

THE STATE OF THE WORLD'S PARKS

Gary Machlis and David Tichnell undertook a challenging task – a survey of the parks of the world – in

a quixotic effort to answer two questions: "What are the threats to national parks around the world?" and "What can be done about them?" The authors sought answers to these questions through a systematic, interdisciplinary examination of a representative sample of the world's parks obtained via a carefully constructed, mailed questionnaire.

The results of this effort appear in their book, *The State of the World's Parks – An International Assessment for Resource Management, Policy, and Research* (Westview Press, Boulder, Colorado, 131 pp., 1985). The book's first three chapters set the stage for its last two chapters by presenting the assumptions on which the project was based, establishing that an intimate relationship exists between the human culture and the biophysical environment that together make up a park, and defining the biological and social variables that influenced the design of their questionnaire and the direction of their analytical approach. The last two chapters describe the methods used to gather and analyze the data, present the data and their analysis, and suggest the conclusions and recommendations that can be drawn from the analysis. The appendices provide information on the research methodology and the characterization of the parks included in the sample.

The strength of the book lies in what it says about the background of the project: the orderly development of assumptions, the analytical discussion of social and biophysical linkages, the theoretical underpinnings to the determination of key variables, and the thought and testing that went into developing the cross-cultural, multi-lingual written survey instrument. The assumptions were that: 1) a significant portion of human social behavior has a biological basis, 2) humans have special traits that permit wide behavioral variation, 3) people are ecologically interdependent with the natural world, 4) understanding this interdependency benefits from using a systems approach to analysis, and 5) the concept of "threat" includes "stress," "detrimental impact," and "valued component," a combination of biological and cultural terms that support adoption of a working definition of threat as: an activity of either human or natural origin that causes significant damage to park resources, or is in serious conflict with the objectives of park administration and management.

The social and biophysical linkages included: 1) interrelationship between parks and subsistence needs of indigenous peoples, 2) influences of park-oriented tourism on local cultural and economic patterns, 3) conflicting management purposes of preserving specific habitats and species compared to permitting ecological change to proceed unimpeded, 4) controversy of some needed management techniques, 5) ecologically inadequate boundaries, 6) recurrent conflicts between preservation and use of parks, and 7) the role of indigenous practices in maintaining desired ecological conditions of parks. The variables adopted as key for this study of threats to the world's parks were: biome type, park size, stage of economic development of the parent country, and presence/absence of specialized management programs (world heritage site, biosphere reserve).

The results of the survey are the disappointing part of the book – at least, at first blush. One hundred thirty five parks were sent questionnaires. One hundred parks replied, with 98 regularly represented in the data being presented. The responses represent 13 biome types, 4 size classes, 7 biophysical systems comprising 48 subsystems identified by the authors plus another 60 subsystems identified by the respondents, 3 stages of economic development,

and 2 alternatives for management emphasis. The data are spread throughout this multidimensional matrix; are of a nonquantitative, YES/NO nature; do not lend themselves readily to grouping and statistical analysis; and must be presented primarily as percentages of the total, which becomes confusing since the subject which is totaled varies from table to table and the citations of percentages in the text do not always make crystal clear which subject is the reference subject. Where grouping is possible, we see only 4 (and in some cases only 2) of the 13 biome types and only 2 of the 4 size classes represented. With such an apparent mish-mash, you may wonder, why bother with the rest of the book?

Several reasons. First, this work is as statistically valid a sample of the world as the authors could achieve. Second, the authors made a great effort to minimize cultural biases in developing the questionnaire and translating it into other languages. Third, the confusing welter of threats and the lack of much commonality among the threats revealed by the survey tell us a great deal about our natural world – especially that humans are affecting every corner of it, that the impacts of these effects are very site specific, and that the types of threats being experienced vary with the stage of economic development. Fourth, the conclusions and recommendations presented in Chapter 5 offer kernels of thought that are applicable to the problems that all of us face in our day to day work.

In my view, the authors have met their goal – they have identified threats that face the world's parks and they have offered ideas of what can be done about these threats. For example, better park protection may be achievable in many places through development of a "conservation" park within a total regional land use program rather than through development of a "preservation" park that operates in ignorance of how the park neighbors are using the adjacent lands.

Another example is a suggestion to develop a worldwide strategy to combat poaching.

A third suggestion is that, because it is difficult to administer national policies while at the same time solving local problems, national policies should be structured to combine strong objectives with maximum flexibility in meeting the objectives.

Fourth, the authors urge that a continuing program of research be conducted to support nations in dealing with threats to their parks, and that this research be structured to overcome existing fragmentation created by the "orthodoxies of academic organization" and to become an interdisciplinary whole that focuses on "preservation science" (p. 93).

Fifth, parks are in fact multiple-use areas that must be managed in integration with their regional socioeconomic systems so that measurable benefits flow from park to region (p. 97).

We, the readers, can apply the ideas developed here in our every day activities. We can redouble our efforts to see threats for what they are, to conduct needed research with appropriate scientific rigor, and to apply the findings of that research to solving those threats that are within our span of control.

Above all, we can take the reminder to heart that parks are social institutions and that, although we can take firm stands for park needs, the parks do not exist in vacuums and, therefore, the meeting of park needs must be achieved in cooperation with the meeting of the needs of both park neighbors and park supporters.

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