

# TABLE OF CONTENTS

## HOW TO USE THIS DOCUMENT

Public Review .....	i
The Management Area Concept .....	i
How The Garnet RMP/EIS Is Organized .....	iii

<b>ABSTRACT</b> .....	<b>v</b>
-----------------------	----------

## SUMMARY

Alternative A .....	viii
Alternative B .....	ix
Alternative C .....	xi
Alternative D .....	xii
Alternative E .....	xiii

## INTRODUCTION

Purpose and Need .....	1
Planning Process Overview .....	4

## CHAPTER 1: ISSUES AND CRITERIA

Issue-Driven Planning .....	7
Issues Addressed in the Garnet RMP .....	7
Planning Criteria .....	9

## CHAPTER 2: ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Alternative Formulation Overview .....	13
Delineation of Management Areas .....	13
Interim Management of WSAs .....	17
Management Guidance Common to All Alternatives .....	18
Alternatives Considered in Detail .....	25
Comparison of Alternatives .....	43
Alternatives Eliminated from Detailed Study .....	56
Selection of the Preferred Alternative .....	56
Monitoring and Evaluation .....	59

## CHAPTER 3: AFFECTED ENVIRONMENT

Setting .....	61
Soil and Water Resources .....	61
Energy and Mineral Resources .....	67
Lands .....	73
Recreation Resources .....	74
Visual Resources .....	77
Cultural Resources .....	80
Wilderness Resources .....	80
Forest Resources .....	91
Range Resources .....	92
Wildlife Habitat Resources .....	95
Social and Economic Conditions .....	99

## CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

Analysis Process .....	103
Analysis Guidelines .....	103
Analysis Assumptions .....	103
Summary of Impacts .....	104
Alternative A .....	104
Alternative B .....	124
Alternative C .....	135
Alternative D .....	145
Alternative E .....	150
Cumulative Impacts .....	159
Unavoidable Adverse Impacts .....	159
Relationship Between Short-term Use and Long-term Productivity .....	160
Irreversible and Irretrievable Commitment of Resources .....	160

**CHAPTER 5: CONSULTATION AND COORDINATION**

Consistency ..... 161  
Public Participation ..... 161  
Agencies and Organizations Consulted ..... 162

**CHAPTER 6: LIST OF PREPARERS**

Project Management ..... 165  
Interdisciplinary Team ..... 165  
Writing Team ..... 166  
Document Production Team ..... 166

**APPENDIXES**

Appendix A: Management Area Prescriptions ..... 167  
Appendix B: Best Management Practices ..... 181  
Appendix C: Timber Production Capability Classification ..... 183  
Appendix D: Processing Notices and Plans of Operations Under the 3809 Regulations ..... 186  
Appendix E: Oil and Gas Leasing Procedures ..... 196  
Appendix F: Guidelines for Implementation of VRM Classes ..... 203  
Appendix G: Cultural Resource Management Procedures ..... 207  
Appendix H: Summary of Resource Conditions Used to Categorize Grazing Allotments ..... 209  
Appendix I: Alternative Stocking Rates By Allotment ..... 214  
Appendix J: Range Improvements and Treatments ..... 217  
Appendix K: Grazing Systems ..... 219  
Appendix L: Data on Individual Allotments: Ecological Condition, Forage Potential,  
and Current Management Practices ..... 220  
Appendix M: Management Opportunities and Objectives for I Allotments ..... 226  
Appendix N: Analysis of the No Grazing Alternative ..... 229  
Appendix O: Detailed Discussion of Areas Being Studied for Wilderness ..... 233  
Appendix P: Wilderness Opportunities Within Montana ..... 290  
Appendix Q: Ecosystem Representation ..... 301  
Appendix R: Analysis of Ranch Budgets ..... 302  
Appendix S: Coordinating Elk and Time Management Recommendations from the Final Report  
of the Montana Cooperative Elk-Logging Study 1970-1985 ..... 309

**GLOSSARY/REFERENCES/INDEX**

Glossary ..... 315  
References ..... 323  
Index ..... 325  
Errata ..... 327

**FIGURES**

**INTRODUCTION**

I-1 Steps in the Resource Management Planning Process ..... 5

**CHAPTER 3**

3-1 Visitor Use Trend in Blackfoot SMA ..... 76  
3-2 Satisfactory Riparian Habitat ..... 94  
3-3 Unsatisfactory Riparian Habitat ..... 94

**CHAPTER 4**

4-1 Predicted Changes in Vegetative Condition Under Alternative A ..... 119  
4-2 Predicted Changes in Vegetative Condition Under Alternative B ..... 129  
4-3 Predicted Changes in Vegetative Condition Under Alternatives C & D ..... 140  
4-4 Predicted Changes in Vegetative Condition Under Alternative E ..... 155

**APPENDIX D**

D-1 Notice, 43 CFR 3809 ..... 189  
D-2 Outline for Plans of Operations Submitted Under the 43 CFR 3809 Regulations ..... 193

