PREFACE

The wonders of nature, as manifested through the processes of natural selection and evolution, are nowhere better demonstrated than on the islands of the Hawaiian archipelago. Some of the rarest and most unique life-forms found anywhere have been fostered by the "splendid isolation" of the place; yet the ecosystems of the Islands also lack much of the resilience that characterizes continental systems partly for this reason. The introduction of man, goats, pigs, Myrica faya, Andropogon, mongooses, rats, Japanese white-eyes, mosquitoes, and a whole host of additional alien creatures has dramatically disturbed ecosystem structure and function.

Hawai'i National Park, established on August 1, 1916, gave official national recognition to the uniqueness found in Hawai'i. International recognition was offered what are now Hawai'i Volcanoes and Haleakala National Parks in 1980, when they were designated the Hawaiian Islands Biosphere Reserve by the Man and the Biosphere Program of the United Nations Educational, Social and Cultural Organization (UNESCO). Yet such recognition has obviously not prevented the biological disturbances widespread throughout most of Hawai'i.

In the late 1960's, the National Park Service began to deal with the problem of invasion and degradation of unique ecosystems by alien plants and animals. Managers responsible for protecting native park ecosystems and researchers who had some knowledge of how ecosystems functioned gradually developed a strong cooperative bond. The manager wanted to do his job effectively and realized the need for accurate information to do so. The researcher soon learned that the scientific literature, though important, was not the best way to communicate knowledge to resource managers. Direct one-on-one dialogue developed. Indeed, nowhere in the Park Service has more time been spent in direct communication among researchers and resource

managers in the past 15 years, than in the Hawaiian parks. Although problems in the cooperative approach have arisen and both groups have been frustrated by lack of sufficient funding to do adequate jobs, dynamic and practical programs have arisen, and considerable progress in resource protection and management is being made.

In addition to the dedication and hard work of concerned citizens inside and outside the parks, I believe that two factors have contributed to Park Service success in this area. One important development was increased focus on natural resource research in Hawai'i through establishment of the Cooperative Park Studies Unit at the University of Hawai'i (CPSU/UH) on March 16, 1973. The CPSU provided a continuous administrative presence on the campus, reduced overhead on contracts, established a technical report series for getting research reports to managers, provided a professional extension function for managers needing consultative assistance, and essentially made every university faculty member and graduate student on the UH campus an adjunct member of the Park Service staff in Hawai'i, available on call when needed but costing the Service nothing the rest of the time. The selection of C.W. Smith as CPSU Unit Leader in August 1975 marked an important step in the CPSU/UH's rise to prominence as the most successful and productive CPSU in the Park Service. I predict that the Unit will be more widely used for the benefit of Hawaiian natural resources in the future.

A second development, in July 1976, was the First Natural Science Conference. Held in Hawai'i Volcanoes National Park, it opened a new horizon of communications between research and resource managers in Hawai'i. Attendance by researchers, as well as administrators, resources managers, and educators, from diverse organizations and agencies has increased with each conference. A special 2-day symposium entitled "Preservation and management of terrestrial Hawaiian ecosystems" was an outgrowth of the 5th Natural Science Conference in 1984, and it represents another milestone in the maturation of the communication process between natural resource researchers and managers. A common theme that came through time and again in this Symposium was the continued need for a close working relationship between researchers and resource managers. This has long been a strong point in Hawaiian parks, but like any higher degree of social order, it takes continued effort and expenditure of energy to maintain.

It is a self-evident truth that ecologically we are all joined together in life on the planet Earth. Perhaps nowhere is this fact more evident than in

Hawai'i. The strongly insular nature of Hawaiian evolutionary history, the limited resources of island communities, and the magnitude of current threats from alien species including man make it absolutely imperative that we combine efforts to preserve near-natural ecological processes. When scientists, administrators, and resource managers from the National Park Service, U.S. Forest Service, U.S. Fish and Wildlife Service, Hawai'i Department of Land and Natural Resources, Hawai'i Department of Agriculture, University of Hawai'i, B.P. Bishop Museum, The Nature Conservancy, and Pacific Tropical Botanic Garden can spend 2 days of intensive, in-depth discussions on matters of common concern, one can only be encouraged about the future of Hawaiian ecosystems.

This book represents an important written record of the 2-day Symposium. It is a state-of-the-science document that summarizes the latest and best information available for managing natural resources in Hawai'i and reports social, political, and cultural aspects of conservation issues. The implications are not limited to national parks or to Hawai'i, but have applications for many situations where natural resources are limited and fragile, and conflicts in use diverse. The valuable interagency cooperation represented by this volume is a positive indication of hope for eventual success in solving many of the difficult problems we face in preserving ecological processes and systems in Hawai'i.

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