

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
Chapter 1: Purpose and Need	
Summary	1-1
Background	1-2
Project Area Description	1-3
Management Direction	1-5
North Lochsa Landscape Assessment	1-6
Findings from the North Lochsa Landscape Assessment and Basis for Purpose and Need	1-7
Findings from Other Assessments or Policies	1-19
Executive Order on Environmental Justice	1-23
Proposed Action	1-24
Scope of the Analysis	1-27
Decision Framework	1-28
Availability of Project Files	1-28
Chapter 2: Issues and Alternatives	
Changes to Chapter 2	2-1
Introduction	2-1
Public Participation	2-2
Issues	2-3
Relevant Issues	2-4
Alternative Formulation	2-6
Alternatives Considered but Eliminated from Detailed Study	2-7
Alternatives Considered In Detail	2-9
Activities Common to All Action Alternatives	2-10
Monitoring	2-12
Alternative 1 (No Action)	2-15
Alternative 2 (Proposed Action)	2-15
Alternative 3	2-19
Alternative 3a	2-22
Alternatives 4 and 4a	2-24
Alternative 5	2-27
Alternative 6 (Preferred Alternative)	2-29
Comparison of Alternatives to the Purpose and Need	2-33
Comparison of Alternatives to the Issues	2-37
Comparison of Alternatives to the Resources	2-38

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Chapter 3: Affected Environment and Environmental Consequences	
Vegetation Existing Conditions	3-1
Vegetation Environmental Consequences	3-15
Alternative 1, No Action	3-16
Effects of the Action Alternatives	3-17
Alternative 2	3-26
Alternative 3	3-30
Alternative 3a	3-30
Alternative 4/4a	3-34
Alternative 5	3-37
Alternative 6	3-40
Old Growth Existing Conditions	3-47
Old Growth Environmental Consequences	3-49
Sensitive Plant Species Existing Conditions	3-54
Sensitive Plant Species Environmental Consequences	3-62
Noxious Weeds Existing Conditions	3-68
Noxious Weeds Environmental Consequences	3-72
Wildlife Existing Conditions and Environmental Consequences	3-87
Elk Summer Range	3-88
Elk Winter Range	3-97
Moose	3-103
White-Tailed Deer	3-104
Pileated Woodpecker	3-105
American Marten (Pine Marten)	3-111
Belted Kingfisher	3-115
Gray Wolf	3-116
Grizzly Bear	3-120
Bald Eagle	3-123
Lynx	3-124
Black-backed Woodpecker	3-133
Coeur d'Alene Salamander	3-137
Fisher	3-137
Flammulated Owl	3-141
Harlequin Duck	3-145
Northern Goshawk	3-147
Western (Boreal) Toad	3-151
Wolverine	3-152

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Soils and Erosion Processes Existing Conditions	3-159
Soils and Erosion Processes Environmental Consequences	3-169
Aquatic Resources Existing Conditions and Environmental Consequences	3-179
Regulatory Framework	3-180
Analysis Process	3-183
Analysis Tools	3-184
Changes from Final EIS	3-189
Effects Common to All Action Alternatives	3-194
Fish Creek	3-201
Pete King Creek	3-221
Canyon Creek	3-232
Deadman Creek	3-239
Bimerick Creek	3-246
Apgar, Glade, and Rye Patch Creeks	3-251
Lochsa River Face Drainages	3-258
Lochsa River	3-262
Scenic Quality Existing Conditions	3-268
Scenic Quality Environmental Consequences	3-271
Lochsa Research Natural Area Existing Conditions	3-280
Lochsa Research Natural Area Environmental Consequences	3-282
Fish and Hungery Creeks, Eligible Wild and Scenic Rivers Existing Conditions	3-285
Fish and Hungery Creeks, Eligible Wild and Scenic Rivers Environmental Consequences	3-286
Lochsa Wild and Scenic River Existing Conditions	3-289
Lochsa Wild and Scenic River Environmental Consequences	3-291
North Lochsa Slope Roadless Area Existing Conditions	3-298
North Lochsa Slope Roadless Area Environmental Consequences	3-300
Noth Lochsa Face Roadless Area Existing Conditions	3-302
North Lochsa Face Roadless Area Environmental Consequences	3-306
Entire Project Area Roadless Environmental Consequences	3-316
Heritage Resources Existing Conditions	3-320
Heritage Resources Environmental Consequences	3-324
Wildfire Existing Conditions	3-335
Wildfire Environmental Consequences	3-338
Air Quality Existing Conditions	3-345
Air Quality Environmental Consequences	3-346
Recreation Existing Conditions	3-350

