



CONTENTS

CHAPTER 1: INTRODUCTION

Purpose and Need for the Plan	3
Introduction	3
Brief Description of the Park	3
Park Overview	3
Regional Context	4
Purpose of the Plan	4
Need for the Plan	5
An Outdated Master Plan	6
Wilderness Designation	6
Planning Process	6
The Next Steps	6
Implementation of the Plan	7
Guidance for the Planning Effort	9
Purpose and Significance	9
Purpose	9
Significance	9
Primary Interpretive Themes	10
Laws, Regulations, and Servicewide Mandates and Policies	10
Federally Recognized Tribes	11
Parkwide Policies and Desired Conditions	12
Parkwide Policies for Natural Resources	13
Parkwide Policies for Wilderness Resources	26
Parkwide Policies for Cultural Resources	27
Parkwide Policies for Visitor Use and Experience	33
Boundary Adjustments	34
Relationship of Other Planning Efforts to This General Management Plan	37
Management Plans	37
Transportation and Access Plans	38
Other Reports and Planning Efforts	38
Regional Plans	38
Planning Issues	40
Introduction	40
Decisions to Be Made in the Olympic General Management Plan	40
Natural Resources	40
Cultural Resources	40
Tribal Relations	41
Partnerships	41
Wilderness	41
Visitor Experiences	41
Access to and around the Park	41
Boundary Adjustments	42
Issues Not Addressed in the General Management Plan	42
Impact Topics — Resources and Values at Stake in the Planning Process	43
Introduction	43
Impact Topics to Be Considered	43

CONTENTS

Air Quality	43
Soundscapes	43
Geologic Processes	43
Hydrologic Systems	43
Intertidal Areas	44
Soils	44
Vegetation	44
Fish and Wildlife	44
Special Status Species	44
Wilderness Values	45
Cultural Resources	45
Visitation	45
Visitor Opportunities	45
Information, Orientation, and Interpretation	45
Visitor Access and Transportation	46
Socioeconomic Environment	46
Park Operations	46
Impact Topics Dismissed from Further Consideration	46
Coastal Zone Management	46
Energy Requirements and Conservation Potential	46
Environmental Justice	47
Indian Trust Lands	48
Natural or Depletable Resources Requirements and Conservation Potential	48
Night Sky	49
Prime or Unique Farmlands	49
Urban Quality and Design of the Built Environment	50
Water Quality	50
Wild and Scenic Rivers	51

CHAPTER 2: ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

Introduction	55
Formulation of the Alternatives	55
Management Zones	55
The Alternatives	63
Identification of the NPS Management Preferred Alternative	63
General Description of the Alternatives	65
Alternative A — No Action	65
Alternative B	66
Alternative C	66
Alternative D — Management Preferred	67
Visitor Use and User (Carrying) Capacity	71
User Capacities	71
Development Zone	71
Day Use Zone	71
Low-Use Zone	72
River Zone (Alternative B only)	72
Intertidal Reserve Zone	72

Wilderness Zones (Wilderness Trail Zone, Primitive Wilderness Zone, and Primeval Wilderness Zone)	73
Implementation	74
Mitigative Measures Common to All Alternatives	75
Management and Protection of Natural Resources	75
Air Quality	75
Soundscapes / Natural Quiet	75
Night Skies (Lightscapes)	75
Hydrologic Systems including Wetlands	76
Soils	76
Vegetation	76
Fish and Wildlife	77
Special Status Species	77
Management and Protection of Wilderness Values	77
Minimum Requirement Process	77
Management and Protection of Cultural Resources	78
Archeological Resources	79
Historic Structures/Buildings	79
Cultural Landscapes	79
Ethnographic Resources	80
Museum Collections	80
Scenic Resources	80
Socioeconomic Environment	80
Sustainable Design and Aesthetics	80
Future Studies and Implementation Plans Needed	81
Alternatives and Actions Considered but not Evaluated	82
Identification of the Environmentally Preferred Alternative	83

