

Contents

Preface	xiii
Acknowledgements	xv
PART I MANAGING OUTDOOR RECREATION	1
1 Parks and Outdoor Recreation	3
Conceptual Frameworks	3
The dual mission of parks	3
Common property resources	4
Carrying capacity	4
Limits of acceptable change	5
Indicators and standards of quality	5
Threefold framework of outdoor recreation	6
Recreation opportunity spectrum	7
An Outdoor Recreation Management Framework	7
Conclusion	8
2 Impacts of Outdoor Recreation	9
Impacts to Park Resources	9
Soil	9
Vegetation	10
Water	11
Wildlife	11
Air	12
Natural quiet	12
Natural darkness	13
Historical/cultural resources	13
Impacts to the Visitor Experience	13
Crowding	13
Conflict	14
Depreciative behavior	15
Impacts to Facilities/Services	15
Attraction sites	15
Trails	15
Campgrounds/campsites	15
Roads/parking areas	16
Interpretive facilities/programs	16
Conclusion	17
3 Outdoor Recreation Management Practices	18
Management Strategies	18
Management Tactics or Practices	20
Classification of Problem Behaviors	22

Theories of Moral Development	22
Communication Theory	23
Conclusion	24
4 Evaluating Outdoor Recreation Management Practices	25
Information and Education	25
Recreation use patterns	25
Enhancing visitor knowledge	26
Influencing visitor attitudes	29
Depreciative behavior	29
Related studies	29
Guidelines for using information and education	30
Use Rationing and Allocation	31
Five management practices	31
Fairness	34
Effectiveness	35
Pricing	36
Acceptability	38
Discrimination	38
Differential pricing	39
Principles of pricing	39
Rules and Regulations	39
Law Enforcement	41
Zoning	41
Facility Development, Site Design, and Maintenance	42
Conclusion	44
5 Applying Outdoor Recreation Management	45
Management Matrices	45
Observations on the Management Matrices and Appendices	48
Case Studies	51
Conclusion	51
 PART II CASE STUDIES IN THE NATIONAL PARKS	 53
6 Treading Lightly on Acadia	55
Introduction	55
Acadia National Park	55
Managing Hiking in Acadia National Park	56
Further Reading	58
7 Building a Better Campsite Along the Appalachian Trail	59
Introduction	59
Appalachian National Scenic Trail	59
Managing Camping Along the Appalachian Trail	59
Further Reading	61
8 Let There Be Light in Great Smoky Mountains	62
Introduction	62
Great Smoky Mountains National Park	62
Managing the Viewing of Synchronous Fireflies	63
Further Reading	65

9	How Many Visitors is Too Many at Arches?	66
	Introduction	66
	Arches National Park	66
	Measuring and Managing Carrying Capacity	67
	Further Reading	69
10	Protecting Biscayne's Underwater Treasures	71
	Introduction	71
	Biscayne National Park	72
	Managing Recreational Boating at Biscayne	72
	Further Reading	74
11	Saving Bats at Mammoth Cave	75
	Introduction	75
	Mammoth Cave National Park	76
	Managing WNS at Mammoth Cave	76
	Further Reading	78
12	Turning Off the Lights at Chaco	79
	Introduction	79
	Chaco Culture National Historical Park	79
	Managing Natural Darkness above Chaco Canyon	80
	Further Reading	81
13	Busing Among the Grizzlies at Denali	82
	Introduction	82
	Denali National Park and Preserve	82
	The Denali Park Road	83
	The Denali Park Wilderness	84
	Wildlife as a Park Indicator	85
	Further Reading	85
14	Winning the Lottery on the Colorado River	86
	Introduction	86
	Colorado River Management Plan	87
	Intensive Use Demands Intensive Management	89
	Further Reading	89
15	The Ice Caves are Open, The Ice Caves are Open	91
	Introduction	91
	Apostle Islands National Lakeshore	91
	Managing Ice Cave Visitation	92
	Further Reading	93
16	The Sounds of Silence in Muir Woods	95
	Introduction	95
	Muir Woods National Monument	95
	Managing the Natural Quiet of Muir Woods	96
	Further Reading	97
17	Stewarding America's Antiquities at Mesa Verde	99
	Introduction	99
	Mesa Verde National Park	99

Managing Mesa Verde	100
Further Reading	102
18 What Goes Up Mt. Whitney Must Come Down	103
Introduction	103
Sequoia National Park and the Inyo National Forest	103
Managing Recreational Use on Mt. Whitney	104
Further Reading	105
19 Preventing the Petrified Forest from Disappearing	106
Introduction	106
Petrified Forest National Park	107
Managing (and Minimizing) Theft of Petrified Wood	107
Further Reading	109
20 Containing Contaminants at Carlsbad Caverns	110
Introduction	110
Carlsbad Caverns National Park	110
Managing Contaminants at Carlsbad Caverns	111
Further Reading	113
21 Bear Etiquette in Katmai	114
Introduction	114
Katmai National Park and Preserve	114
Managing Visitors and Bears at the Brooks River Area	115
Further Reading	117
22 Don't Pick Up Aquatic Hitchhikers in Voyageurs	118
Introduction	118
Voyageurs National Park	118
Managing Voyageurs' Water Resources	118
Further Reading	121
23 A Mountain with Handrails at Yosemite	122
Introduction	122
Yosemite National Park and Half Dome	122
Studying and Managing Use of Half Dome	123
This Page is Intentionally Left Blank	125
Further Reading	126
24 Doing the Zion Shuttle	127
Introduction	127
Zion National Park	127
Managing Cars at Zion National Park	127
Further Reading	129
25 The Buzz from Above at Grand Canyon	130
Introduction	130
Managing Overflights in Grand Canyon National Park	130
Further Reading	133