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Recreation Environmental Consequences	3-351
American Indian Treaty Rights Existing Conditions	3-353
American Indian Treaty Rights Environmental Consequences	3-355
Community Economics Existing Conditions	3-357
Community Economics Environmental Consequences	3-364

Tables

Table 1-1: Proposed Action	1-2
Table 1-2: Forest Plan Management Area (MA) Descriptions for Proposed Vegetative Treatment Areas	1-5
Table 1-3: Breaklands; LTAs 21A, 21B, 21C, 23A, 23B, and 23C	1-8
Table 1-4: Colluvial Midslopes; LTAs 61 and 63	1-11
Table 1-5: Frost Churned Uplands; LTAs 71B and 71C	1-12
Table 1-6: Old Surfaces; LTAs 81A, 81B, 83A and 84A	1-13
Table 1-7: Stream Terraces; LTA10A	1-15
Table 1-8: Acres of Vegetation Treatment by Landform	1-25
Table 2-1: Alternative Features	2-15
Table 2-2: Summary of Specific Features for Alternative 2	2-16
Table 2-3: Acres of Vegetation Treatment by Landform	2-16
Table 2-4: Summary of Specific Features for Alternative 3	2-20
Table 2-5: Acres of Vegetation Treatment by Landform	2-20
Table 2-6: Summary of Specific Features for Alternative 3a	2-22
Table 2-7: Acres of Vegetation Treatment by Landform	2-23
Table 2-8: Summary of Specific Features for Alternative 4	2-25
Table 2-9: Acres of Vegetation Treatment by Landform	2-26
Table 2-10: Summary of Specific Features for Alternative 5	2-28
Table 2-11: Acres of Vegetation Treatment by Landform	2-28
Table 2-12: Summary of Specific Features for Alternative 6	2-30
Table 2-13: Acres of Vegetation Treatment by Landform	2-30
Table 2-14: Vegetation Restoration by Alternative	2-33
Table 2-15: Comparison of Alternatives by Issues	2-37
Table 2-16: Comparison of Alternatives by Resource Affected	2-38
Table 3-1: Existing Species Composition of Stream Terraces, LTA 10A	3-9
Table 3-2: Existing Age Class Distribution (%) of Stream Terraces, LTA 10A	3-9
Table 3-3: Existing Species Composition on Breaklands, LTA 21A/23A, 21B/23B, 21C/23C	3-11
Table 3-4: Existing Age Class Distribution on Breaklands, LTA 21A, 21B, 21C	3-11

