



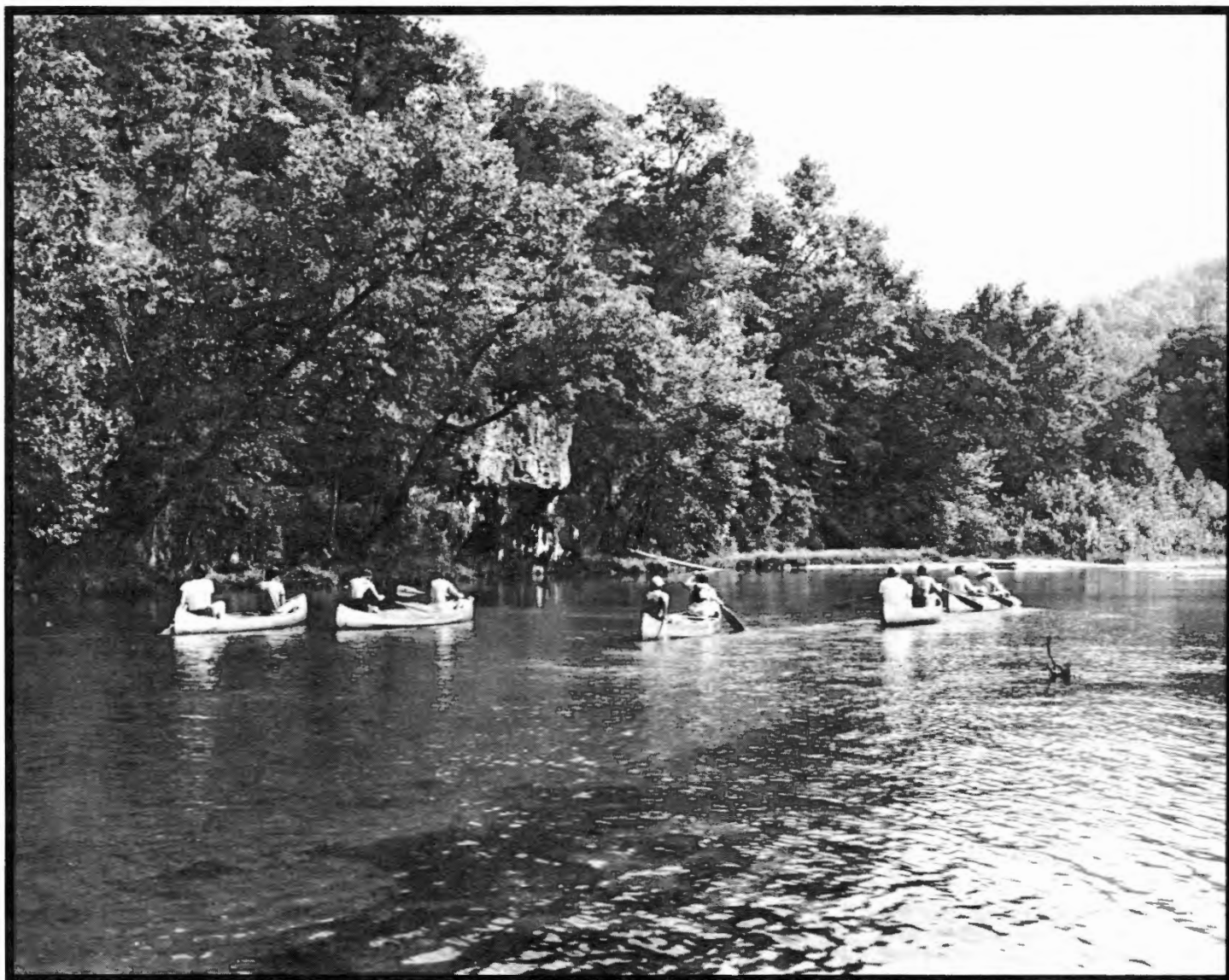
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Cover:

Canoeists using the Ozark National Scenic Riverways (the Current and Jack's Fork Rivers) are the subject of intensive sociological research. (Story page 3)

Combined Social/Biological Research Works Both in Park and in Court

By Kenneth Chilman and Dave Foster

Social research in national parks is an often discussed, but frequently confusing topic for park managers. This may be because social scientists use a specialized language not familiar to persons trained in natural resources management. It also may be because field methods for social sciences in park and wildland settings are relatively new and evolving.

