
CONTENTS

PREFACE TO SECOND EDITION	xiii
PREFACE TO FIRST EDITION	xvii
ACKNOWLEDGMENTS	xix
CHAPTER 1 INTRODUCTION	3
BASIC CONCEPTS	4
THE TRADITIONAL FRAMEWORK OF PLANNING IN THE UNITED STATES	5
A NEW APPROACH	9
ECOLOGICAL PLANNING METHOD	9
Step 1: Identification of Planning Problems and Opportunities	12
Step 2: Establishment of Planning Goals	12
Step 3: Landscape Analysis, Regional Level	13
Step 4: Landscape Analysis, Local Level	14
Step 5: Detailed Studies	16
Step 6: Planning Area Concepts, Options, and Choices	18
Step 7: Landscape Plan	20
Step 8: Continued Citizen Involvement and Community Education	20
Step 9: Design Explorations	21
Step 10: Plan and Design Implementation	21
Step 11: Administration	23
WORKING PLANS	23
CHAPTER 2 IDENTIFYING ISSUES AND ESTABLISHING PLANNING GOALS	27
TECHNIQUES FOR INVOLVING PEOPLE IN THE IDENTIFICATION OF ISSUES AND THE ESTABLISHMENT OF GOALS	28
Task Forces	28
Citizens' Advisory Committees and Technical Advisory Committees	29
Neighborhood Planning Councils	29
Group Dynamics	30
Nominal-Group Workshops	31
Focus Groups	31
Delphi	33
Policy Delphi	34
Public Opinion Polls	35
Town Meetings and Public Hearings	38
GOAL SETTING	40
TWO EXAMPLES OF GOAL-ORIENTED PLANNING	41
The Oregon Comprehensive Planning Law	41
The New Jersey Pinelands Comprehensive Management Plan	45
CHAPTER 3 INVENTORY AND ANALYSIS OF THE BIOPHYSICAL ENVIRONMENT	51
MAKING A BASE MAP AND A REGIONAL CONTEXT MAP	53
Major sources of information	55
INVENTORY ELEMENTS	55
Regional Climate	56
Summary of regional climate inventory elements	62
Major sources of information	62
Earth	62
Summary of geologic inventory elements	65
Major sources of information	67
Terrain	67
Summary of physiography inventory elements	71
Major sources of information	71
Water	71
Summary of hydrologic inventory elements	85

Major sources of information	85	
Soils	86	
Summary of soils inventory elements	94	
Major sources of information	95	
Microclimate	95	
Summary of microclimate inventory elements	99	
Major sources of information	99	
Vegetation	99	
Summary of vegetation inventory elements	104	
Major sources of information	104	
Wildlife	104	
Summary of wildlife inventory elements	107	
Major sources of information	107	
Existing Land Use and Land Users	107	
Summary of existing land-use and land-user elements	115	
Major sources of information	115	
ANALYSIS AND SYNTHESIS OF INVENTORY INFORMATION	115	
Bivariate Relationships	116	
Layer-Cake Relationships	120	
The Holdridge Life-Zone System	120	
TWO EXAMPLES OF BIOPHYSICAL INVENTORY AND ANALYSIS	122	
The New Jersey Pinelands Comprehensive Management Plan	123	
The Biodiversity Plan for the Camp Pendleton Region, California	130	
CHAPTER 4 HUMAN COMMUNITY INVENTORY AND ANALYSIS	141	
SOURCES OF EXISTING INFORMATION	143	
Land-Use Maps and Settlement Pattern Diagrams	143	
Histories	145	
Census Data	148	
Newspapers and Periodicals	148	
Phone Books	148	
Community Organizations and Clubs	149	
Colleges and Universities	149	
Government and Public Agencies	149	
Synopsis of Information Sources	149	
USE OF EXISTING DATA TO GENERATE NEW INFORMATION	149	
Population Trends, Characteristics, and Projections	150	
Projections	150	
Trends	150	
Characteristics	153	
Projections	153	
Development Projections	159	
Economic Analyses	161	
User Groups	165	
GENERATION OF NEW INFORMATION	167	
Mail and Telephone Surveys	167	
Face-to-Face Interviews	169	
Participant Observation	170	
ANALYSIS AND SYNTHESIS OF SOCIAL INFORMATION	171	
Establish Visual and Landscape Patterns	171	
Urban Morphology	173	
Identification of Interactions and Relationships	173	
Community Needs Assessment	175	
TWO EXAMPLES OF HUMAN COMMUNITY INVENTORY AND ANALYSIS	176	
New Jersey Pinelands Comprehensive Management Plan	176	
The Biodiversity Plan for the Camp Pendleton Region, California	178	
CHAPTER 5 SUITABILITY ANALYSIS	187	
APPROACHES TO SUITABILITY ANALYSIS—METHODS	188	
Natural Resources Conservation Service Systems	188	
Land Evaluation Value	191	
Site Assessment Value	192	
Combining the LE and SA Systems	194	
Modified LESA System	194	
Use of LESA at the Federal Level	198	
The McHarg, or University of Pennsylvania, Suitability Analysis Method	200	
Dutch Suitability Analysis	207	
COMPUTER APPLICATIONS	213	
THE CARRYING-CAPACITY CONCEPT	217	
TWO APPLICATIONS OF SUITABILITY ANALYSIS	219	
The Development of Performance Requirements in Medford Township, New Jersey	219	
Locating Areas for Rural Housing in Whitman County, Washington	220	
CHAPTER 6 PLANNING OPTIONS AND CHOICES	229	
OPTIONAL PLANS	230	
TECHNIQUES FOR SELECTING PREFERENCES	235	
The Charrette	235	
The Charrette Process	236	
Charrette Groundwork	237	
Introduction to Planning Area, Introduction to Participants	237	
The Teams	238	
Team Instructions	240	
Citizen Interviews	240	
Brainstorming and Synthesis	240	
Outcomes from the Charrette	241	
Task Forces, Citizens' Advisory Committees, and Technical Advisory Committees	241	
Citizen Referendum and Synchronized Surveys	242	
Goals-Achievement Matrix	243	
Scenario Writing	243	
Public Hearings	244	

