

Contents in Brief

PART ONE	WHAT IS ECOLOGY?	1
Chapter 1	Introduction to the Science of Ecology	4
Chapter 2	Evolution and Ecology	18
Chapter 3	Behavioral Ecology	32
PART TWO	GEOGRAPHIC DISTRIBUTIONS	49
Chapter 4	Analyzing Geographic Distributions	52
Chapter 5	Factors That Limit Distributions I: Biotic	61
Chapter 6	Factors That Limit Distributions II: Abiotic	81
Chapter 7	Distribution and Abundance	99
PART THREE	THE PROBLEM OF ABUNDANCE: POPULATIONS	111
Chapter 8	Population Parameters and Demographic Techniques	113
Chapter 9	Population Growth	142
Chapter 10	Species Interactions I: Competition	163
Chapter 11	Species Interactions II: Predation	188
Chapter 12	Species Interactions III: Herbivory and Mutualism	210
Chapter 13	Species Interactions IV: Disease and Parasitism	234
Chapter 14	Regulation of Population Size	256
Chapter 15	Applied Problems I: Harvesting Populations	277
Chapter 16	Applied Problems II: Pest Control	299
Chapter 17	Applied Problems III: Conservation Biology	323

PART FOUR	DISTRIBUTION AND ABUNDANCE AT THE COMMUNITY LEVEL	349
Chapter 18	Community Structure in Time: Succession	352
Chapter 19	Community Structure in Space: Biodiversity	377
Chapter 20	Community Dynamics I: Predation and Competition in Equilibrial Communities	401
Chapter 21	Community Dynamics II: Disturbance and Nonequilibrium Communities	425
Chapter 22	Ecosystem Metabolism I: Primary Production	451
Chapter 23	Ecosystem Metabolism II: Secondary Production	475
Chapter 24	Ecosystem Metabolism III: Nutrient Cycles	496
Chapter 25	Ecosystem Dynamics under Changing Climates	520
Chapter 26	Ecosystem Health and Human Impacts	539
Appendix I	A Primer on Population Genetics	563
Appendix II	Instantaneous and Finite Rates	565
Appendix III	Species Diversity Measures of Heterogeneity	568
Glossary		570
Bibliography		581
Credits		625
Species Index		631
Subject Index		637