

# Contents

Contributors . . . . .	xi
------------------------	----

## **Part I Conceptual Framework**

Chapter 1 A Framework for Understanding Change . . . . .	3
F. Stuart Chapin, III, Carl Folke, and Gary P. Kofinas	

Chapter 2 Managing Ecosystems Sustainably: The Key Role of Resilience . . . . .	29
F. Stuart Chapin, III	

Chapter 3 Sustaining Livelihoods and Human Well-Being during Social–Ecological Change . . . . .	55
Gary P. Kofinas and F. Stuart Chapin, III	

Chapter 4 Adaptive Co-management in Social–Ecological Governance . . . . .	77
Gary P. Kofinas	

Chapter 5 Transformations in Ecosystem Stewardship . . . . .	103
Carl Folke, F. Stuart Chapin, III, and Per Olsson	

## **Part II Stewarding Ecosystems for Society**

Chapter 6 Conservation, Community, and Livelihoods: Sustaining, Renewing, and Adapting Cultural Connections to the Land . . . . .	129
Fikret Berkes, Gary P. Kofinas, and F. Stuart Chapin, III	

Chapter 7	
Forest Systems: Living with Long-Term Change . . . . .	149
Frederick J. Swanson and F. Stuart Chapin, III	
Chapter 8	
Drylands: Coping with Uncertainty, Thresholds, and Changes in State . . . . .	171
D. Mark Stafford Smith, Nick Abel, Brian Walker, and F. Stuart Chapin, III	
Chapter 9	
Freshwaters: Managing Across Scales in Space and Time . .	197
Stephen R. Carpenter and Reinette Biggs	
Chapter 10	
Oceans and Estuaries: Managing the Commons . . . . .	221
Carl Walters and Robert Ahrens	
Chapter 11	
Coastal Marine Systems: Conserving Fish and Sustaining Community Livelihoods with Co-management . . . . .	241
Evelyn Pinkerton	
Chapter 12	
Managing Food Production Systems for Resilience . . . . .	259
Rosamond L. Naylor	
Chapter 13	
Cities: Managing Densely Settled Social–Ecological Systems . . . . .	281
J. Morgan Grove	
Chapter 14	
The Earth System: Sustaining Planetary Life-Support Systems . . . . .	295
Oran R. Young and Will Steffen	
<b>Part III Integration and Synthesis</b>	
Chapter 15	
Resilience-Based Stewardship: Strategies for Navigating Sustainable Pathways in a Changing World . . .	319
F. Stuart Chapin, III, Gary P. Kofinas, Carl Folke, Stephen R. Carpenter, Per Olsson, Nick Abel, Reinette Biggs, Rosamond L. Naylor, Evelyn Pinkerton, D. Mark Stafford Smith, Will Steffen, Brian Walker, and Oran R. Young	
Abbreviations . . . . .	339

---

Glossary . . . . .	341
References . . . . .	355
Index . . . . .	387