesthetics and ecological heritage, are unique for each recreational resource. In

managing for this alternative, management would emphasize that each resource should be compared only to itself. Thus, management would not initiate messages or actions designated to manipulate resource conditions or overt user behavior. Only educational and informational messages such as those generally found in the interpretive offerings of most National Park Service sites would be used.

Finally, it may be appropriate to view the delivery of satisfactory recreational experiences primarily as the responsibility of the individual recreationist. It is the individual's responsibility to learn as much as he can about the opportunities available prior to his visit, and thereby increase his own chances of finding opportunities which are compatible with his aspirations.

Extending the Findings

Recreation resource managers who are interested in determining satisfaction levels of recreationists on other waterways should gain insight from this study into the processes involved, both in motivation/satisfaction behavior and in measurement of these characteristics. The BBNP study, coupled with other works cited in this report, suggests that some motivational characteristics have limited application to all recreational float experiences. As with many research findings, however, caution should be used in applying results from one set of recreation resource variables to resources and users with different characteristics. Indeed, the BBNP study reinforces the fact that every recreation resource is unique, and user motives and subsequent satisfaction must be measured with that uniqueness in mind.

Summary Propositions

1. A natural, relaxing experience is sought most often by Rio Grande floaters.
2. Two groups of river floaters were found; one felt that *Learning About Nature* and seeking *Stress Release-Solitude* were the most important motives; the other group felt *Challenge-Adventure-Achievement* was its most important motive, in addition to the motives preferred by the first group. Fifty-seven percent of the total sample constituted the second group, while forty-three percent constituted the first.

This report was derived from an unpublished master of science thesis entitled, "Elements of Motivation and Satisfaction in the Float Trip Experience in Big Bend National Park", by Alan R. Graefe, Directed by Dr. Robert B. Ditton, Department of Recreation and Parks, Texas A&M University, 1977.

3. The lack of fulfillment of the *Challenge-Adventure-Achievement* motive was identified as a significant source of dissatisfaction among BBNP float trippers.
4. The findings suggest four alternatives for management:
 - a. Alteration of the recreational resources to provide better satisfaction;
 - b. Alteration of user motives prior to executing the recreational experience;
 - c. Matching recreationists' anticipations with resources most able to deliver the anticipated experience; and
 - d. Taking no action to improve satisfaction levels in the delivery of recreation experiences.
5. For the recreationist, acquaintance and familiarity with the characteristics of the recreation resource may increase satisfaction in the recreational experience.

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