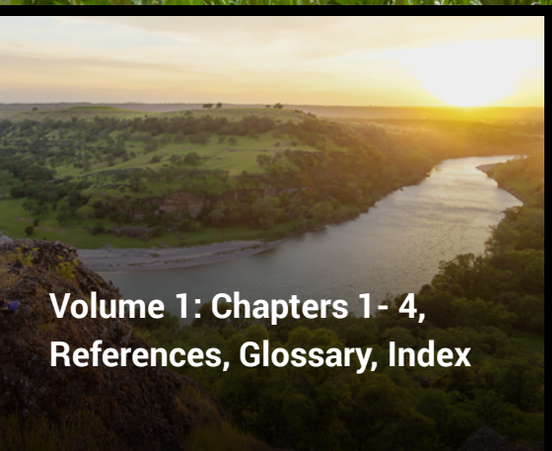
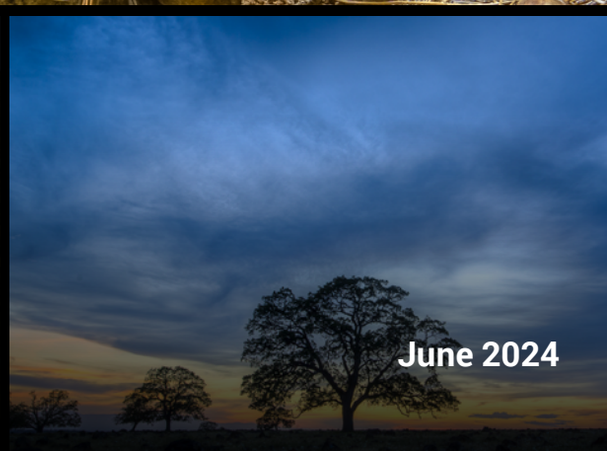
U.S. Department of the Interior
Bureau of Land Management

Northwest California Integrated Proposed Resource Management Plan and Final Environmental Impact Statement



Volume 1: Chapters 1- 4, References, Glossary, Index



June 2024

Cover Photos (clockwise from top): Yuki Wilderness, Sacramento River Bend Outstanding Natural Area, Ma-le'l Dunes, Sacramento River Bend

Photo Credit: BLM

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Redding Field Office
6640 Lockheed Drive
Redding, CA 96002
www.blm.gov/california

Dear Reader:

Enclosed are the Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) for the Bureau of Land Management (BLM) Arcata and Redding Field Offices (also referred to as the Northwest California Integrated Plan, or NCIP). The Proposed RMP and Final EIS were prepared by the BLM in consultation with cooperating agencies, taking into account public comments received during this planning effort. The Proposed RMP provides a framework for future management direction and appropriate use of the lands and resources administered by the Arcata and Redding Field Offices. This document contains land use planning decisions to guide the BLM's management of the Redding and Arcata Field Offices.

This Proposed RMP and Final EIS have been developed in accordance with the Federal Land Policy and Management Act of 1976, as amended; the National Environmental Policy Act of 1969, as amended; the BLM Resource Management Planning regulations at 43 CFR 1610; Council on Environmental Quality NEPA implementing regulations at 40 CFR 1500; Department of Interior NEPA implementing regulations at 40 CFR 1500; and other applicable statues, regulations, and policy. The Proposed RMP is largely based on the preferred alternative, Alternative D, in the Draft RMP/EIS, which was released in September 2023. The Proposed RMP/Final EIS contains a summary of changes made since the Draft RMP/EIS, impacts of the proposed alternative and other alternatives, and the substantive comments received during the public review period of the Draft RMP/EIS, and responses to those comments.

The NCIP planning area, approximately 14.4 million acres in northwest California, encompasses all lands within the Arcata and Redding Field Office boundaries, regardless of ownership. Eight counties fall within the planning area: Mendocino, Humboldt, Del Norte, Siskiyou, Trinity, Shasta, Tehama, and Butte. The BLM will only make management decisions on the portions of the planning area that fall under the BLM's jurisdiction, which is referred to as the decision area. These include the lands the BLM administers and the federal mineral estate where the BLM has authority to make decisions. The NCIP decision area includes approximately 382,200 acres of surface estate and 295,100 subsurface acres (mineral estate).