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Table 3-5: Existing Age Class Distribution on Breaklands, LTA 23A, 23B, 23C	3-11
Table 3-6: Existing Species Composition on Colluvial Midslopes, LTA 61/63	3-12
Table 3-7: Existing Age Class Distribution on Colluvial Midslopes, LTA 61/63	3-12
Table 3-8: Existing Species Composition on Frost Churned Uplands, LTA 71B/71C	3-13
Table 3-9: Existing Age Class Condition on Frost Churned Uplands, LTA 71B, 71C	3-14
Table 3-10: Existing Species Composition on Old Surfaces, LTA 81A/83A/84A, 81B	3-15
Table 3-11: Existing Age Class Distribution on Old Surfaces, LTA 81A/83A/84A, 81B	3-15
Table 3-12: General Effects of Vegetation Management	3-18
Table 3-13: Changes in Species Composition by Alternative	3-20
Table 3-14: Effects on Age Clas Distribution in Stream Bottoms, LTA 10A	3-23
Table 3-15: Effects on Age Class Distribution in Breaklands, LTA 21A/21B/21C, 23A/23B/23C	3-23
Table 3-16: Effects on Age Class Distribution on Colluvial Midslopes, LTA 61A, 63	3-24
Table 3-17: Effects on Age Class Distribution on Frost Churned Uplands, LTA 71A/71C	3-24
Table 3-18: Effects on Age Class Distribution on Old Surfaces, LTA 81A/81B	3-25
Table 3-19: Acres of High Density Stands Treated by Alternative	3-25
Table 3-20: Existing Coniferous Old Growth Forest (OG) Within the North Lochsa Face Analysis Area	3-49
Table 3-21: Available Coniferous Old Growth Forest by Alternative	3-51
Table 3-22: Threatened Plant Species Considered for North Lochsa Face SEIS	3-53
Table 3-23: Occurrence of Sensitive Plant Species	3-54
Table 3-24: Direct/Indirect Effects to Specific Sensitive Plant Species	3-64
Table 3-25: Sensitive Plant Species Potentially Impacted by Alternative	3-67
Table 3-26: Summary of Weed Occurrence Within the NLF Project Area	3-69
Table 3-27: Clearwater Basin Weed Coordinating Committee, Management Recommendations	3-71
Table 3-28: Indicators for Effects of Action Alternatives	3-73

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Table 3-29: Allowable Daily Intake (ADI)	3-85
Table 3-30: Wildlife Analysis Sections and Species Discussed	3-87
Table 3-31: Management Area Direction for Elk Summer Range	3-88
Table 3-32: Elk Summer Habitat Effectiveness by Elk Analysis Area	3-90
Table 3-33: Estimated Current Elk Summer Habitat Effectiveness by Forest Plan Management Area	3-90
Table 3-34: Elk Security Area (%) by Management Area	3-91
Table 3-35: Estimated Elk Habitat Effectiveness (%) by EAA, by Alternative	3-92
Table 3-36: Elk Summer Habitat Effectiveness (%) by Alternative	3-92
Table 3-37: Management Area Direction for Elk Winter Range	3-97
Table 3-38: Available Winter Forage by Major Watershed	3-99
Table 3-39: Available Elk Winter Forage Less Than 20 Years Old	3-100
Table 3-40: Available Elk Winter Forage Versus Desired Conditions	3-100
Table 3-41: Direct Effects of Planned Activities on Pileated Woodpecker Habitat	3-108
Table 3-42: Estimated Suitable Pileated Woodpecker by Alternative	3-108
Table 3-43: Old Growth Habitat Reductions	3-108
Table 3-44: Direct Effects on American Pine Marten Habitat	3-113
Table 3-45: Available American Pine Marten Habitat	3-113
Table 3-46: Lynx Habitat Features	3-127
Table 3-47: Lynx Habitat by Alternative	3-129
Table 3-48: Status of Sensitive Species in the North Lochsa Face Project Area	3-132
Table 3-49: Effects on Black-backed Woodpecker Habitat	3-134
Table 3-50: Available Black-backed Woodpecker Habitat	3-135
Table 3-51: Direct Effects on Fisher Habitat	3-139
Table 3-52: Available Fisher Habitat	3-140
Table 3-53: Effects on Flammulated Owl Habitat	3-143
Table 3-54: Available Flammulated Owl Habitat	3-143
Table 3-55: Effects on Northern Goshawk Habitat	3-149
Table 3-56: Available Northern Goshawk Habitat	3-149
Table 3-57: Effects on Wolverine Habitat	3-154
Table 3-58: Available Habitat for Selected Wildlife Species	3-154
Table 3-59: Summary of Findings by Alternative	3-158
Table 3-60: Landtype Association Composition for North Lochsa Face Analysis Area	3-160
Table 3-61: Landtype Erosional Characteristics for the North Lochsa Face Analysis Area	3-162
Table 3-62: Landslide Distribution in North Lochsa Face Area After	

