



U.S. Department of the Interior
Bureau of Land Management

March 2024

Greater Sage-Grouse

Draft Resource Management Plan Amendment and Environmental Impact Statement



The Bureau of Land Management's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

Cover Photo: Steve Ting

Lower Bar Photos (L to R):

US Fish and Wildlife, Rachel Woita, James Yule

Greater Sage-Grouse Rangewide Planning
Draft Resource Management Plan Amendment and
Draft Environmental Impact Statement
DOI-BLM-WO-2300-2022-0001-RMP-EIS

Responsible Agency: United States Department of the Interior,
Bureau of Land Management

Type of Action: Administrative (X) Legislative ()

Document Status: Draft (X) Final ()

Abstract: This draft resource management plan (RMP) amendment and draft environmental impact statement (EIS) has been prepared by the United States Department of the Interior, Bureau of Land Management (BLM) with input from cooperating agencies. This document considers amendments to 76 BLM RMPs across the range of greater sage-grouse (GRSG). The draft EIS describes and analyzes six alternatives for adjusting a subset of specific GRSG habitat management on BLM-administered surface estate and split-estate lands with BLM-administered subsurface mineral rights directly underlying non-federal ownership. Alternative 1 is a continuation of current management; use of public lands and resources would continue to be managed under the BLM RMPs, as amended in 2015. Alternative 2 represents a continuation of management under the BLM RMPs amended in 2019. Alternative 3 represents the alternative with the most restrictions on resource uses to preserve GRSG. Alternative 4 was developed by the BLM to update the habitat management area boundaries and associated management based on new information and science that has become available since the 2015 and 2019 efforts. Alternative 5 was developed to consider other potential alignments of habitat management areas and associated management to try and balance GRSG conservation with public land uses. Under Alternative 6, management for all habitat management areas and the management actions being considered in the range of alternatives would be the same as described for Alternative 5, but with the addition of ACECs. Alternative 5 is the agency's preferred alternative, though this does not constitute a final decision and there is no requirement that the preferred alternative identified in the draft EIS be selected as the agency's decision in the Record of Decision. Major planning actions addressed include habitat management area boundaries, disturbance caps, habitat objectives, adaptive management, mitigation, energy and minerals, renewable energy, livestock grazing, wild horses and burros, and minimizing threats from predation.

Review Period: Comments on the Greater Sage-Grouse Draft Resource Management Plan Amendment and Draft Environmental Impact Statement will be accepted for 90 calendar days following publication of the United States Environmental Protection Agency's Notice of Availability in the *Federal Register*.

For further information, contact:

Pat Deibert, BLM National Sage-Grouse Conservation Coordinator
BLM Wyoming State Office
5353 Yellowstone Road,
Cheyenne, WY 82009
Email: BLM_HQ_GRSG_Planning@blm.gov
Project Website: <https://eplanning.blm.gov/eplanning-ui/project/2016719/510>

This page intentionally left blank.

TABLE OF CONTENTS

Chapter

Page

EXECUTIVE SUMMARY..... ES-I

CHAPTER 1. INTRODUCTION 1-I

1.1	Introduction	1-1
1.2	Background.....	1-2
1.2.1	GRSG Planning Background	1-2
1.2.2	Summary of GRSG Population and Habitat Trends	1-3
1.2.3	New GRSG Science	1-4
1.3	Purpose and Need.....	1-4
1.4	Planning Area and Decision Area	1-5
1.5	Planning Criteria.....	1-6
1.6	Resource Topics Considered	1-7
1.6.1	Resource Topics Considered / Analyzed.....	1-7
1.6.2	GRSG Issues/Management Not Considered for Rangewide Amendment.....	1-8
1.6.3	Resource Topics Considered but Not Further Analyzed.....	1-10
1.7	Statutory and Regulatory Context	1-12
1.8	Consistency with State and Local Land Use Plans and Programs and Policies Therein	1-12