CHAPTER 3: AFFECTED ENVIRONMENT

Introduction	95
Natural Resources	96
Air Quality	96
Past Monitoring	96
Current Monitoring	97
Area Climate	97
Soundscapes	98
Geologic Processes	99
Hydrologic Systems	100
Floodplains	100
Lakes and Wetlands	100
Intertidal Areas	103
Soils	104
Soil Moisture Regimes	104
Soil Orders	105
Vegetation	105
Terrestrial Communities	105
Vegetation Zones	106

CONTENTS

- Endemic Plants 107
- Special Status Species 107
- USFWS Species of Special Concern 108
- Washington Natural Heritage Program-Listed Threatened Species 108
- Nonnative Species 108
- Fish and Wildlife 108
 - Overview 108
 - Endemic Animals 108
 - Wildlife 109
 - Fish 110
 - Marine Species 110
 - Nonnative Species 111
- Special Status Fish and Wildlife 112
 - Special Status Wildlife 112
 - Special Status Fish 114
- Wilderness Values 117
 - The Wilderness Act 117
 - Olympic Wilderness 117
 - Natural Resources in Wilderness 118
 - Cultural Resources in Wilderness 118
 - Visitor Use 121
- Cultural Resources 123
 - Historic Overview 123
 - A Description of the Park's Cultural Resources 127
 - Archeological Resources 127
 - Historic Structures 128
 - Cultural Landscapes 128
 - Ethnographic Resources 129
 - Museum Collections 129
 - Historic Contexts and Current Threats 131
 - Maritime Archeological Sites 131
 - Traditional Tribal Activities 132
 - Homesteads 132
 - Federal Land Management Infrastructure 132
 - Resorts and Recreational Cabins 132
 - World War II Resources 132
- Olympic Peninsula Tribes 133
- Visitation 137
- Visitor Opportunities 140
 - Recreational Opportunities 140
 - Road-based Recreational Opportunities 140
 - Trail-based Recreational Opportunities 142
 - Water-based Recreational Opportunities 142
 - Winter Snow-based Recreational Opportunities 143
 - Recreational Services 143
 - Facilities for Visitors 144
 - Camping Facilities 144
 - Lodging / Food Service / Supplies and Stores 144
- Information, Orientation, and Interpretation 146

- Internet Site 146
- Wayside Exhibits, Signs, and Brochures 146
- Visitor Centers 146
 - Olympic National Park Visitor Center / Port Angeles 146
 - Hurricane Ridge 147
 - Olympic National Park and Olympic National Forest Information Station in Forks 147
 - Lake Crescent 147
 - Mora 147
 - Hoh 147
 - Kalaloch 147
 - Quinault 147
 - Staircase 148
- Education 148
- Visitor Access and Transportation 149
 - Visitor Access to the Park 149
 - Roadway Network 149
 - Visitor Access within The Park 150
 - Access within Specific Park Areas 150
 - Headquarters and Olympic National Park Visitor Center, Port Angeles 150
 - Heart O’ the Hills/Hurricane Ridge 150
 - Elwha 153
 - Lake Crescent 153
 - Sol Duc 154
 - Ozette 154
 - Mora and La Push Area 154
 - Hoh 155
 - Kalaloch 155
 - Queets 155
 - Quinault 155
 - Staircase 156
 - Dosewallips 156
 - Deer Park 157
- Parking 157
- Travel Distribution Patterns 157
- Roadway Level of Service 160
- Advanced Traveler Information Systems 161
- Alternative Transportation Sources 161
 - Public Transit 161
 - Bicycle Access 162
- Socioeconomic Environment 163
 - Introduction 163
 - Population 163
 - Income 166
 - Major Industries by Earnings 167
 - Major Industries by Employment 167
 - Unemployment 170
 - Poverty 170
 - Visitor Use 171
- Park Operations 174