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
1995-1996 Storm Events by Geology and Landslide Source Area	3-166
Table 3-63: Landslide Distribution in North Lochsa Face Area After 1995-1996 Storm Events by LTA and Landslide Source Area	3-166
Table 3-64: Landslide Distribution in North Lochsa Face Area After 1995-1996 Storm Events by Landtypes and Landslide Source Area	3-167
Table 3-65: Landslide Distribution in North Lochsa Face Area After 1995-1996 Storm Events by Watersheds and Landslide Source Area ..	3-168
Table 3-66: Proposed Treatment Areas on Landtypes with High Potential Landslide Hazards	3-176
Table 3-67: Organization of Aquatic Resource Analysis	3-179
Table 3-68: Water Quality Listed Streams Within the North Lochsa Face Analysis Area	3-180
Table 3-69: Occurrence of Threatened, Endangered, and Sensitive Fish Species	3-181
Table 3-70: General Characteristics of Watersheds in the North Lochsa Face Analysis Area	3-190
Table 3-71: Staggered Implementation Schedule by Watershed	3-193
Table 3-72: Miles of Road Obliteration and Long-Term Maintenance Roads	3-194
Table 3-73: Landslide Indicators - Temporary Roads	3-197
Table 3-74: Risk Factor Rating - Temporary Roads	3-198
Table 3-75: Toxic Herbicide Levels for Fish	3-199
Table 3-76: Toxic Herbicide Levels for Aquatic Organisms	3-200
Table 3-77: Maximum Acres Treatable by Chemical Within NOEL Limits	3-201
Table 3-78: Fish Creek Sediment/Forest Plan Summary	3-203
Table 3-79: Habitat Function Summary for Fish Creek	3-204
Table 3-80: Fish Creek Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-206
Table 3-81: Hungry Creek Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-212
Table 3-82: Lower Pete King Creek Monitoring Data	3-222
Table 3-83: Pete King Creek Sediment/Forest Plan Summary	3-223
Table 3-84: Habitat Function Summary for Pete King Creek	3-224
Table 3-85: Pete King Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-224
Table 3-86: Canyon Creek Sediment/Forest Plan Summary	3-233
Table 3-87: Habitat Function Summary for Canyon Creek	3-234
Table 3-88: Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-234

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Table 3-89: Deadman Creek Sediment/Forest Plan Summary	3-240
Table 3-90: Habitat Function Summary for Deadman Creek	3-241
Table 3-91: Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-241
Table 3-92: Bimerick Creek Sediment/Forest Plan Summary	3-247
Table 3-93: Habitat Function Summary for Bimerick Creek	3-248
Table 3-94: Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-248
Table 3-95: Apgar, Glade and Rye Patch Sediment/Forest Plan Summary	3-252
Table 3-96: Habitat Function Summary for Apgar, Glade, and Rye Patch Creeks	3-253
Table 3-97: Maximum Percent Increase in Sediment from Baseline Condition (WATBAL)	3-255
Table 3-98: Probability of Sediment Delivery: 30-Year Return period North Lochsa River Face Drainages by Activity & Alternative: 300' RHCA	3-259
Table 3-99: Probability of Sediment Delivery: 30-Year Return Period North Lochsa River Face Drainages by Activity & Alternative: 150' RHCA	3-260
Table 3-100: Forest Plan Visual Quality Objectives - Travel Corridors, Use Sites, Admin. Sites, Appendix G	3-270
Table 3-101: Proposed Vegetative Management in Fish and Hungry Creek Drainages	3-287
Table 3-102: Summary of Actions Within the Lochsa Wild and Scenic River Corridor	3-291
Table 3-103: Management Areas Pertaining to the Portion of the North Lochsa Slope Roadless Area Included in the Project Area	3-299
Table 3-104: Crosswalk of Wilderness Features/Roadless Characteristics and Evaluation Criteria	3-301
Table 3-105: Existing Condition of Wilderness Features and Roadless Characteristics	3-302
Table 3-106: Activities in the Roadless Area Portion of Fish Creek (Acres)	3-306
Table 3-107: Activities in the Roadless Area Portion of Bimerick/Deadman Creek (Acres)	3-306
Table 3-108: Activities in the Roadless Area Portion of Face Drainages (Acres)	3-307
Table 3-109: Effects of Alternative 1 and 4/4a on Wilderness Features/Roadless Characteristics; Fish Creek	3-307