TWO EXAMPLES OF SELECTING PREFERENCES	245	Phase 1	305
Portland, Oregon, Alternative Land-Use Plans	245	Phase 2	308
The Biodiversity Plan for the Camp Pendleton Region, California	247	Summary of the Concept Design	310
CHAPTER 7 LANDSCAPE PLANS	253	DEMONSTRATION PROJECTS	311
RECOGNITION AND ADOPTION OF PLAN	255	INNOVATIVE DESIGN PROJECTS	314
STATEMENT OF POLICIES	257	TWO EXAMPLES OF DETAILED DESIGN	317
STRATEGIES TO ACHIEVE POLICIES	259	Connecticut River Valley, Massachusetts	317
LANDSCAPE PLAN MAP	260	New York–New Jersey–Connecticut Metropolitan Region	321
PLAN ELEMENTS AND ORGANIZATION	261	CHAPTER 10 PLAN AND DESIGN IMPLEMENTATION	329
TWO EXAMPLES OF PLANS	264	POWER TO REGULATE	330
Comprehensive Management Plan for the New Jersey Pinelands	264	Zoning	330
Teller County/City of Woodland Park, Colorado, Growth Management Plan	266	Planned Unit Developments (PUDs)	334
CHAPTER 8 CONTINUING CITIZEN INVOLVEMENT AND COMMUNITY EDUCATION	271	Performance Standards	334
CITIZEN INVOLVEMENT	272	Design Guidelines and Controls	339
CLASSIFICATION OF CITIZEN PARTICIPATION TECHNIQUES	274	Critical or Environmentally Sensitive Areas	339
CONTINUING COMMUNITY EDUCATION	275	Floodplain Management	344
Information and Education	275	Wetland and Riparian Area Protection	346
Publications	277	Federal Wetlands Protection	347
Television and Radio	278	General State Responses	348
TWO EXAMPLES OF EDUCATION PROGRAMS	279	Habitat Conservation Plans	349
University of Wisconsin–Extension Community Economic Development Program	279	Historic Preservation	352
The Blueprint for a Sustainable Bay Area	285	Subdivision Regulations	353
CHAPTER 9 TESTING PLANNING CONCEPTS THROUGH DESIGN	291	Building Codes	355
SITE DESIGN	292	Covenants	357
INDIVIDUAL LAND-USER DESIGNS: FARM AND RANCH CONSERVATION PLANS	293	POWER TO CONDEMN AND TO EXACT	358
SIMULATION	295	Impact Fees and Land Dedications	358
CONCEPTUAL DESIGN FROM CHARRETTES	296	POWER TO SPEND	359
La Lomita Charrette	298	Easements	359
Common Themes from the La Lomita Charrette	298	Development Rights Purchase and Transfers	360
Building Codes	299	Capital Improvement Programming	364
Community Gardens	300	Public Land Management	365
Housing Possibilities	300	POWER TO TAX	366
Solar Energy	300	INTERAGENCY COORDINATION FOR GROWTH MANAGEMENT	367
Arroyo Vista Charrette	301	PROGRAM LINKAGE AND CROSS-COMPLIANCE	369
CONCEPTUAL DESIGN OF NEW FACILITIES	304	NONGOVERNMENTAL STRATEGIES	369
The Concept Design	305	DESERT VIEW TRI-VILLAGES IMPLEMENTATION	370
		Desert Overlay	370
		Suburban Desert Overlay	371
		IMPLEMENTATION MATRIX	371
		THREE EXAMPLES OF PLANNING IMPLEMENTATION	373
		Innovative Zoning for Agricultural Land Protection in York County, Pennsylvania, and Black Hawk County, Iowa	373

Scottsdale, Arizona, Environmentally Sensitive Lands Ordinance	377	Fiscal Impact Analysis	399
		Social Impact Analysis	402
CHAPTER 11 ADMINISTRATION OF PLANNING PROGRAMS	381	TWO EXAMPLES OF PLANNING ADMINISTRATION	404
CURRENT PLANNING	382	Portland, Oregon, Regional Growth Management Planning	404
The Role of Planning Commissions and Review Boards	382	The Tucson WASH Ordinance and Environmental Resource Zone	407
The Role of Planning Staffs	383	CHAPTER 12 CONCLUSION	411
The Impact of Procedural Requirements	385	APPENDICES	419
THE BUDGET	385	GLOSSARY	425
Planning, Programming, and Budget System (PPBS)	385	ACRONYMS	437
Program Strategies	387	BIBLIOGRAPHY	439
Capital Improvement Programming	390	INDEX	459
ENVIRONMENTAL IMPACT ASSESSMENTS	391		
Environmental Impact Analysis	394		
Economic Impact Analysis	396		