

Preface

The major motivation for this book was that the current practices of conserving biodiversity are generally inadequate and unlikely to stop ongoing environmental degradation and species loss; plant conservation needs a new paradigm. The aim of the book is to highlight the limitations of existing approaches, introduce a new concept, and link the latter with ecological theory and available practices. The reader will judge how successful the author was in this venture.

The text will hopefully fulfill two tasks. One is to provide a long-needed text on plant conservation that is useful for conservation practitioners. The second is to unify, within a coherent concept, many aspects of plant conservation, such as natural area protection, preservation of wild germplasm in seed banks and living collections, and *in situ* interventions through either population management or ecological restoration.

The proposed approach has a solid foundation in the existing fields of population and community ecology, conservation biology, and restoration ecology, and is especially applicable in regions that have many threatened species within habitats that are threatened themselves, with both species and the whole ecosystem requiring immediate action. To ease the application of the concept in real settings, detailed methodological guidelines are provided. They are based on the latest theoretical developments and vast experience gained by conservation and restoration practitioners in the last several decades.

The book is divided into seven chapters. The first chapter introduces plant conservation as a discipline, summarizes existing theory and practices, and discusses approaches to dealing with the accelerated loss of species and habitats. The second chapter presents the author's concept of plant conservation. The principles

on which the concept is based are relevant to the restoration of entire ecosystems and the recovery of particular plant species and populations. The major principles of the concept introduced in the second chapter are explained in detail throughout Chapters 3 and 4. Chapter 3 is devoted to the recovery of threatened plant species, and Chapter 4 presents and synthesizes the topics most relevant to the restoration of threatened species habitat. Chapter 5 provides a toolkit for the restoration of forest land. Chapter 6 includes a series of sections covering application of the methodology described in Chapters 4 and 5 for the restoration of particular systems, such as logged forests, abandoned agricultural fields and pastures, and forest plantations. Each section provides a concise but comprehensive coverage of a specific topic, cites the essential classic literature and up-to-date research in the field, provides examples of how the relevant methodology is currently being applied, and discusses how it can be applied in agreement with the proposed concept. The closing chapter of the book links the theory with practice, identifying areas of emergency for restoration, and presenting case studies of conservation-oriented restoration, envisioned, planned, or partly implemented.

The book is intended for graduate students, research scientists, and practitioners from the fields of plant conservation biology and restoration ecology. This book would not have been possible without the encouragement and moral support of Dr. Peter Raven.