Pursuant to BLM's planning regulations at 43 CFR 1610.5-2, any person who participated in the planning process for this Proposed RMP and has an interest that is or may be adversely affected by the planning decisions may protest approval of the planning decisions within 30 days from the date the United States Environmental Protection Agency publishes the Notice of Availability in the Federal Register. The regulations specify the required elements of your protest. Take care to document all relevant facts. As much as possible, reference or cite the planning documents or available planning records (for example, meeting minutes, summaries, or correspondence). Instructions for filing a protest with the Director of the BLM regarding the NCIP may be found online at https://www.blm.gov/programs/planning-and-nepa/public-participation/filing-a-plan-protest and at 43 CFR 1610.5-2. All protests must be in writing and mailed to the appropriate address, as set forth below, or submitted electronically through the BLM ePlanning project website at https://eplanning.blm.gov/eplanning-ui/project/2012803/510.

The only electronic protests the BLM will accept are those filed through the ePlanning. All protest letters sent to the BLM via fax or email will be considered invalid unless a properly filed protest is also submitted. If you do not have the ability to file your protest electronically through the ePlanning project website listed above, hard copy protests must be mailed to the following address, postmarked by the close of the protest period:

BLM Director
Attention: Protest Coordinator (HQ210)
Denver Federal Center, Building 40 (Door W-4)
Lakewood, CO 80215

Before including your address, phone number, email address, or other personal identifying information in your protest, be advised that your entire protest - including your personal identifying information - may be made publicly available at any time. While you can ask us in your protest to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

The BLM Director will make every attempt to promptly render a decision on each protest. The decision will be in writing and will be sent to the protesting party by certified mail, return receipt requested. The decision of the BLM Director shall be the final decision of the Department of the Interior on each protest. Responses to protest issues will be compiled and formalized in a Director's Protest Resolution Report made available following issuance of the decisions. Upon resolution of all land use plan protests, the BLM will issue an Approved RMP and Record of Decision (ROD). The Approved RMP and ROD will be available to all parties at https://eplanning.blm.gov/eplanning-ui/project/2012803/510.

Sincerely,

Dereck Wilson
Northern California District Manager
Bureau of Land Management

Northwest California Integrated Proposed Resource Management Plan and Final Environmental Impact Statement

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

2. Type of Action: Administrative (X) Legislative ( )

3. Document Status: Draft ( ) Final (X)

4. Abstract: The Proposed Northwest California Integrated Resource Management Plan (RMP) and associated Final Environmental Impact Statement (EIS) describe and analyze alternatives for the planning and management of approximately 382,200 acres of surface estate and 295,100 subsurface acres (mineral estate) administered by the Bureau of Land Management (BLM), Arcata and Redding Field Offices.

Through this RMP revision, the BLM is revising the existing plans (the 1992 Arcata and 1993 Redding RMPs) to address the availability of new data and policies, emerging issues, and changing circumstances that have occurred during the 32 and 31 years, respectively, since the Records of Decision for the existing plans were signed. As part of the RMP revision process, the BLM conducted scoping to solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed in the Proposed RMP and Final EIS. Planning issues identified for this RMP revision focus on climate change, sea-level rise, and ecosystem resiliency; wildland fire and fuels management; promoting recovery of special status species; wilderness management; land tenure patterns and access; broad recreational uses; and responses to increasing population and changing land uses.

Alternative A is the continuation of current management (the No Action alternative). Under this alternative, the BLM would continue to manage the use of BLM-administered lands and resources under the existing RMPs, as amended. Alternatives B, C, and D were developed using input from the BLM interdisciplinary team, the public, stakeholders, and cooperating agencies. **Alternative B** emphasizes habitat connectivity and resilience by maintaining corridors of relatively undeveloped areas to provide connectivity for wildlife and fisheries habitat while still allowing for appropriate resource uses in some areas. **Alternative C** emphasizes recreational opportunities and access, travel and utility opportunities, and social and economic benefits, while still providing resource protections in some areas. **Alternative D** creates opportunities for increased resource uses, such as recreation and vegetation management, combined with an emphasis on habitat connectivity and resilience.