CHAPTER 2. ALTERNATIVES..... 2-I

2.1	Introduction	2-1
2.1.1	Components of Alternatives.....	2-1
2.2	Description of Alternatives	2-1
2.2.1	Alternative 1 (Applicable Decisions from the 2015 ARMPA).....	2-1
2.2.2	Alternative 2 (Applicable Decisions from the 2019 ARMPA – No- Action).....	2-1
2.2.3	Alternative 3	2-2
2.2.4	Alternative 4	2-2
2.2.5	Alternative 5	2-2
2.2.6	Alternative 6	2-3
2.3	Alternatives Considered but Not Analyzed in Detail.....	2-3
2.4	Preferred Alternative.....	2-6
2.5	Detailed Description of Draft Alternatives	2-7
2.5.1	Clarifying the RMP Goal for GRSG.....	2-9
2.5.2	Habitat Management Area Alignments and Associated Major Land Use Allocations.....	2-11
2.5.3	Mitigation	2-22
2.5.4	Application of Habitat Objectives.....	2-26
2.5.5	Disturbance Cap	2-28
2.5.6	Fluid Mineral Development and Leasing Objective	2-40
2.5.7	Fluid Mineral Lease Stipulation Waivers, Exceptions, and Modifications	2-47
2.5.8	Renewable Energy Development and Associated Transmission	2-92
2.5.9	Minimizing Threats from Predation.....	2-99
2.5.10	Livestock Grazing	2-103
2.5.11	Wild Horse and Burro Management.....	2-113

2.5.12	Areas of Critical Environmental Concern	2-117
2.5.13	Adaptive Management	2-120
2.6	State-Specific Circumstances	2-129
2.6.1	Idaho	2-150
2.6.2	Montana/Dakotas	2-154
2.6.3	Nevada/California	2-167
2.6.4	Oregon	2-176
2.6.5	Utah	2-182
2.6.6	Wyoming	2-189
2.7	Plan Evaluation and Monitoring	2-192
2.7.1	Evaluation	2-192
2.7.2	Monitoring	2-192
2.8	Summary of Environmental Consequences	2-192
CHAPTER 3. AFFECTED ENVIRONMENT		3-1
3.1	Introduction	3-1
3.2	Special Status Species – Greater Sage-Grouse	3-1
3.2.1	Species Background	3-1
3.2.2	Conditions and Trends within the Planning Area	3-5
3.3	Vegetation	3-11
3.3.1	Representative Sagebrush Vegetation Communities	3-12
3.3.2	Representative Sagebrush-Associated Vegetation Communities	3-14
3.3.3	Nonsagebrush Vegetation Communities	3-15
3.3.4	Climate	3-17
3.4	Wildland Fire Ecology and Management	3-17
3.4.1	Role of Wildfire in Sagebrush Vegetation Communities	3-17
3.4.2	Invasive Annual Grasses	3-18
3.4.3	Climate	3-18
3.4.4	Resistance and Resilience	3-19
3.4.5	Wildfire Occurrence and Risk	3-19
3.5	Fish and Wildlife	3-19
3.5.1	Big Game	3-19
3.5.2	Small Mammals	3-20
3.5.3	Raptors	3-20
3.5.4	Migratory Birds	3-21
3.5.5	Upland Game Birds	3-21
3.5.6	Reptiles and Amphibians	3-22
3.5.7	Invertebrates	3-22
3.5.8	Fish	3-22
3.5.9	Pollinators	3-23
3.6	Special Status Species	3-23
3.6.1	Federally Listed Species	3-23
3.7	Wild Horses and Burros	3-29
3.7.1	Current Conditions	3-30
3.8	Livestock Grazing	3-30
3.8.1	Current Conditions	3-31
3.9	Lands and Realty (Including Renewable Energy)	3-32
3.9.1	Conditions within the Planning Area	3-32
3.9.2	Trends within the Planning Area	3-33