**MAPS**

**HOW TO USE THIS DOCUMENT**

Proposed Management of Upper Elk Creek Under Alternative A ..... ii  
Proposed Management of Upper Elk Creek Under Alternative B ..... ii  
Proposed Management of Upper Elk Creek Under Alternatives C and D ..... ii  
Proposed Management of Upper Elk Creek Under Alternative E ..... ii

**INTRODUCTION**

Garnet Resource Area Location Map .....2

**CHAPTER 2**

Wales Creek Alternatives Map .....28  
Hoodoo Mountain Alternatives Map .....29  
Gallagher Creek Alternatives Map .....30  
Quigg West Alternatives Map .....31  
Wales Creek, Alternative D, MA Map.....37  
Hoodoo Mountain, Alternative D, MA Map.....38  
Gallagher Creek, Alternative D, MA Map .....39

**CHAPTER 3**

Percent of Public Surface Ownership Map .....62  
Surface Geology Map .....64  
Hydrologic Unit Map .....65  
Overthrust Belt in the Rocky Mountains .....69  
Overthrust Belt in the GRA .....70  
Minerals Map .....72  
Major Transportation and Utility Corridors Map .....75  
Wales Creek WSA Topographic Map .....84  
Hoodoo Mountain WSA Topographic Map .....85  
Gallagher Creek 202 WSA Topographic Map .....88  
Quigg West 202 WSA Topographic Map .....90  
Big Game Winter Range (Deer/Sheep) Map .....97  
Big Game Winter Range (Elk/Moose) Map .....98

**APPENDIX O**

Location Map .....234  
Wales Creek Land Status Map.....235  
Hoodoo Mountain Land Status Map.....236  
Gallagher Creek Land Status Map .....237  
Quigg West Land Status Map .....238  
Wales Creek Impacts Map .....258  
Hoodoo Mountain Impacts Map .....264  
Gallagher Creek Impacts Map.....268

**MAP PACKET**

- Alternative A East Half Map
- Alternative A West Half Map
- Alternative B East Half Map
- Alternative B West Half Map
- Alternative C-D East Half Map
- Alternative C-D West Half Map
- Alternative E East Half Map
- Alternative E West Half Map
- Land Adjustment Map
- Motorized Recreation Restrictions Map
- Land Status Map
- Allotment Overlay

**TABLES**

**CHAPTER 2**

2-1 Management Area Summary .....14  
2-2 Existing Withdrawals and Classifications .....20  
2-3 Summary of Management Area Allocations for Alternative A .....26  
2-4 Existing AMP Allotments .....27  
2-5 Summary of Management Area Allocations for Alternative B .....32  
2-6 New AMP Allotments Proposed Under Alternative B .....33  
2-7 Summary of Management Area Allocations for Alternative C .....33  
2-8 New AMP Allotments Proposed Under Alternatives C and D.....34  
2-9 Summary of Management Area Allocations for Alternative D .....35  
2-10 Summary of Management Area Allocations for Alternative E .....36  
2-11 Tracts to Remain Unleased For Livestock Grazing.....41  
2-12 New AMP Allotments Proposed Under Alternative E .....41

2-13	Comparison of Alternatives: Range Improvements, Treatments, and Costs	42
2-14	Comparison of Alternatives: Projected Long-term Changes in Vegetative Condition/Classification	44
2-15	Comparison of Alternatives: MA Allocations	44
2-16	Comparison of Alternatives: Resource Allocations and Outputs	45
2-17	Summary of Impacts of Alternatives on Resources	48

**CHAPTER 3**

3-1	Major Soil Types and Their Selected Characteristics	62
3-2	Stream Monitoring Summary	66
3-3	Stream Reach Inventory and Channel Stability Analysis	68
3-4	Energy and Mineral Potential in the GRA	71
3-5	BLM Surface and Subsurface Ownership By County	73
3-6	Surface Ownership By Tract Size	73
3-7	Surface Ownership By County	74
3-8	Dispersed Recreation Activities in the GRA	74
3-9	Walk-in Hunting Areas in the GRA	78
3-10	VRM Classes	79
3-11	Wilderness Study Areas in the GRA	80
3-12	Regional Wilderness Opportunities	81
3-13	Proximity of Wilderness to Population Centers	81
3-14	Existing and Proposed Wilderness Areas and Areas Under Wilderness Study	82
3-15	Forest Habitat Types and Productivity Data	91
3-16	Timber Sold in the GRA	91
3-17	TPCC Categories and Acreages	92
3-18	Factors Affecting Forest Productivity	93
3-19	Summary of Present Vegetative Conditions and Classifications	95
3-20	Allotment Management Plans	95
3-21	Fishable Streams and Rivers in the GRA	100
3-22	Population Projections for Missoula, Granite, and Powell Counties	100
3-23	Employment Projections for Missoula, Granite, and Powell Counties	101
3-24	Federal Payments to County Governments in 1982	101
3-25	Dependency of Lessees on Livestock Forage on Public Lands in the GRA	102