Alternative D is the BLM's proposed alternative. Alternative D reflects the best combination of decisions to achieve BLM goals and policies, meet the purpose and need, address the key planning issues, and consider the recommendations of cooperating agencies and BLM specialists.

Planning issues addressed include categories such as air quality and climate, coastal resources and management, social and economic conditions, energy and minerals, environmental justice, water resources, cultural resources, special status species, wildlife, recreation, and special designations. The draft alternatives also address designation of Areas of Critical Environmental Concern and Wild and Scenic River suitability findings.

5. Protest Period: Protests on the Proposed Northwest California Integrated Proposed Resource Management Plan and Final Environmental Impact Statement must be postmarked or received 30 days from the date the US Environmental Protection Agency publishes a Notice of Availability in the *Federal Register*.

6. For further information, contact:

Ms. Tory Callahan, Project Manager
Arcata Field Office
1695 Heindon Road
Arcata, CA 95521-4573
(707) 825-2300

Mr. Chad Endicott, Project Manager
Redding Field Office
6640 Lockheed Drive
Redding, CA 96002
(530) 224-2100

Website: https://eplanning.blm.gov/eplanning-ui/project/2012803/510

Executive Summary

ES.1 Introduction

The United States Department of the Interior, Bureau of Land Management (BLM), Northern California District, Arcata and Redding Field Offices have prepared this Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) for the two respective field offices. The Proposed RMP and Final EIS were prepared by the BLM in consultation with cooperating agencies, taking into account public comments received during this planning effort. The Proposed RMP provides a framework for future management direction and appropriate use of the lands and resources within the field offices. The approved RMP will replace the Arcata Resource Area Resource Management Plan (herein, 1992 Arcata RMP; BLM 1992a) and the Redding Resource Management Plan (herein, 1993 Redding RMP; BLM 1993) and will guide management of public lands administered by the Arcata and Redding Field Offices. The Proposed RMP is supported by a National Environmental Policy Act of 1969 (NEPA) analysis in an environmental impact statement (EIS), hereinafter referred to as the Northwest California Integrated Resource Management Plan (NCIP).

The NCIP planning area is approximately 14.4 million acres in northwest California. It encompasses all lands within the Arcata and Redding Field Office boundaries, regardless of ownership (**Map 1-1** in **Appendix A**). Eight counties fall within the planning area: Mendocino, Humboldt, Del Norte, Siskiyou, Trinity, Shasta, Tehama, and Butte. Approximately 70 percent of the planning area is within the boundaries of the Northwest Forest Plan (USDA 2023), with eastern areas located outside that plan's boundary.

The NCIP decision area is made up solely of lands in the planning area that the BLM administers, as well as federal mineral estate where the BLM has authority to make decisions. The surface decision area (**Map 1-2** in **Appendix A**) is the 382,200 acres of BLM-administered lands, excluding four BLM-administered units of the National Landscape Conservation System not included in the NCIP decision area. BLM-administered surface lands and subsurface mineral estate (the BLM subsurface decision area) comprise 295,100 acres of the decision area (**Map 1-3** in **Appendix A**).

ES.2 Purpose of and Need for the Plan

The need for the NCIP is to address changes in resource conditions, shifting demands for resource uses, new technologies, new program and resource guidance and policies, and new scientific information since the development of the existing RMPs. The changes that have taken place in the planning area over the past 30 years have resulted in different users and uses of public lands. For example, in the past decade, catastrophic wildfires have dramatically changed the landscape in northern California. Many of the land use planning decisions required by specific program and resource guidance are not adequately addressed in the current RMPs, and the existing analysis needs to be updated.

The purpose of the NCIP is to make land use decisions to guide the management of BLM-administered lands within the planning area. Planning decisions would integrate current law and policies, as well as current information, to resolve primary issues identified in the planning area, specifically related to climate change and ecosystem resiliency, wildland fire and fuels management, special status species, wilderness management, land tenure, recreation, and increasing human population and changing use patterns.