3.10	Mineral Resources	3-33
3.10.1	Fluid Minerals (Including Geothermal).....	3-33
3.10.2	Nonenergy Leasable Minerals.....	3-36
3.10.3	Coal.....	3-38
3.10.4	Locatable Minerals.....	3-40
3.10.5	Mineral (Salable) Materials.....	3-40
3.10.6	Oil Shale and Tar Sands.....	3-41
3.11	ACECs and RNAs.....	3-42
3.11.1	Greater Sage-Grouse ACECs.....	3-42
3.11.2	Research Natural Areas (Oregon Only).....	3-43
3.12	Social and Economic Conditions (Including Environmental Justice)	3-44
3.12.1	Baseline Demographic and Economic Conditions	3-45
3.12.2	BLM Land and Resource Use Revenue.....	3-45
3.12.3	Social Setting and Nonmarket Values	3-51
3.12.4	Environmental Justice.....	3-52
3.13	Air Resources and Climate	3-55
3.13.1	Air Resources	3-55
3.14	Soil Resources	3-59
3.14.1	Existing Conditions.....	3-60
3.15	Water Resources.....	3-62
3.15.1	Existing Conditions.....	3-63
3.16	Cultural Resources.....	3-68
3.16.1	Considering Effects on Cultural Resources Pursuant to Section 106 of the NHPA.....	3-68
3.16.2	Conditions of the Planning Area	3-69
3.16.3	Trends	3-69
3.17	Tribal Interests	3-70
3.18	Lands with Wilderness Characteristics	3-73
3.18.1	Current Conditions.....	3-73
3.18.2	Trends	3-75
3.19	Recreation and Visitor Services	3-75
3.19.1	Trends	3-76
3.20	Travel and Transportation.....	3-76
3.20.1	Trends	3-76
CHAPTER 4. ENVIRONMENTAL CONSEQUENCES		4-1
4.1	Introduction	4-1
4.2	Greater Sage-Grouse.....	4-1
4.2.1	Nature and Types of Effects.....	4-1
4.2.2	Alternative 1	4-10
4.2.3	Alternative 2	4-17
4.2.4	Alternative 3	4-21
4.2.5	Alternative 4	4-25
4.2.6	Alternatives 5 and 6	4-30
4.3	Vegetation.....	4-34
4.3.1	Nature and Type of Effects	4-34
4.3.2	Alternative 1	4-36
4.3.3	Alternative 2	4-40
4.3.4	Alternative 3	4-42
4.3.5	Alternative 4	4-44

4.3.6	Alternative 5	4-45
4.3.7	Alternative 6	4-46
4.4	Wildland Fire Ecology and Management	4-46
4.4.1	Nature and Type of Effects	4-46
4.4.2	Alternative 1	4-47
4.4.3	Alternative 2	4-47
4.4.4	Alternative 3	4-47
4.4.5	Alternative 4	4-47
4.4.6	Alternatives 5 and 6	4-47
4.5	Fish and Wildlife.....	4-47
4.5.1	Nature and Type of Effects	4-47
4.5.2	Alternative 1	4-51
4.5.3	Alternative 2	4-54
4.5.4	Alternative 3	4-56
4.5.5	Alternative 4	4-58
4.5.6	Alternative 5	4-60
4.5.7	Alternative 6	4-61
4.6	Special Status Species.....	4-62
4.6.1	Nature and Type of Effects	4-62
4.6.2	Effects Analysis	4-62
4.7	Wild Horses and Burros.....	4-62
4.7.1	Nature and Type of Effects	4-62
4.7.2	Alternative 1	4-63
4.7.3	Alternative 2	4-64
4.7.4	Alternative 3	4-64
4.7.5	Alternative 4	4-64
4.7.6	Alternative 5	4-64
4.7.7	Alternative 6	4-64
4.8	Livestock Grazing	4-65
4.8.1	Nature and Type of Effects	4-65
4.8.2	Alternative 1	4-67
4.8.3	Alternative 2	4-70
4.8.4	Alternative 3	4-72
4.8.5	Alternative 4	4-73
4.8.6	Alternatives 5 and 6	4-75
4.9	Lands and Realty (Including Wind and Solar).....	4-76
4.9.1	Nature and Type of Effects	4-76
4.9.2	Alternative 1	4-77
4.9.3	Alternative 2	4-78
4.9.4	Alternative 3	4-79
4.9.5	Alternative 4	4-80
4.9.6	Alternative 5	4-80
4.9.7	Alternative 6	4-80
4.10	Mineral Resources	4-80
4.10.1	Fluid Minerals (Including Geothermal).....	4-80
4.10.2	Non-Energy Solid Leasable Minerals	4-96
4.10.3	Coal.....	4-103
4.10.4	Locatable Minerals.....	4-106
4.10.5	Mineral Materials.....	4-110
4.10.6	Oil Shale and Tar Sands.....	4-116