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

Introduction 177

Terms and Assumptions 177

Cumulative Impacts 177

 Olympic National Park Plans and Actions 178

 Other Planned or Ongoing Park Projects 180

 Other Federal Agency Plans 181

 State Plans 182

 County/Community Plans and Activities 182

 American Indian Activities and Projects 183

Impairment of Park Resources or Values 183

Methods and Assumptions for Analyzing Impacts 185

Natural Resources 185

 Air Quality 185

 Soundscapes 186

 Geologic Processes 186

 Hydrologic Systems 187

 Intertidal Areas 187

 Soils 187

 Vegetation 188

 Fish and Wildlife 188

 Special Status Species 189

Wilderness Values 189

Cultural Resources 190

 Cultural Resources Listed, or Eligible to be Listed, in the National Register of Historic Places 190

 Ethnographic Resources 192

 Museum Collections 192

Visitation 193

Visitor Opportunities 193

Information, Orientation, and Interpretation 194

Visitor Access and Transportation 194

Socioeconomic Environment 196

 Regional Economy 196

 Local Gateway Communities 197

 Park Concessioners 197

 Park Staffing and Budget 197

 Socioeconomic Impact Thresholds 197

Park Operations 197

Impacts of Implementing Alternative A 199

 Impacts on Natural Resources 199

 Air Quality 199

 Soundscapes 201

 Geologic Processes 202

 Hydrologic Systems 202

 Intertidal Areas 204

 Soils 205

Vegetation	205
Fish and Wildlife	207
Special Status Species	208
Impacts on Wilderness Values	210
Cumulative Effects	211
Conclusion	211
Impacts on Cultural Resources	212
Archeological Resources	212
Historic Structures and Cultural Landscapes	212
Ethnographic Resources	213
Museum Collections	214
Impacts on Visitation	214
Cumulative Effects	215
Conclusion	215
Impacts on Visitor Opportunities	215
Experiencing the Spectrum of Park Environments	215
Recreational Opportunities	216
Recreational Services	217
Commercial Visitor Facilities	217
Cumulative Effects	218
Conclusion	218
Impacts on Information, Orientation, and Interpretation	218
Parkwide	218
Olympic National Park Visitor Center Area	219
Hurricane Ridge	219
Elwha	219
Lake Crescent	219
Mora	220
Forest Information Station in Forks	220
Hoh	220
Kalaloch	220
Quinault	220
Cumulative Effects	221
Conclusion	221
Impacts on Visitor Access and Transportation	223
Parkwide Access and Parking	223
Access and Parking at Specific Park Areas	224
Roadway Capacity	228
Alternative Transportation	228
Health and Safety	228
Cumulative Effects	229
Conclusion	229
Impacts on the Socioeconomic Environment	230
Analysis	230
Cumulative Effects	231
Conclusion	232
Impacts on Park Operations	232
Cumulative Effects	233
Conclusion	233

CONTENTS

Unavoidable Adverse Impacts	233
Irreversible and Irrecoverable Commitments of Resources	233
Relationships between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity	234
Impacts of Implementing Alternative B	235
Impacts on Natural Resources	235
Air Quality	235
Soundscapes	236
Geological Processes	237
Hydrologic Systems	238
Intertidal Areas	240
Soils	241
Vegetation	242
Fish and Wildlife	243
Special Status Species	245
Impacts on Wilderness Values	247
Cumulative Effects	248
Conclusion	248
Impacts on Cultural Resources	249
Archeological Resources	249
Historic Structures and Cultural Landscapes	249
Ethnographic Resources	250
Museum Collections	251
Impacts on Visitation	251
Cumulative Effects	252
Conclusion	252
Impacts on Visitor Opportunities	252
Experiencing the Spectrum of Park Environments	252
Recreational Opportunities	253
Recreational Services	254
Commercial Visitor Facilities	254
Cumulative Effects	254
Conclusion	255
Impacts on Information, Orientation, and Interpretation	255
Parkwide	255
Olympic National Park Visitor Center Area	255
Hurricane Ridge	256
Elwha	256
Lake Crescent	256
Mora	256
Forest Information Station in Forks	257
Hoh	257
Kalaloch	257
Quinault	257
Cumulative Effects	258
Conclusion	258
Impacts on Visitor Access and Transportation	260
Parkwide Access and Parking	261