ES.3 PUBLIC INVOLVEMENT

A previous effort to revise and combine the two existing RMPs was initiated in 2016. As part of the initial planning process for the NCIP, the BLM held a series of public envisioning meetings and public scoping meetings in 2016 and 2017. However, in 2018, the planning effort was terminated due to redirection in workload priorities related to on-the-ground remediation needs following the catastrophic Carr and Camp fires. In 2021, the planning effort resumed with a pre-Notice of Intent (NOI) public engagement period that occurred from March 29 to April 30, 2021. The formal public scoping process for the NCIP began with publication of the NOI in the *Federal Register* on April 29, 2022. The scoping period ended on June 28, 2022. Throughout the planning process, the BLM actively engaged the public and its cooperating agencies, as well as consulted with the California State Historic Preservation Office, US Fish and Wildlife Service, and National Marine Fisheries Service. The BLM also engaged in government-to-government consultation with Native American Tribes. Public review of the Draft RMP/EIS occurred for 90 days following its publication on September 29, 2023. Information about the RMP/EIS process can be obtained by the public at any time by visiting the project eplanning website at https://eplanning.blm.gov/eplanning-ui/project/2012803/570. This website contains background information about the project, a public involvement and project timeline, maps and relevant GIS data of the planning area, and copies of public information documents released throughout the RMP/EIS process.

ES.4 ALTERNATIVES

The BLM identified three action alternatives in addition to the No Action alternative (Alternative A) for consideration in the NCIP in response to the issues and management concerns raised above. All of the alternatives share common goals and objectives; however, they address these goals and objectives to varying degrees, with the potential for different long-range outcomes and conditions. The alternative themes or strategies are discussed below.

Alternative A (No Action) — Alternative A meets the requirement that a No Action alternative must be considered. This alternative continues current management direction and prevailing conditions derived from existing planning decisions. Goals and objectives for resources and resource uses are based on the applicable portions of the 1992 Arcata RMP and 1993 Redding RMP, along with associated amendments. Laws, regulations, and BLM policies that supersede RMP decisions would apply. In the 1992 Arcata RMP and the 1993 Redding RMP, the BLM divided the lands within each Field Office's jurisdiction into a total of 14 management areas to help focus the planning effort on issues that involve particular areas over the large geographic landscape. These management areas are not carried forward into the action alternatives.

Alternative B — Alternative B emphasizes habitat connectivity and resilience, while allowing appropriate development scenarios for resource uses (such as recreation, rights-of-way [ROWs], livestock grazing, and mineral leasing). Under Alternative B, the BLM would maintain corridors of relatively undeveloped areas to provide for connectivity of wildlife and fisheries habitat and to serve as a resilient refuge to ongoing development and climate change. This alternative introduces areas identified as "essential connectivity corridors of high biological value" (essential connectivity corridors or ECC), as developed by California Department of Fish and Wildlife, to guide goals, objectives, allowable uses and management actions. These, in turn, would provide a recreational and aesthetic resource for public enjoyment. The identified ECCs are the same under each action alternative. However, under Alternative B, management actions that promote habitat connectivity would be given priority consideration.

Alternative B would also manage for other social and scientific values by designating 25 Areas of Critical Environmental Concern (ACECs) to be managed to protect biological, cultural, and scenic values. Alternative B would determine 117 eligible rivers suitable for inclusion in the National Wild and Scenic Rivers System (NWSRS). The BLM would continue to manage the designated wild and scenic rivers (WSRs) to protect and enhance river values, four Section 603 Wilderness Study Areas (WSAs), and five designated wilderness areas. The BLM would manage 12,090 acres of lands with wilderness characteristics as Section 202 WSAs. In addition, 21,970 acres of lands with wilderness characteristics would be managed to protect those characteristics as a priority over other multiple uses and 0 acres of lands with wilderness characteristics would be managed to minimize impacts while emphasizing other uses.

Alternative C — Alternative C is similar to Alternative B in that it would manage for multiple use and public enjoyment; however, it would prioritize BLM-administered lands to provide for recreational opportunities and access, travel and utility opportunities, and social and economic benefits. Alternative C would provide more flexibility in management of natural and cultural resources with resource uses, such as mineral development, recreation, livestock grazing, and ROW development. This alternative would prioritize retention and acquisition of lands that provide opportunities for public access. Under Alternative C, management direction would promote active vegetation management to enhance ecosystem resiliency to large disturbances (such as fire, drought, and rain) and protection of infrastructure.