An unusual social research program has been conducted at Ozark National Scenic Riverways (OZAR) in Missouri over the past 14 years. Its purposes were to identify and conduct visitor studies needed for recreational carrying capacity determination in a park setting. The program is unusual, first because of the long-term continuing research cooperation between a university social science researcher and the OZAR staff. This occurred because of OZAR's need and interest in having social research conducted, and the researcher's proximity (approximately 150 miles) and interest in working in a park setting. Second, the researcher had an unusual combination of natural science and social science training, and several years of experience in wildland resources management. This combination facilitated discussion of research needs, and interpretation of research results that would aid management. And, third, the social research at OZAR is unusual in aggressively seeking ways to obtain social science information in the face of severe budget constraints.

One hundred and forty miles of the Current and Jack's Fork rivers were designated as Ozark National Scenic Riverways in 1964. By 1970, rapidly increasing numbers of canoe floaters began to cause management concerns about recreational carrying capacities and effects of recreational use on OZAR natural environments. A balanced program of biological and social research addressing the carrying capacity concerns was designed by OZAR biologist Leo Marnell (now at Glacier NP) to gather data in the period 1972-1977. The rationale for the program and the search methods and results were reported in a 139-page summary publication *River Recreation Research at Ozark National Scenic Riverways 1970-1977* available from OZAR headquarters, P.O. Box 490, Van Buren, Missouri, 63965.

The social inputs needed for the program were identified by the participating social researcher through intensive discussions with OZAR staff, managers of other wildland areas, and other social researchers. Field methods for studies of wildland visitors were new, developing, and scattered. The concept of a series of visitor studies in one park, integrated with other research considerations, was unique.

The studies selected for implementation followed from a series of questions relating to the canoeist increases. A central concern was how many canoeists actually were using the river. An innovative time-lapse photography program was developed by Marnell to count canoes on various parts of the riverways; the counts were done in 1972 thru 1975, and again in 1977 to establish trend data. Several visitor interview studies were conducted concurrently. The first sought information about "where did first-time visitors learn about OZAR" and "what were their visit expectations." A series of "perceptions of crowding" studies began in 1972, and continued in 1977 and 1979, again for trend data.



HOW MANY PADDLERS does it take to "fill up a river" to the quality capacity level? At OZAR they decided to find out.

Research on management alternatives began with studying the characteristics of large group (over 20 canoes) floaters, and implications of limiting group size. Another study investigated the effects of increasing numbers of canoeists on johnboat fishermen. (Johnboats are large, flat bottom, motorized boats). Characteristics of private canoe owners were surveyed. Safety concerns were explored through an examination of accident records and river conditions. Finally, a study was done to determine perceptions of comparable river floating opportunities in the region, and reasons for canoeists choosing OZAR.

Individually, these studies were rather small-scale and unsophisticated, although they used state-of-the-art social science research methods. But collectively, they began to form a data base for OZAR managers to use with biological research data (patterns of ecological site impacts, water quality studies, fisheries and wildlife studies, cave studies) for day-to-day decision making.

Then, two things happened. In 1978, research activities were put on hold during planning activities for a new master plan. But more importantly, legal action was initiated to prevent canoe rental businesses without NPS concession permits from operating on the riverways. OZAR managers had to establish river use capacities in order to show that control of numbers of canoes rented (approximately 87% of total canoe use) was necessary. At the federal court hearing in St. Louis in 1982, the research data played an important part. First, the 1978 summary research report provided strong evidence of the serious NPS efforts to develop a data base for decisions. Second, both the biological and social research documented the needs for maintaining use with certain constraining conditions.

Following appeals and some legal complications of

the federal court's ruling favorable to NPS, research activities have been resumed. Some canoe counting was done in summer 1983 to learn the effects of restricting unlicensed canoe rentals (an estimated 40% of rental canoes available), and a use monitoring system was designed. As further changes occur in the recreation management situation at OZAR, new subjects for research and monitoring will be identified.

The question of OZAR recreational carrying capacity has not yet been answered definitively. The complexities of the OZAR river management situation have afforded opportunity for examination of various carrying capacity strategies over a time period of several years. We believe we have identified a carrying capacity strategy that will work for the OZAR river use plan to be developed in the next few months. That strategy also involves continuing research on monitoring the various aspects of carrying capacity for management purposes.

The concept of designing a park research program to combine social and biological inputs appears to have been the real key to utility of the research information. For OZAR, the data base obtained from the research program has been used frequently in daily decision-making, in planning activities, and in federal court. Although difficult to measure, the utility of the data base for daily decisions is probably its greatest advantage. For the cooperating researcher, the long-term series of studies has been an exceptional opportunity to learn more about the kinds of social information that managers need and how to devise ways to obtain them.

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