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Recreation Ecology: Learning from the Past

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Although it is a relatively young discipline, with few full-time practitioners, recreation ecology has already developed an impressive array of research traditions. In this paper, I identify the primary traditions of recreation ecology research and trace their origins. I use this perspective to suggest future directions for the discipline.

Work on recreation impacts on vegetation had begun by the 1920s (Meinecke) and work on animal response to approaching humans by the 1930s (Hediger). But it was not until the 1960s and early 1970s that substantial and cumulative recreation ecology research programs were begun. Prior to this, individuals conducted a study or two and then moved on to a different topic.

Many of the primary research traditions were instigated by the earliest substantive recreation ecology research programs. The earliest programs were developed on both sides of the Atlantic – with government-sponsored programs in the United States and Great Britain. Concern about recreation impacts led the U.S. Forest Service to support work by Al Wagar, Sid Frissell and Larry Merriam. Although none of these scientists made careers of recreation ecology, they made substantial contributions to the field. Wagar (1964) provided initial conceptual development of the carrying capacity concept, conducted the first simulated trampling experiments and also initiated work on restoration of damaged campsites. Frissell conducted the first study of campsites that receive different levels of use (Frissell & Duncan 1965). This study illustrated that impact is inevitable wherever use occurs, suggesting that the manager's task is to define the maximum acceptable level of impact—not to decide whether or not to allow impact. It illustrated the curvilinear relationship between use and impact and was the basis for techniques for monitoring campsites. Merriam, also working on campsites in the same area as Frissell, provided the first long-term studies of trends in impact (Merriam & Smith 1974).

In Great Britain, the government sponsored work by Neil Bayfield, over a 20-year period, on trampling and footpath impacts in the mountains of Great Britain. Bayfield developed more realistic experimental techniques, allowing him to describe variation in impact across different vegetation types. He effectively used experimentation in concert with general survey techniques on impacted sites (Bayfield 1979). His long-term studies allowed him to differentiate between the processes of initial damage and recovery. He also developed some of the earliest techniques for monitoring impacts on trails and experimented with restoration techniques. Finally, Mike Liddle brought some of the rigors of an academic tradition to the field in the early 1970s with his work on impacts on sand dunes in Wales. In particular, Liddle was among the first to propose generalities about recreation impact and to provide syntheses of knowledge (Liddle 1975).

Current recreation ecology research, largely an extension of this early work, is being conducted on all continents. There have been expansions in the types of ecosystem responses that have been studied, as well as recreational activities. Ecotourism effects are a recent emphasis area. Substantial progress has been made in translating research results into management implications. Studies of recreational impacts on animals are

now about as numerous as those on vegetation and soil, although less progress has been made in developing generalities from this research.

One major challenge for the future is to develop a stronger theoretical basis for recreation ecology, to develop more useful general principles and to increase our predictive abilities. A second challenge is to link our understanding of impacts at small spatial scales (the scale at which most research is conducted) to larger spatial scales (the scales at which most management planning occurs).

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