

MONITORING ECOSYSTEMS

Interdisciplinary Approaches for Evaluating Ecoregional Initiatives

Edited by David E. Busch and Joel C. Trexler

Foreword by Lance H. Gunderson



Monitoring Ecosystems brings together leading scientists and researchers to offer a groundbreaking synthesis of lessons learned about ecological monitoring in major ecoregional initiatives around the United States. Contributors present insights and experiences gained from their work in designing, developing, and implementing comprehensive ecosystem monitoring programs in the Pacific Northwest, the lower Colorado River Basin, and the Florida Everglades. The book:

- outlines the conceptual and scientific underpinnings for regional-scale ecosystem monitoring
- examines the role and importance of data management, modeling, and integrative analyses
- considers techniques for and experience with monitoring habitats, populations, and communities

Chapters by the editors synthesize and expand on points made throughout the volume and present recommendations for establishing frameworks for monitoring across scales, from local to international.

Monitoring Ecosystems presents a critical examination of the lessons learned from direct experience along with generalized conclusions that can be applied to monitoring programs in the United States and around the world. It is a vital contribution to science-based monitoring efforts that will allow those responsible for developing and implementing ecoregional initiatives to make use of knowledge gained in previous efforts.

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 World, All Languages, Natural Resource Management

Advance praise for *Monitoring Ecosystems*:

"How can managers measure success of adaptive ecoregional-scale management? How can they link ecological metrics to social objectives and decision-making processes? These are tough questions whose answers are critical to the effectiveness of the 21st century resource management. By providing a rich set of lessons grounded in the experiences of the pioneering ecoregional efforts in the United States, this volume provides an important foundation for this process of learning and change."

—**Steven L. Yaffee**, Theodore Roosevelt Professor of Ecosystem Management, School of Natural Resources and Environment, The University of Michigan

"More than ever, land managers and scientists are recognizing that monitoring of complex ecological systems within a multi-agency, landscape setting is a critical but intellectually challenging aspect of effective stewardship. This important book summarizes the experience of leading ecologists who have pioneered the design and implementation of regional ecosystem monitoring programs, and presents examples of how an interdisciplinary, systems approach to monitoring has helped to resolve contentious and difficult resource problems."

—**Steven G. Fancy**, National Monitoring Coordinator, National Park Service

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