**CHAPTER 4**

4-1	Estimated Reduction in Timber Output Due to MA Prescriptions	104
4-2	Costs of Building, Maintaining, and Replacing Improvements	104
4-3	Summary of Impacts of Alternatives on Resources	106
4-4	Range Improvements for Alternative A	118
4-5	Projected Changes in AUM Production for Alternative B	129
4-6	Range Improvements and Cost Data for Alternative B	129
4-7	Number of Ranches in Each Size Class Affected by the Grazing Program in Alternative B	133
4-8	Alternative C: Wilderness Study Areas' Energy and Mineral Potential	136
4-9	Projected Changes in AUM Production for Alternatives C and D	139
4-10	Range Improvements and Cost Data for Alternatives C and D	139
4-11	Number of Ranches in Each Size Class Affected by the Grazing Program in Alternative C	143
4-12	Number of Ranches in Each Size Class Affected by the Grazing Program in Alternative D	149
4-13	Projected Changes in AUM Production for Alternative E	154
4-14	Range Improvements and Cost Data for Alternative E	154
4-15	Number of Ranches in Each Size Class Affected by the Grazing Program in Alternative E	159
4-16	Percent of Public Land Managed to Achieve Wildlife Habitat Goals	159

**CHAPTER 6**

6-1	Writing Team	166
6-2	Document Production Team	166

**APPENDIX A**

A-1	Riparian Buffer Zone	168
A-2	Riparian Buffer Zones for Tolerant and Sensitive Soils	170
A-3	Wilderness Study Areas	176

**APPENDIX D**

D-1 Steps in Processing a Notice of Planned Mining Activities ..... 187  
D-2 Steps in the Processing a Plan of Operations ..... 191

**APPENDIX H**

H-1 Summary of Resource Conditions Used to Categorize Allotments ..... 210  
H-2 Summary of Allotments By Category ..... 209

**APPENDIX L**

L-1 I Category Allotments ..... 222  
L-2 M Category Allotments ..... 222  
L-3 C Category Allotments ..... 224

**APPENDIX M**

M-1 Management Opportunities and Objectives - I Allotments ..... 226  
M-2 Allotment Ranking For I Allotments ..... 228

**APPENDIX N**

N-1 Effect of No Grazing on Ranch Income ..... 231

**APPENDIX O**

O-1 Wilderness Study Areas Analyzed in This Document ..... 233  
O-2 Description of Management Activity by Issue/by Alternative ..... 244  
O-3 Summary of Impacts of Each Alternative on Wales Creek WSA ..... 248  
O-4 Summary of Impacts of Each Alternative on Hoodoo Mountain WSA ..... 250  
O-5 Summary of Impacts of Each Alternative on Gallagher Creek 202 WSA ..... 252  
O-6 Summary of Impacts of Each Alternative on Quigg West 202 WSA ..... 254  
O-7 Rationale for Selection of the Preferred Alternative ..... 256  
O-8 Effects on Naturalness Wales Creek WSA ..... 257  
O-9 Effects on Naturalness Hoodoo WSA ..... 263  
O-10 Effects on Naturalness Gallagher Creek WSA ..... 267

**APPENDIX P**

P-1 Status of BLM Areas Under Wilderness Study ..... 290  
P-2 Other Agency Areas Under Wilderness Study ..... 291  
P-3 Wilderness Recommendations Transmitted By This RMP ..... 296  
P-4 Completed BLM Wilderness Studies Awaiting Presidential Recommendations ..... 297  
P-5 Wilderness Recommendations Pending Before Congress (All Agencies) ..... 299  
P-6 Statutory Wilderness (All Agencies) ..... 300

**APPENDIX Q**

Q-1 Ecosystems Found in the WSAs in the GRA ..... 301

**APPENDIX R**

R-1 Production Receipts for an Average Ranch in Size Class 1 ..... 302  
R-2 Variable Costs for an Average Ranch in Size Class 1 ..... 303  
R-3 Fixed Costs for an Average Ranch in Size Class 1 ..... 303  
R-4 Production Receipts for an Average Ranch in Size Class 2 ..... 304  
R-5 Variable Costs for an Average Ranch in Size Class 2 ..... 304  
R-6 Fixed Costs for an Average Ranch in Size Class 2 ..... 305  
R-7 Production Receipts for an Average Ranch in Size Class 3 ..... 305  
R-8 Variable Costs for an Average Ranch in Size Class 3 ..... 306  
R-9 Fixed Costs for an Average Ranch in Size Class 3 ..... 306  
R-10 Production Receipts for an Average Ranch in Size Class 4 ..... 307  
R-11 Variable Costs for an Average Ranch in Size Class 4 ..... 307  
R-12 Fixed Costs for an Average Ranch in Size Class 4 ..... 308