Access and Parking at Specific Park Areas	261
Roadway Capacity	265
Alternative Transportation	266
Health and Safety	266
Cumulative Effects	266
Conclusion	267
Impacts on the Socioeconomic Environment	268
Analysis	268
Cumulative Effects	270
Conclusion	270
Impacts on Park Operations	271
Cumulative Effects	271
Conclusion	271
Unavoidable Adverse Impacts	272
Irreversible and Irrecoverable Commitments of Resources	272
Relationships between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity	272
Impacts of Implementing Alternative C	274
Impacts on Natural Resources	274
Air Quality	274
Soundscapes	275
Geologic Processes	277
Hydrologic Systems	277
Intertidal Areas	278
Soils	279
Vegetation	280
Fish and Wildlife	282
Special Status Species	283
Impacts on Wilderness Values	285
Cumulative Effects	287
Conclusion	287
Impacts on Cultural Resources	288
Archeological Resources	288
Historic Structures and Cultural Landscapes	288
Ethnographic Resources	289
Museum Collections	290
Impacts on Visitation	291
Cumulative Effects	291
Conclusion	291
Impacts on Visitor Opportunities	292
Experiencing the Spectrum of Park Environments	292
Recreational Opportunities	292
Recreational Services	293
Commercial Visitor Facilities	294
Cumulative Effects	294
Conclusion	294
Impacts on Information, Orientation, and Interpretation	294
Parkwide	294

CONTENTS

Olympic National Park Visitor Center Area	295
Hurricane Ridge	295
Elwha	295
Lake Crescent	295
Mora	296
Forest Information Station in Forks	296
Hoh	296
Kalaloch	296
Quinault	296
Cumulative Effects	297
Conclusion	297
Impacts on Visitor Access and Transportation	299
Parkwide Access and Parking	299
Access and Parking at Specific Park Areas	300
Roadway Capacity	303
Alternative Transportation	304
Health and Safety	304
Cumulative Effects	304
Conclusion	305
Impacts on the Socioeconomic Environment	306
Analysis	306
Cumulative Effects	307
Conclusion	307
Impacts on Park Operations	308
Cumulative Effects	308
Conclusion	308
Unavoidable Adverse Impacts	308
Irreversible and Irrecoverable Commitments of Resources	309
Relationships between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity	309
Impacts of Implementing Alternative D (Preferred)	310
Impacts on Natural Resources	310
Air Quality	310
Soundscapes	312
Geologic Processes	313
Hydrologic Systems	314
Intertidal Areas	315
Soils	316
Vegetation	317
Fish and Wildlife	319
Special Status Species	321
Impacts on Wilderness Values	322
Cumulative Effects	324
Conclusion	324
Impacts on Cultural Resources	325
Archeological Resources	325
Historic Structures and Cultural Landscapes	325
Ethnographic Resources	326

Museum Collections	327
Impacts on Visitation	328
Cumulative Effects	328
Conclusion	329
Impacts on Visitor Opportunities	329
Experiencing the Spectrum of Park Environments	329
Recreational Opportunities	329
Recreational Services	331
Commercial Visitor Facilities	331
Cumulative Effects	331
Conclusion	331
Impacts on Information, Orientation, and Interpretation	332
Parkwide	332
Olympic National Park Visitor Center Area	332
Hurricane Ridge	333
Elwha	333
Lake Crescent	333
Mora	333
Forest Information Station in Forks	333
Hoh	333
Kalaloch	334
Quinault	334
Cumulative Effects	334
Conclusion	335
Impacts on Visitor Access and Transportation	336
Parkwide Access and Parking	337
Access and Parking at Specific Park Areas	337
Roadway Capacity	343
Alternative Transportation	343
Health and Safety	344
Cumulative Effects	344
Conclusion	345
Impacts on the Socioeconomic Environment	346
Analysis	346
Cumulative Effects	347
Conclusion	348
Impacts on Park Operations	348
Cumulative Effects	348
Conclusion	349
Unavoidable Adverse Impacts	349
Irreversible and Irrecoverable Commitments of Resources	349
Relationships between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity	349

