

Preface

Many people are currently working toward sustainability using available natural and human resources. These efforts include locally focused initiatives and others at regional, national, and international scales. As we see it, a sustainable world is characterized by intact and healthy environments that support clean air, abundant water, and a diversity of life. This is also a world in which people live and enjoy well-being and dignity. Large-scale conservation inherently involves large spatial, temporal, and complexity scales. It also includes intermixed geophysical, biological, and political dimensions. Coming to grips with these many natural and human forces and factors at large scales, much less the myriad details in any single case, is challenging to the extreme. There are many well-intentioned and near-heroic sustainability initiatives underway throughout the world. Presently, some are more successful than others. We can learn from them in our search for the most appropriate concepts, methods, and tools to aid this vital work. This book aims to help those who are engaged in the interactive tasks of conserving sustainability and human dignity.

This volume draws on a proven integrative, interdisciplinary framework called the policy sciences or the configurative approach to address these dynamic dimensions, natural and human. Throughout the book we argue that a more holistic and genuinely interdisciplinary approach is required to solve the growing complex challenges associated with large-scale conservation. Continuing to rely solely on the principles of reductionist management and techno-rational expertise is not an option: such approaches often overlook important contextual matters and will ultimately result in the further erosion of ecosystems and human well-being.

Scientists, lawyers, and activists have successfully used this interdisciplinary framework across the globe in natural resource conservation over the last half century. The framework that we introduce in the early chapters and use throughout the book, including in all the case studies, can significantly strengthen large-scale conservation efforts. We believe that large-scale conservation poses many complex challenges that single disciplines (e.g., ecology), approaches (e.g., systems theory), or methods (e.g., quantitative models)—although helpful and often necessary—cannot fully address alone. Interdisciplinarity is a comprehensive method to identify, arrange, and integrate variables that otherwise may be overlooked by established

disciplines or combinations of them (e.g., via multidisciplinary). Applying interdisciplinary problem solving successfully to the complex problems of large-scale landscape conservation, sustainability issues, and human dignity can produce reliable and persuasive decision making for management and policy. People knowledgeable and skilled in interdisciplinarity can put it into practice in a broad range of cases.

This book was written by 13 authors. Three chapters were originally written for Yale University graduate seminars on interdisciplinary large-scale conservation (described in Chap. 1) taught by Susan Clark. Our perspective, in the seminars and in this book, focuses on the contextual, foundational, and practical elements of large-scale conservation, including the formulas, doctrines, and symbols that are typically used, regardless of the case. Our volume is intended to help readers move beyond existing paradigms, while retaining the best of what they have to offer. Our goal is to encourage movement toward greater integration, interdisciplinarity, comprehensiveness, and effectiveness that seeks human dignity and sustainability for all.

This book is intended for a broad audience, including students and professors new to the field of large-scale conservation, experienced field-based practitioners in science and management, and decision and policy makers who set specific and strategic direction for large landscapes. Professors can use this book to introduce students to the challenges of successful large-scale conservation design and implementation and to teach interdisciplinarity as a framework, concept, and tool. Professionals will find this book offers a new way of using science, management, and policy to make decisions. Finally, this volume can be used also as a guide to set up workshops, seminars, or projects involving diverse people and perspectives.

The book's introduction (Chap. 1) provides a first look at the interdisciplinary approach. It offers a problem-oriented perspective of large-scale conservation, defining key terms used throughout the book and making recommendations. Part I provides an overview of large-scale conservation, the interdisciplinary method, and the educational strategy used throughout the book. Chapter 2 presents our problem typology: a view of human behavior that can be summarized as "people seek values through institutions using and affecting resources," along with some observations. Chapter 3 surveys seven major approaches to large-scale conservation, the last being adaptive governance, which is the approach detailed and illustrated in the book.

In Part II, three "rapid appraisals," conducted by student teams and informed by the fundamentals described in Part I, illustrate the application of the interdisciplinary approach: the Connecticut River watershed that connects much of New England (Chap. 4), the Greater Yellowstone Ecosystem in the Rocky Mountains (Chap. 5), and the Last Green Valley, an initiative involving three states in the northeastern United States (Chap. 6). All three chapters offer practical and strategic recommendations.

Part III offers three more in-depth cases by "participant observers" on specific issues, again applying the interdisciplinary approach: a national hiking trail (Chap. 7), wildlife conservation in Tanzania (Chap. 8), and the Humboldt Bay Initiative (Chap. 9). Again, all three chapters make practical, strategic recommendations. The

conclusion (Chap. 10) offers final words on large-scale conservation using interdisciplinary means and makes recommendations.

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