4.11	ACECs and Research Natural Areas	4-119
4.11.1	Greater Sage-Grouse ACECs.....	4-119
4.11.2	Nature and Type of Effects	4-119
4.11.3	Alternative 1	4-120
4.11.4	Alternative 2	4-122
4.11.5	Alternative 3	4-123
4.11.6	Alternative 4	4-124
4.11.7	Alternative 5	4-125
4.11.8	Alternative 6	4-125
4.11.9	Research Natural Areas (Oregon Only).....	4-127
4.12	Social and Economic Conditions (Including Environmental Justice).....	4-127
4.12.1	Nature and Type of Effects	4-127
4.12.2	Alternative 1	4-139
4.12.3	Alternative 2	4-151
4.12.4	Alternative 3	4-158
4.12.5	Alternative 4	4-171
4.12.6	Alternative 5	4-175
4.12.7	Alternative 6	4-178
4.13	Air Resources and Climate	4-179
4.13.1	Air Quality.....	4-179
4.13.2	Climate Change and Greenhouse Gases	4-186
4.14	Soil Resources	4-191
4.14.1	Nature and Type of Effects	4-191
4.14.2	Alternative 1	4-192
4.14.3	Alternative 2	4-193
4.14.4	Alternative 3	4-194
4.14.5	Alternative 4	4-195
4.14.6	Alternatives 5 and 6	4-196
4.15	Water Resources.....	4-197
4.15.1	Nature and Type of Effects	4-197
4.15.2	Alternative 1	4-200
4.15.3	Alternative 2	4-201
4.15.4	Alternative 3	4-202
4.15.5	Alternative 4	4-203
4.15.6	Alternatives 5 and 6	4-204
4.16	Cultural Resources.....	4-206
4.16.1	Nature and Type of Effects	4-206
4.16.2	Impacts Common to All Alternatives	4-208
4.16.3	Alternative 1	4-208
4.16.4	Alternative 2	4-210
4.16.5	Alternative 3	4-212
4.16.6	Alternative 4	4-213
4.16.7	Alternative 5	4-214
4.16.8	Alternative 6	4-215
4.17	Tribal Interests	4-215
4.17.1	Nature and Types of Effects.....	4-215
4.17.2	Impacts Common to All Alternatives	4-216
4.17.3	Alternative 1	4-216
4.17.4	Alternative 2	4-218
4.17.5	Alternative 3	4-219