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Table 3-110: Effects of Alternatives 1 and 4/4a on Wilderness Features/Roadless Characteristics; Bimerick Creek	3-308
Table 3-111: Effects of Alternatives 1 and 4/4a on Wilderness Features/Roadless Characteristics; Face Drainages	3-309
Table 3-112: Effects of Alternatives 2, 3, 3a, 5, 6 on Wilderness Features/Roadless Characteristics; Fish Creek	3-310
Table 3-113: Effects of Alternatives 2, 3, 3a, 5, 6 on Wilderness Features/Roadless Characteristics; Bimerick Creek	3-312
Table 3-114: Effects of Alternatives 2, 3, 3a, 5, 6 on Wilderness Features/Roadless Characteristics; Face Drainages	3-314
Table 3-115: Proposed Vegetative Management Activities; All Areas	3-316
Table 3-116: Design Criteria Applied to Each Site Within the National Historic Landmark	3-325
Table 3-117: Design Criteria Applied to Each Site Outside the National Historic Landmark	3-326
Table 3-118: Direct and Indirect Effects of the Alternatives	3-331
Table 3-119: Prescribed Fire Effects by Alternative	3-340
Table 3-120: Sensitive Airsheds Sites Within, or in Close Proximity to, North Lochsa Face Analysis Area	3-346
Table 3-121: Estimated Smoke Volume (tons/ac) by Fire Type and Landscape Characteristics	3-347
Table 3-122: Local Communities Summary Data	3-362
Table 3-123: Kooskia Race and Age Breakdown	3-363
Table 3-124: Kamiah Race and Age Breakdown	3-363
Table 3-125: Grangeville Race and Age Breakdown	3-363
Table 3-126: Stites Race and Age Breakdown	3-364
Table 3-127: Orofino Race and Age Breakdown	3-364
Table 3-128: Jobs and Income	3-365
Table 3-129: Helicopter Volume (MMBF)	3-366
Table 3-130: Estimated Economic Effects, Appraisal Comparison, Predicted Stumpage, and Present Net Value	3-368
Table 3-131: Overall Management Comparison by Alternative	3-369
Table 3-132: Source of Cost and Revenues	3-369

Figures

Figure 3-1: Percentage of North Lochsa Face by General LTA	3-2
Figure 3-2: General Forest Conditions	3-5

TABLE OF CONTENTS, Continued

<u>Title</u>	<u>Page</u>
Appendices	
Appendix A: Maps and Diagrams	
Vicinity Map	A-1
Unit Numbers	A-2
Alternative 2	A-3
Alternative 3	A-4
Alternative 3a	A-5
Alternative 4 and 4a	A-6
Alternative 5	A-7
Alternative 6	A-8
Major Drainages	A-9
Landtype Association Groups	A-10
Historic Patch Sizes	A-11
Old Growth	A-12
Large Fire History	A-13
Lynx Habitat	A-14
1995-1996 Landslides	A-15
Diagram 1:	A-15
Appendix B: Design Features	B-1
Appendix C: Programmatic Forest Plan Burning Amendment	C-1
Appendix D: Road Obliteration	D-1
Appendix E: Noxious Weed Treatments	E-1
Appendix F: Landslide and Erosion Hazard	F-1
Appendix G: Sample Stand Diagnoses and Proposed Harvests	G-1
Appendix H: Issue Resolution	H-1
Appendix I: Alternative Comparison Table	I-1
Appendix J: Monitoring Summary	J-1
Appendix K: Compliance With Laws and Regulations	K-1
Appendix L: Glossary	L-1
Appendix M: References	M-1
Appendix N: List of Preparers	N-1