

SCIENCE AND ECOSYSTEM MANAGEMENT IN THE NATIONAL PARKS

A Timely Book by William L. Halvorson and Gary E. Davis

By WILLIAM L. HALVORSON

SCIENCE AND ECOSYSTEM *Management in the National Parks* (ISBN 0-8165-1566-2) underscores that our national parks are more than recreational pleasuring grounds. They are repositories of the nation's biological diversity and contain some of the last ecosystem remnants needed as standards to set reasonable goals for sustainable development on a landscape basis. In the past, public pressure for recreation largely precluded adequate research and resource monitoring in national parks, and ignorance of ecosystem structure and function in parks lead to costly mistakes—such as predator control and fire suppression—that continue to threaten parks. This book demonstrates the value of ecological knowledge in protecting parks and shows how modest investments in knowledge of park ecosystems can pay handsome dividends.

Sponsored by the NPS Inventory and Monitoring (I&M) Program and recently published by the University of Arizona Press, this book presents 12 case studies of long-term research conducted in and around national parks. These case studies were chosen by a panel of NPS scientists and senior managers to address major natural resource issues. The cases show how the use of longer time scales strongly influence a manager's understanding of ecosystems and how interpretations of short-term patterns in nature often change when viewed in the context of long-term data sets. Most importantly, the cases illustrate conclusively that scientific research significantly reduces uncertainty and improves resource management decisions.

The cases offer a broad range of topics, including air quality at Grand Canyon National Park, Arizona, the moose and wolf interaction at Isle Royale National Park, Michigan, alien species at the Ha-

waiian parks, fire management in the Sierra Nevada (California and Nevada), and the impact of urban expansion on Saguaro National Park, Arizona.

Because national parks are increasingly beset with conflicting views of management, the need for knowledge of park ecosystems becomes even more critical with time—not only for the park units themselves, but for what they can tell us about survival in the rest of the world. This book demonstrates to policy makers and managers that decisions based on knowledge of ecosystems are more enduring and cost effective than decisions derived from uninformed consensus based on belief. It also provides scientists with models for designing research to meet threats to our most precious natural resources.

The I&M Program of the National Park Service was designed in 1992 as a phased program that would eventually include fairly complete resource inventories for some 262 national park system units with significant natural resources. To complete this work over the target 10-year life of the program, the National Park Service planned for annual funding increases that were projected to reach \$20,000,000 by 1996 and \$26,000,000 in the program's final year. Instead, though most agree with the importance of inventory and monitoring, the program dawdles along at about \$6,000,000 annually. The importance of ecosystem level information, demonstrated so well by this book, has

not yet been accepted by those that have the responsibility for providing guidance and funds.

The book has been sent to the inventory and monitoring parks, system support offices, field area offices, and the Washington offices of the National Park Service and National Biological Service. It is my hope that this volume will help bring added awareness and impetus to this seriously needed program.

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William L. Halvorson is Unit Leader of the Cooperative Park Study Unit at the University of Arizona in Tucson. His phone number is (520) 670-6885. Gary Davis is a National Biological Service

Marine Biologist at Channel Islands National Park, California; phone (805) 658-5707.



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