4.17.6	Alternative 4	4-220
4.17.7	Alternative 5	4-221
4.17.8	Alternative 6	4-221
4.18	Lands with Wilderness Characteristics	4-222
4.18.1	Nature and Type of Effects	4-222
4.18.2	Alternative 1	4-222
4.18.3	Alternative 2	4-223
4.18.4	Alternative 3	4-224
4.18.5	Alternative 4	4-224
4.18.6	Alternative 5	4-225
4.18.7	Alternative 6	4-225
4.19	Recreation and Visitor Services	4-226
4.19.1	Nature and Type of Effects	4-226
4.19.2	Impacts Common to All Alternatives	4-226
4.19.3	Alternative 1	4-226
4.19.4	Alternative 2	4-227
4.19.5	Alternative 3	4-227
4.19.6	Alternative 4	4-227
4.19.7	Alternative 5	4-228
4.19.8	Alternative 6	4-228
4.20	Transportation and Travel Management.....	4-228
4.21	Cumulative Effects	4-228
4.21.1	Greater Sage-Grouse.....	4-229
4.21.2	Vegetation.....	4-234
4.21.3	Wildland Fire Ecology and Management.....	4-236
4.21.4	Fish and Wildlife and Special Status Species.....	4-236
4.21.5	Wild Horses and Burros.....	4-238
4.21.6	Livestock Grazing	4-239
4.21.7	Lands and Realty (Including Wind and Solar).....	4-241
4.21.8	Mineral Resources	4-242
4.21.9	ACECs.....	4-248
4.21.10	Social and Economic Conditions.....	4-250
4.21.11	Social and Economic Conditions.....	4-250
4.21.12	Air Quality.....	4-255
4.21.13	Climate Change and Greenhouse Gases	4-257
4.21.14	Soil Resources	4-258
4.21.15	Water Resources.....	4-260
4.21.16	Cultural Resources.....	4-262
4.21.17	Tribal Interests	4-263
4.21.18	Lands with Wilderness Characteristics.....	4-264
4.21.19	Recreation and Visitor Services	4-265
4.21.20	Transportation and Travel Management.....	4-266
CHAPTER 5. CONSULTATION AND COORDINATION.....		5-1
5.1	Introduction	5-1
5.2	Formal Consultation Efforts.....	5-1
5.2.1	Federally Recognized Tribes	5-1
5.2.2	State Historic Preservation Officer Consultation.....	5-1
5.2.3	US Fish and Wildlife Consultation	5-2
5.3	Cooperating Agencies	5-2

5.4	Public Involvement.....	5-6
5.4.1	Scoping Process.....	5-6
5.4.2	Project Website.....	5-7
5.4.3	Future Public Involvement.....	5-7
5.5	List of Preparers.....	5-7
CHAPTER 6. LITERATURE CITED		6-1
GLOSSARY TERMS.....		GLOSSARY-I
INDEX		INDEX-I

TABLES	Page
1-1	GRSG Issues/Management Not Being Considered for Rangewide Amendment 1-8
2-1	Alternatives Proposed During Public Scoping but Not Analyzed in Detail 2-4
2-2	Comparison of Alternatives, GRSG RMP Goal 2-10
2-3	Comparative Summary – Acres GRSG Habitat Management Areas by State by Alternative (BLM administered surface only) 2-12
2-4	Comparison of Alternatives, Habitat Management Area Alignments, Associated Major Land Use Allocations, and Non-Habitat..... 2-13
2-5	Comparison of Alternatives, Mitigation 2-23
2-6	Comparison of Alternatives, Application of Habitat Objectives..... 2-27
2-7	Comparison of Alternatives, Disturbance Cap 2-29
2-8	Comparison of Alternatives, Fluid Mineral Development and Leasing Objective..... 2-41
2-9	Comparison of Alternatives, Fluid Mineral Leasing Waivers, Exceptions, and Modifications 2-49
2-10	Comparison of Alternatives, Renewable Energy Development and Associated Transmission 2-93
2-11	Comparison of Alternatives, Minimizing Threats from Predation 2-100
2-12	Comparison of Alternatives, Livestock Grazing..... 2-104
2-13	Comparison of Alternatives, Wild Horse and Burro Management..... 2-114
2-14	Comparison of Alternatives, ACEC Management 2-118
2-15	Comparison of Alternatives, Adaptive Management..... 2-122
2-16	Colorado State-Specific Circumstances – Fluid Minerals (MR)..... 2-132
2-17	Colorado State-Specific Circumstances – Solid Minerals (MR)..... 2-142
2-18	Colorado State-Specific Circumstances – Lands and Realty (LR)..... 2-144
2-19	Idaho State-Specific Circumstances – Mineral Resources (MR)..... 2-151
2-20	Idaho State-Specific Circumstances – Special Status Species (SSS)..... 2-152
2-21	Idaho State-Specific Circumstances – Renewable Energy (Wind and Solar) (RE) 2-153
2-22	Montana State-Specific Circumstances – Special Status Species (GRSG): Goals and Objectives..... 2-156
2-23	Montana State-Specific Circumstances – Special Status Species (GRSG): Cedar Creek Anticline RHMA Objectives 2-157
2-24	Montana State-Specific Circumstances – Special Status Species (GRSG): North Dakota Specifics 2-157
2-25	Montana State-Specific Circumstances – Vegetation: GRSG Objectives and Actions..... 2-158
2-26	Montana State-Specific Circumstances – Special Status Species: Surface Disturbing Activities in GRSG Habitat Objective..... 2-159
2-27	Montana State-Specific Circumstances – Wind, Solar, and Associated ROWs 2-160