CHAPTER 5: CONSULTATION AND COORDINATION

Public Involvement 353
Public Meetings and Newsletters 353
Consultation with Other Agencies/Officials and Organizations (To Date) 354
 Federal Agencies 354
 State Agencies 354
 Native American Tribes 355
Compliance Requirements 355
Agencies and Organizations Receiving a Copy of This Document 357

APPENDIXES, REFERENCES, PREPARERS AND CONSULTANTS, AND INDEX

Appendix A: Legislation 363
Appendix B: Analysis of Boundary Adjustment and Land Protection Criteria 369
Appendix C: Washington Maritime National Wildlife Refuge Complex 373
Appendix D: Statement of Findings 375
Appendix E: List of Classified Structures for the Park 380
Appendix F: Park Cultural Landscapes Inventory Status 385
Appendix G: State and Federal Listed Species in Olympic National Park 386

Glossary 389

Glossary of Terms for Maintained Trails 392

Selected References 393

Preparers and Consultants 399

Index 403

MAPS

Region 8

Alternative Maps 69

Headquarters and Olympic National Park Visitor Center and Heart O' Hills Area
Maps M1-M4

Hurricane Ridge and Obstruction Point Area Maps M5-M8

Elwha Area Maps M9-M12

Lake Crescent Area Maps M13-M16

Sol Duc Area Maps M17-M20

Ozette Area Maps M21-M24

Mora Area Maps M25-M28

Hoh Area Maps M29-M32

Kalaloch Area Maps M33-M36

Queets Area Maps M37-M40

Quinault Area Maps M41-M44

Staircase Area Maps M45-M48

Dosewallips Area Maps M49-M52
 Deer Park Maps M53-M56
 Wilderness Maps M57-M60
 Watershed 101
 Wilderness 119

TABLES

Table 1: Management Zones 57
 Table 2: Summary of Comparative Costs (FY 2005 Dollars)* 64
 Table 3: Environmentally Preferred Alternative Analysis 84
 Table 4: Summary of Key Impacts of Implementing the Alternatives 87
 Table 5: Park Watersheds 103
 Table 6: Vegetation Zones, with Corresponding Dominant Tree Species and Typical Elevation 106
 Table 7: Total Annual Recreation Visits by District, 2004 138
 Table 8: Distribution of Overnight Stays in the Park, 2004 138
 Table 9: Camping Facilities- Nonwilderness 145
 Table 10: Parking Peak Use 158
 Table 11: Affected Area Population for Counties and Selected Cities 164
 Table 12: Population of American Indian Reservations 164
 Table 13: Race 165
 Table 14: Per Capita Personal Income Counties, State, and U.S. 166
 Table 15: Per Capita Personal Income for American Indian Reservations 166
 Table 16: Total Personal Income 167
 Table 17: Earnings by Industry for 1999 168
 Table 18: Full-time and Part-time Employees* by Major Industry for 1999 169
 Table 19: Unemployment Rates 170
 Table 20: Unemployment Rates for American Indian Reservations 170
 Table 21: Percent of People Living in Poverty 171
 Table 22: Percent of People Living in Poverty on American Indian Reservations 171
 Table 23: Recreational Use at Olympic National Park 172
 Table 24: Projected Recreational Use at Olympic National Park 172
 Table 25: Park Concessions Affected by Alternative B 269
 Table 26: Compliance Required for Implementation of Specific Actions 356

FIGURES

Figure 1: Spotted Owl and Marbled Murrelet Habitat 113
 Figure 2: Total Annual Visitation 1980-2004 137
 Figure 3: Monthly Visitation (2004) 138
 Figure 4: Road Network And Daily Traffic Volumes 151
 Figure 5: Visitor Use — Historical Use And Projected 173