The BLM would establish four Special Recreation Management Areas (SRMAs) and nine Extensive Recreation Management Areas (ERMAs) to promote recreational opportunities. Alternative C would designate seven ACECs and determine three eligible river segments suitable for inclusion in the NWSRS. The BLM would continue to manage the designated WSRs to protect and enhance river values, four Section 603 WSAs, and five designated wilderness areas. No lands would be managed as Section 202 WSAs under Alternative C. In addition, 5,840 acres of lands with wilderness characteristics would be managed to protect those characteristics as a priority over other multiple uses; the remaining 28,220 acres would be managed to minimize impacts on wilderness characteristics while emphasizing other multiple uses. This alternative would make the most acreage available for mineral leasing; however, a large portion of this area would have lease stipulations, such as no surface occupancy.

Alternative D (Proposed Alternative) — Alternative D would strike a balance between creating opportunities for resource uses, such as recreation, motorized and mechanized travel, and livestock grazing, and maintaining ecological function and meeting land capability to protect habitat connectivity. The BLM would prioritize lands for retention and acquisition comparable to Alternative B, while also prioritizing acquisition of lands that provide public access. Alternative D would provide similar opportunities for recreation and improved access by designating four SRMAs and eight ERMAs. Alternative D would also designate 26 ACECs.

The BLM would identify 62 eligible river segments as suitable for inclusion in the NWSRS under Alternative D. The BLM would manage the designated WSRs to protect and enhance river values, four Section 603 WSAs, and five designated wilderness areas. The BLM would manage 540 acres of lands with wilderness characteristics as Section 202 WSAs. In addition, 11,570 acres of lands with wilderness characteristics would be managed to protect those characteristics as a priority over other multiple uses; the remaining 21,950 acres would be managed to minimize impacts on wilderness characteristics while emphasizing other multiple uses.

ES.5 ENVIRONMENTAL CONSEQUENCES

The purpose of the environmental consequences' analysis in this RMP/EIS is to determine the potential for significant impacts of the federal action on the human environment. The "federal action" is the BLM's selection of an RMP Alternative on which the Arcata and Redding Field Offices will base future land use actions. **Appendix D** evaluates the likely impacts on the human and natural environment in terms of environmental, social, and economic consequences that are projected to occur from implementing the alternatives; Chapter 3 provides a summary version. In general, Alternative B would provide the greatest degree of wildlife and fisheries habitat protections from authorized surface development activities, such as livestock grazing, right-of-way development, off-highway vehicle use, and mineral leasing through allocations and special management designations. **Table 2-2** in **Chapter 2** provides a summarized comparison of the environmental consequences across alternatives for the resources, resource uses, and special designations that could be affected by implementing the alternatives evaluated in the RMP/EIS.

ES.6 SUMMARY OF CHANGES TO THE FINAL RMP/EIS

ES.6.1 Corrections and Clarifications in Response to Public Comments

The final EIS includes the BLM's response to substantive public comments on the draft EIS (**Appendix K**). Several updates to the EIS and revisions to the analysis were made in response to comments. In particular, the analysis of grazing impacts on water resources has been updated in Section D.2.3, and clarification has been added in Section D.3.7 to describe which areas are designated as limited or closed to Off-highway Vehicle (OHV) use. The existing RMPs only designated a few areas as OHV limited or closed to OHV use, and undesignated lands have been managed as open to OHV travel by default. While there is no comprehensive travel management plan for the planning area, several site-specific designations for routes have occurred through various land use plans or Federal Register notices. Similarly, the EIS contains updated language regarding management direction for the Nobles and Yreka Tail Routes.

The final EIS has also been updated to provide more detailed management direction regarding Riparian Management Areas in Table B-1 (**Appendix B**). Specifically, these updates describe with greater clarity the activities allowed to occur in these areas. Similarly, management direction related to Water Quality has been updated to revise methods and collaboration with applicable agencies and Tribes. The analysis of effects on riparian management areas was also updated in the analysis.

