

# Chapter 1: Introduction

This report presents the findings of sociological research conducted in 1998 to support management planning for the Colorado River through Grand Canyon National Park. This study dealt only with river runners. Observers accompanied a random sample of river trips, documenting trip logistics and encounters among groups. At the end of the trips, observers distributed surveys to passengers and guides, asking about a variety of perceptions and attitudes pertaining to experience quality and river management. This chapter describes the rationale and objectives of the study and the organization of this report.

## Purpose of the Study

Quality recreation management requires understanding the patterns of use of a resource as well as users' views on the way use levels, encounters, and other factors enhance or detract from experience quality (Shelby and Heberlein 1986; Manning 1986). The Colorado River through Grand Canyon National Park provides a unique recreational opportunity, and ensuring high quality recreation through superior management is especially important. This study provides information directly applicable to the river management planning process by identifying the type of experiences currently provided, visitors' desired/preferred types of experiences, the level of agreement among managerially relevant segments of the user population, several indicators that can be used to monitor experience quality, visitor perspectives on standards of quality for each indicator, and visitors' views on the appropriateness of possible management actions or policies.

The 1989 Colorado River Management Plan (CRMP) stipulates that the river should be managed to provide opportunities for solitude, quiet, and ability to avoid crowded sites. It identifies several factors that influence experience quality, including group size, trip length, visitor expectations, the number of river encounters per day, the amount of time in sight of other boaters, the number of encounters at attraction sites, guide qualifications, and beach camp quality and size. This list was based on research conducted by Shelby and Nielsen in 1975.

A review of the CRMP, the National Park Service (NPS) River Contact Survey and Attraction Site Monitoring Status Reports of 1990 and 1991, and comments solicited from researchers following a 1995 NPS fall river trip raised the issue of needed sociological research and monitoring in the Grand Canyon. Although several studies had been conducted in the past, the imminent revision of the CRMP, new developments in sociological recreation research methods, and the length of time that has passed since the last systematic research all suggested the need for additional research. In particular:

1. Much of the past research was done between 15 and 25 years ago, and it is possible that visitor perceptions, concerns, and attitudes have changed. Longitudinal studies in recreation settings are quite rare, and we do not know how rapidly visitor sentiments change. Aspects of use patterns (such as the number of trips, type of trips, and number of trips with exchanges), of the site (such as beach availability), and of the visitors (level of experience or environmental attitudes) have changed since the 1970s, and these changes may have translated into different perceptions and attitudes about Grand Canyon and management of the Colorado River. This study provided an opportunity to replicate and extend a study conducted 23 years previously, giving valuable insight into the ways the river experience and river users may have changed over time.

2. New techniques for obtaining visitor input (for example, the use of visual aids and different question formats) have recently been developed, and we felt that these might provide unique or different insights about Colorado River users and experiences. In particular, research on understanding visitor preferences and standards for encounters, and their perceptions of wilderness qualities, have been substantially refined since the original research in 1975 (see, for example, Hall et al. 1996; Hall & Roggenbuck 1998; Roggenbuck et al. 1991).

3. Changes in management and in use patterns may have altered the nature of the visitor experience since the last monitoring was performed. The NPS strives to keep encounters to low levels and various formal and informal efforts to do so have been undertaken. In particular, adjustments to launch scheduling may have reduced the number of encounters between trips on the river. Awareness of the issue of encounters may also have influenced the way guides lead their trips, which in turn may influence the number of encounters they have with others. According to knowledgeable individuals, including many guides, trip leaders work to avoid congestion at popular attractions and camps.

4. There was a perceived need to obtain representative, scientifically valid data on conditions experienced by river runners for use in revising the CRMP and in managing the river. Data collected by river rangers using convenience sampling may not be sufficiently valid or representative for these purposes.

5. The CRMP details specific standards of quality for river trips, which generally pertain to encounters among groups. There was a perceived need to evaluate how actual conditions comply with these standards and also to evaluate the standards themselves against visitor opinion.

The specific objectives of the study were:

1. To evaluate ways that the visitor experience and visitor characteristics have changed since 1975, looking specifically at the nature, number, location, and duration of encounters between river users and visitors' evaluations of experiences;
2. To understand how Colorado River runners define and conceptualize "wilderness;"
3. To understand what type of experience river users believe the Colorado River now provides, and what type of experience they think it should provide;
4. To evaluate the current indicators of experience quality, the standards for each indicator, and the acceptability of alternative techniques that might be used to maintain conditions within standards;
5. To understand visitor support for different management actions, including the trade-offs they are willing or unwilling to make between experience quality and access to the river.

## **Organization of the Report**

Several complex data sets emerged from this effort. For ease of presentation, the different types of data are presented in different chapters. Chapter 2 (Methods) describes sampling,

development of data collection instruments, and procedures used to collect attitudinal data from boaters as well as observational data about trips and encounters.

Chapter 3 describes the trips sampled for this study, including information about attraction site stops and camp locations. Group sizes, time on the river, and other features of trips are presented. The majority of the chapter presents observers' data on encounters, including information about individual encounters (e.g., duration and type), as well as information about the total number of encounters on the river each day. Separate data are presented for encounters at attraction sites and at camps.

Chapter 4 presents results from the boater surveys. This contains information on visitor characteristics (demographics, recreation preferences, river experience, and ideas about wilderness); planning for the river trip (motives, advance planning time, and factors important in selecting commercial trips); perception of wilderness qualities in the Grand Canyon; perceptions of environmental impacts in the Grand Canyon; evaluation of trip quality (pace, opportunities for off-river activities, weather, guides, level of development, comparison with expectations, features and conditions encountered, comparison with other rivers, and personal benefits); social conditions (recall and evaluation of encounters, expectations, preferences, and crowding); preferences for Grand Canyon experiences (preferred trip types, group sizes, types of encounters, numbers of encounters, and willingness to adjust to obtain desired experiences); and opinions about river management (group size limits, actions to reduce crowding, and other policies or actions).

Data from the survey are presented separately for commercial motor, commercial oar, and private boaters. Guides completed a shortened survey, and data for them are presented

separately as well. Statistical comparisons among groups allow us to draw general conclusions about differences among the different types of respondents.

Chapter 5 synthesizes and discusses findings related to social conditions (i.e., encounters and crowding) on the river. Existing NPS standards are described and evaluated relative to visitor input about acceptable conditions and to current encounter levels. This chapter also includes research findings from other rivers to explore ways in which the Grand Canyon is similar to or different from other settings.

Chapter 6 uses survey questions asked in both the 1998 and 1975 surveys to explore ways in which the river experience and users have changed over time. Of particular interest are changes in objective conditions (i.e., encounters) and changes in visitor perceptions of conditions, impacts, and crowding.