2-28	Montana State-Specific Circumstances – Minerals	2-162
2-29	Montana State-Specific Circumstances – Fire and Fuels	2-165
2-30	Montana State-Specific Circumstances – Field Office Specific Actions	2-166
2-31	Nevada/California State-Specific Circumstances – Special Status Species	2-168
2-32	Nevada/California State-Specific Circumstances – Fire and Vegetation.....	2-169
2-33	Nevada/California State-Specific Circumstances – Non-Energy Minerals.....	2-171
2-34	Nevada/California State-Specific Circumstances – Allocation Exception Criteria	2-171
2-35	Nevada/California State-Specific Circumstances – Lek Buffers.....	2-175
2-36	Oregon Key RNAs – Summary of Estimated Acres and AUMs by Alternative	2-178
2-37	Oregon State-Specific Circumstances – Research Management Areas.....	2-180
2-38	Oregon State-Specific Circumstances – Saleable Minerals/Mineral Materials.....	2-181
2-39	Utah State-Specific Circumstances – General Habitat Management Areas.....	2-183
2-40	Wyoming State-Specific Circumstances – Additional Habitat Management Area	2-190
5-1	List of Cooperating Agencies.....	5-2
5-2	Range-wide Preparers.....	5-7
5-3	California Preparers	5-11
5-4	Colorado Preparers	5-12
5-5	Idaho Preparers.....	5-15
5-6	Montana/Dakotas Preparers	5-17
5-7	Nevada Preparers.....	5-18
5-8	Oregon Preparers	5-19
5-9	Utah Preparers.....	5-25
5-10	Wyoming Preparers.....	5-29

APPENDIXES

1	Maps
2	Existing Management Appendix
3	Greater Sage-Grouse Habitat Management Area State-by-State Mapping Strategies
4	Lek Definition Crosswalk
5	ACECs
6	NTT, COT, and USGS Science Incorporation
7	Monitoring Framework
8	Greater Sage-Grouse Habitat Indicators and Benchmarks
9	Tables and Figures
10	Chapter 4 Methodology, Assumptions, Indicators, and Summary of Environmental Consequences
11	Special Status Species
12	RFD Scenario
13	Socioeconomic Baseline Report
14	Cumulative Impacts (data and details)
15	Livestock Grazing BMPs and Supplemental Information
16	Montana and Dakotas Oil and Gas Lease Stipulations for Alternatives 4 and 5
17	Analysis of Key Research Natural Areas in Oregon
18	Socioeconomic Technical Appendix and Supporting Tables
19	Idaho Buffers Appendix Alternative Language