Additional changes to the EIS in response to public comment are as follows:

- The EIS includes an update to management direction in B-1 (**Appendix B**) that directs the BLM to implement measures to minimize effects to soil crusts at the implementation level and updated language specifying direction for considering impacts on wildlife for new trail and facility development.
- Updates have been made to the discussion of Land Tenure in Section D.3.2 (**Appendix D**) to emphasize the importance of outreach to county and local governmental bodies in considering additions to BLM-managed lands via willing-seller acquisitions.
- Updates to the Wild and Scenic Rivers Suitability Report (**Appendix I**) were made to provide additional information for several streams' suitability determinations, including Hayshed Creek, Sevenmile Creek and tributaries. In addition, tables in the report have been updated to show BLM miles and total miles.

- The discussion of Sacramento River Bend Area in Table B-1 (**Appendix B**) has been updated to reflect the acreage of the Proposed Plan that will be managed as having lands with characteristics managed as a priority over other uses.
- Updates were also made to correct the mileage for the Paynes Creek and Paralyze Canyon Tributaries segments.
- Language in Table B-1 (**Appendix B**) pertaining to Lands with Wilderness Characteristics now contains direction to update the lands with wilderness characteristics inventory for units that are adjacent to future acquisitions.
- The EIS includes an update to management direction in B-1 (**Appendix B**) to remove language pertaining to the prohibition of dredging.
- The discussion of existing rights-of-way (ROW) authorizations was revised to clarify that existing hydroelectric projects in the Forks of Butte Creek would not be impacted by management decisions made under the proposed action.
- The discussion of Renewable Energy was revised to better capture how suitability designations would impact hydropower development.
- Updates were made to the grazing discussion to present the analysis and more accurately report the number of allotments affected within areas available for grazing under each alternative.
- Language in Table B-1 (**Appendix B**) pertaining national historic trails (NHT), has been updated to state that no national historic trails would be designated as or included in additional ACECs.

In addition to the detailed changes outlined above, formatting changes were made to comply with EIS page limitations under the Fiscal Responsibility Act (FRA), Division C, Title III, Section 321, National Environmental Policy Act (NEPA) Amendments.

ES.6.3 Alternative D (Proposed RMP)

The BLM has updated Chapter 2 to incorporate a description of Alternative D as the proposed action alternative. The BLM has also provided detailed resource-specific maps for Appendix A. Language for the proposed action alternative has been added to Appendix G, which identifies areas that meet the relevance and importance (R&I) criteria for consideration as potential ACECs, and to Appendix H, which provides supporting information for recreation and visitor services decisions.

ES.7 Next Steps

The publication of the Notice of Availability in the Federal Register by the US Environmental Protection Agency for the Proposed RMP/Final EIS initiates a 30-day protest period and a 60-day Governor's consistency review. Protests must be postmarked or received no later than 30 calendar days following publication of the Notice of Availability. Please refer to the instructions in the "Dear Reader Letter" at the beginning of this document for additional information on how to submit a protest. The close of the protest period will be 30 days after the publication of the Federal Register Notice of Availability and announced on the BLM's online National NEPA Register for this project (DOI-BLM-CA-N060-2021-0012-RMP-EIS, https://eplanning.blm.gov/eplanning-ui/project/2012803/510). Following resolution of any protests and the completion of the consistency review by the Governor of California, the Approved RMP and Record of Decision will be announced via news release and made available electronically on the national NEPA register website.

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TABLES

APPENDICES

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ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Full Phrase
AB	Assembly Bill
ACE	Areas of Conservation Emphasis Project
ACEC	Area of Critical Environmental Concern
ACS	Aquatic Conservation Strategy
ADA	Americans with Disabilities Act
AMP	allotment management plans
AMS	Analysis of the Management Situation
AQRVs	air quality related values
ARPA	Archaeological Resources Protection Act
ASQ	allowable sale quantity
AUM	animal unit month
BA	biological assessment
BLM	Bureau of Land Management
BMPs	best management practices
BOEM	Bureau of Ocean Energy and Management
BOP	Blue oak-foothill pine
BSC	biological soil crust
CAA	Clean Air Act
CAAQS	The State of California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Environmental Species Act
CFR	Code of Federal Regulations
CH4	methane
CMA	Cooperative Management Area
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO2	carbon dioxide
COPC	California Ocean Protection Council Science Advisory Team Working Group
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationship
CWPP	Community Wildfire Protection Plan
DBH	diameter at breast height
DOI	Department of the Interior
DPS	distinct population segments
dv	deciviews
e-bike	electric bike
ECC	essential connectivity corridors