26	Managing Monuments and Memorials at the National Mall	134
	Introduction	134
	National Mall and Memorial Parks	135
	Managing the National Mall	135
	Further Reading	137
27	Climbing Towards Common Ground at Devils Tower	138
	Introduction	138
	Devils Tower Climbing Management Plan	139
	Fostering Mutual Respect at Bear Lodge	140
	Further Reading	141
28	The Winter Wonderland of Yellowstone	142
	Introduction	142
	Yellowstone National Park	144
	Managing Winter Visitation in Yellowstone	144
	Further Reading	145
29	Alternative Transportation at Grand Teton	146
	Introduction	146
	Grand Teton National Park	146
	Promoting Alternative Travel in Grand Teton	147
	Further Reading	149
30	No Bad Trip in Glacier	150
	Introduction	150
	Glacier National Park	150
	Managing Backcountry Camping in Glacier	151
	Further Reading	153
PART III CONCLUSIONS		155
31	Lessons Learned	157
	Principles of Managing Outdoor Recreation	158
	Principle 1: Parks and related outdoor recreation areas must be managed in ways that provide outdoor recreation opportunities but also protect park resources and the quality of the visitor experience	158
	Principle 2: Outdoor recreation management should be guided by a management-by-objectives framework	159
	Principle 3: Outdoor recreation management is an iterative, adaptive process	159
	Principle 4: Outdoor recreation should be managed within a threefold framework of concerns: resources, experiences, and management	160
	Principle 5: The Recreation Opportunity Spectrum should be used to help ensure diversity in outdoor recreation opportunities	160
	Principle 6: Outdoor recreation can impact parks and related areas in many ways, including park resources, visitor experiences, and park facilities and services	160
	Principle 7: Outdoor recreation can be managed using four basic strategies	161
	Principle 8: Outdoor recreation can be managed using six basic categories of management tactics or practices	162
	Principle 9: Outdoor recreation management problems can be addressed by more than one management strategy or practice	163

Principle 10: Outdoor recreation management strategies and practices can address multiple problems	163
Principle 11: Outdoor recreation management practices can be used to advance more than one management strategy	163
Principle 12: Outdoor recreation management strategies can be advanced by more than one management practice	164
Principle 13: Where possible, a reinforcing program of outdoor recreation management practices should be used	164
Principle 14: Managers should think systematically, comprehensively, and creatively about the range of practices that might be used to manage outdoor recreation	164
Principle 15: Outdoor recreation management practices should not be used simply because they are familiar or administratively expedient	165
Principle 16: Potential unintended and undesirable consequences of outdoor recreation management practices should be identified and avoided	165
Principle 17: Good information is needed to manage outdoor recreation effectively	165
Principle 18: Management of outdoor recreation should be as informed as possible by understanding the cause of the impact or problem	166
Principle 19: Outdoor recreation management decisions should be considered within the context of larger geographic scales	166
Principle 20: Outdoor recreation management should focus on the impacts of recreation use, not use itself	167
Principle 21: Limiting use is generally a last management option in outdoor recreation	167
Principle 22: Limiting or rationing outdoor recreation use requires consideration of how limited opportunities for use will be allocated	167
Principle 23: Indirect outdoor recreation management practices are generally preferred over direct management practices	168
Principle 24: Intensive outdoor recreation use usually demands intensive management	168
Principle 25: When and where warranted, outdoor recreation management should be designed to reach visitors before they arrive at parks and outdoor recreation areas	169
Principle 26: The list of outdoor recreation activities and other uses of parks that need management consideration continues to evolve and expand	169
Principle 27: The list of park and outdoor recreation "resources" that need protection continues to evolve and expand	169
Principle 28: Variations in outdoor recreation management practices continue to evolve and expand	170
Principle 29: Outdoor recreation management can impact the quality of the visitor experience both positively and negatively	170
Principle 30: Caution should be used when dispersing visitor use as an outdoor recreation management practice	171
Principle 31: Partnerships between park and related outdoor recreation management agencies and other groups and entities can be helpful in managing outdoor recreation	171
Principle 32: Responsibility for managing outdoor recreation should be shared jointly by managers and researchers	171
Principle 33: Quality in outdoor recreation is most appropriately defined as the degree to which recreation opportunities meet the objectives for which they are managed	172
Principle 34: Management of outdoor recreation should be conducted proactively, not reactively	172
Principle 35: Managers must exercise their professional judgment in outdoor recreation management	173
Principle 36: A strong program of management is vital to maintaining the quality of parks and outdoor recreation	173
Conclusion	174

APPENDIX A	MANAGEMENT PRACTICES	175
Appendix A1	Management Practices for Limiting Use	177
Appendix A2	Management Practices for Increasing Supply	187
Appendix A3	Management Practices for Reducing the Impact of Use	193
Appendix A4	Management Practices for Hardening Resources and the Visitor Experience	203
APPENDIX B	TEACHING AND MANAGEMENT TOOLS	209
Bibliography		211
Index		227

This book is enhanced with supplementary resources. To access the teaching and management tools, please visit: <http://www.cabi.org/openresources/91018>