ACRONYMS AND ABBREVIATIONS

Full Phrase

°F	degrees Fahrenheit
ACEC	area of critical environmental concern
ADH	all designated habitat
AML	appropriate management level
AMP	allotment management plans
AO	authorized officer
APD	application for permit to drill
ARMPA	approved resource management plan amendment
AUM	animal unit month
BCC 2021	Birds of Conservation Concern 2021
BFO	Butte Field Office
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practices
BSU	biologically significant unit
CA	California
CBNG	coalbed natural gas
CEQ	Council on Environmental Quality
CFA	causal factor analysis
CFR	code of federal regulations
CHMA	Connectivity Habitat Management Area
CO	Colorado
COA	conditions of approval
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COT	Conservation Objectives Team
CRVFO	Colorado River Valley Field Office
CSU	controlled surface use
CWA	Clean Water Act
DDT	dichlorodiphenyltrichloroethane
DDCT	density and disturbance calculation tool
DK	North and South Dakota
DOI	United States Department of the Interior
EGS	Enhanced Geothermal Systems
EIS	environmental impact statement
EOI	Expression of Interest
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESD	Ecological Site Description
ESR	emergency stabilization and rehabilitation
EVT	existing vegetation type
ES&R	Emergency Stabilization and Rehabilitation

FLPMA	Federal Land Policy and Management Act of 1976
FR	federal regulation
GBBO	Great Basin Bird Observatory
GHG	greenhouse gas
GHMA _s	general habitat management areas
GIS	geographic information system
GJFO	Grand Junction Field Office
GPS	global positioning system
GRSG	greater sage-grouse
HA _s	herd areas
HAF	habitat assessment framework
HAP	hazardous air pollutant
HBP	held by production
HMA _s	habitat management areas
ID	Idaho
IHMA _s	important habitat management areas
IM	instruction memorandum
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
KPLA	known phosphate lease areas
kV	kilovolt
LCHMA	linkage and connectivity habitat management area
LCT	Lahontan cutthroat trout
LMA	linkage management area
LUP	land use plan
LUPA	land use plan amendment
LWC	lands with wilderness characteristics
MA	management area
MD	management direction
MLB	management of land boundary
MR	mineral resources
MSHA	Mine Safety and Health Administration
MT	Montana
MW	megawatt
MZ	management zone
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
ND	North Dakota
NDOW	Nevada Department of Wildlife
NHPA	National Historic Preservation Act of 1966, as amended
NIFC	National Interagency Fire Center
NO _x	nitrogen oxides
NRHP	National Register of Historic Places
NSO	no surface occupancy

NTT	National Technical Team
NV	Nevada
OHMA	other habitat management areas
OHV	off-highway vehicle
OR	Oregon
PAC	priority area of conservation
PEIS	programmatic environmental impact statement
PHMA _s	priority habitat management areas
PM ₁₀	particulate matter with a diameter less than or equal to 10 microns
PM _{2.5}	particulate matter with a diameter less than or equal to 2.5 microns
RA	Restoration Area
RDF	required design feature
RFD	reasonably foreseeable development
RHMA	restoration habitat management area
RIPS	Rangeland Improvement Project System
RMP	resource management plan
RMPA	resource management plan amendment
RNA	research natural area
ROD	record of decision
ROW	right-of-way
SD	South Dakota
SDWA	Safe Drinking Water Act
SFA _s	sagebrush focal areas
SHPO	State Historic Preservation Office
SMA	Surface Management Agency
SO	Secretarial Order
SO ₂	sulfur dioxide
SRP	special recreation permit
SSS	special status species
STM	State and Transition Model
TAWS	targeted annual warning system
T&C	terms and conditions
TL	timing limitation
TUP	temporary use permit
UMRBNM	Upper Missouri River Breaks National Monument
US	United States
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UT	Utah
VOC	volatile organic compound

WEM	waivers, exceptions, and modifications
WHB HMAs	wild horses and burros herd management areas
WO	Washington Office
WSA	wilderness study area
WY	Wyoming