EIA	US Energy Information Administration
EIS	environmental impact statement
EPA	Environmental Protection Agency
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
ESU	evolutionary significant unit
FERC	Federal Energy Regulation Commission
FHWA	Federal Highway Administration
FLPMA	Federal Lands Management and Policy Act of 1976
FO	field office
FPPA	Farmland Protection Policy Act
FUP	free use permit
GIS	geographic information systems
GWP	global warming potential
GHG	greenhouse gas
H2S	hydrogen sulfide
HAPs	hazardous air pollutants
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
HFCs	hydrofluorocarbons
HOL	Hands on the Land
IFTDSS	The Interagency Fuel Treatment Decision Support Systems
IMPLAN	Impact Analysis for Planning Model
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
KOP	key observation point
LR2000	Legacy Rehost 2000 System
LSR	late-successional reserve
MBF	thousand board feet
$\mu g/m^3$	micrograms per cubic meter
MMT	million metric tons
MW	megawatts
N20	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCA	National Conservation Area
NCCRP	Northern California Coast Range Preserve
NCIP	Northwest California Integrated Resource Management Plan
NEPA	National Environmental Policy Act of 1969
NFPORS	National Fire Plan Operations and Reporting System
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NMFS	National Marine Fisheries Service
NOA	naturally occurring asbestos

NOI	notice of intent
NOx	nitrogen oxides
NCCRP	Northern California Coast Range Preserve
NCSO	Northern California-southern Oregon
NPS	National Park Service
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
NSO	northern spotted owl
NWFP	Northwest Forest Plan
NWSRS	National Wild and Scenic River System
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
ONA	Outstanding Natural Area
ORV	outstandingly remarkable value
PEIS	Programmatic Environmental Impact Statement
PFCs	perfluorocarbons
PFYC	Potential Fossil Yield ClassPILT
	payment in lieu of taxes
PM10	particulate matter less than or equal to 10 microns in diameter
PM2.5	particulate matter less than or equal to 2.5 microns in diameter
PRPA	Paleontological Resources Preservation Act
PSD	Prevention of Significant Deterioration of Air Quality
PSQ	potential sale quantity
R&PP	Recreation & Public Purposes
RAC	resource advisory council
RFFA	Reasonably Foreseeable Future Actions
RMA	recreation management area
RMP	resource management plan
RMZ	recreation management zone
RNA	Research Natural Area
ROD	Record of Decision
ROW	right-of-way
RUP	recreation use permit
SF6	sulfur hexafluoride
SFP	special forest products
SHPO	State Historic Preservation Office
SO2	sulfur dioxide
SOD	sudden oak death
SRMA	special recreation management area
SRP	special recreation permit
SSC	State Species of Special Concern
SSS	special status species
T&E	threatened and endangered
TAC	toxic air contaminants
TCP	Traditional Cultural Property
TEK	traditional ecological knowledge

TMA	Travel Management Area
TMDL	total maximum daily load
UAV	unmanned aerial vehicle
UCMP	University of California Museum of Paleontology
US	United States
USACE	US Army Corps of Engineers
USC	United States Code
USFWS	US Fish and Wildlife Service
VOCs	Volatile Organic Compounds
VRI	visual resource inventory
VRM	visual resource management
WFDSS	Wildland Fire Decision Support System
WNS	White Nosed Syndrome
WRCS	Western Regional Corridor Study
WSA	Wilderness Study Area
WSR	Wild and Scenic River
WUI	wildland-urban interface

Chapter 1. Introduction

1.1 INTRODUCTION

The United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM), Northern California District, Redding and Arcata Field Offices (FOs) are revising and updating management direction set forth in their respective current resource management plans (RMPs). Plans to be updated include the Arcata Resource Area Resource Management Plan (herein, 1992 Arcata RMP; BLM 1992a) and the Redding Resource Management Plan (herein, 1993 Redding RMP; BLM 1993). The planning process will result in the development of a single new RMP that will cover both FOs. The RMP is supported by a National Environmental Policy Act of 1969 (NEPA) analysis in an environmental impact statement (EIS); combined, the RMP/EIS are hereinafter referred to as the Northwest California Integrated Resource Management Plan (NCIP).

1.2 PURPOSE OF AND NEED FOR THE PLAN

The purpose of and need for the plan identified in the sections below describes why the BLM is revising the existing RMPs and what outcomes the BLM intends the new RMP to achieve. The purpose and need incorporates information identified in past planning efforts and supporting analyses, including the 1992 Arcata RMP, 1993 Redding RMP, 2002 Redding RMP plan evaluation, 2009 Arcata RMP plan evaluation, 2016 initial RMP effort (including envisioning and scoping public meetings), pre-scoping public meetings held in early 2021, and public scoping held in 2022. The purpose and need helps to define the range of alternatives that are analyzed in the planning process because alternatives are only considered reasonable if they respond to the purpose of and need for action.

1.2.1 Need for the Action

The Federal Land Policy and Management Act of 1976, as amended, establishes the BLM's multiple-use and sustained-yield mandate to serve present and future generations. To meet this overarching mandate, FLPMA requires the BLM to "develop, maintain, and, when appropriate, revise land use plans" (43 USC 1712 (a)). Consistent with the BLM's planning regulations, RMPs "shall be revised as necessary based on monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affecting the entire plan or major portions of the plan" (43 CFR 1610.5-6).

Many factors affecting daily management decisions faced by the Field Offices (FOs) have changed since the development of the existing Arcata and Redding RMPs. These factors include updated special status species lists, changes to endangered species recovery plans, population growth, changes in land tenure, shifting focus away from annual quotas for forestry and wildfire and fuels management programs, larger and higher-intensity wildland fires, increasing demand for fuels reduction projects, and increases in recreational use. Additionally, the accelerated pace of climate change and related climate impacts (including changes in temperature, precipitation, and water resources), and higher intensity wildland fires within the planning area are environmental drivers that have also caused management decisions to shift since the existing RMPs. Additional resource information, changing social perspectives, new technologies, and federal mandates have also generated important justifications for revising these preliminary RMPs.

Arcata and Redding FO RMP Plan Evaluations

In 2009, the Redding FO and Arcata FO conducted RMP evaluations that, with the addition of new resource information, changing social perspectives, new technologies, and federal mandates, highlighted the need for revising the dated RMPs. The NCIP will guide BLM management actions based on up-to-date information reflecting current public input, changes in policy, resource conditions, and development trends. The planning issues and resources identified in the 2009 evaluations to be addressed in the NCIP include responding to changes in land tenure, changes in wilderness designations, new species listings, new forest pathogens, climate change, sea-level rise, fuels management, wildland fire suppression and management, human population growth, Tribal empowerment, and the need to reassess determinations regarding ACECs and Special Recreation Management Areas (SRMAs).

Additional Considerations

The need for the RMP revisions has remained crucial given the recent cumulative changes to resource conditions, primarily due to catastrophic wildland fire within the planning area. Incorporating over three decades of scientific studies and new management approaches into a revised RMP would greatly benefit future decision-making and bring the FOs' planning guidance into compliance with legislative mandates, executive orders (EOs), current DOI policies, and current land management standards. The NCIP would also facilitate coordination of the Arcata and Redding FOs' land management with that of adjacent lands managed by the US Department of Agriculture Forest Service, US Bureau of Reclamation , US Fish and Wildlife Service, other federal and state agencies, and Tribes.

1.2.2 Purpose of the Action

The purpose of the NCIP is to make land use decisions to guide the management of BLM-administered lands within the planning area. Planning decisions would integrate current law and policies, as well as current information, to resolve primary issues identified in the planning area, specifically related to increasing human population and changing use patterns, wilderness management, climate change, special status species, and land tenure.

Climate Change, Sea-Level Rise, and Ecosystem Resiliency

Climate change and sea-level rise will continue to affect the planning area. Impacts from rising sea levels will affect the management of coastal lands within the planning area. Coastal dunes that provide a buffer against sea-level rise and storm surges will change, and coastal lowlands will experience novel saltwater intrusion and resulting changes in vegetation. High-elevation areas in the planning area may become increasingly important refuge areas for species displaced from lower habitats. While projected changes in temperature, precipitation, and sea-level rise differ based on modeling assumptions, the magnitude of these changes is expected to increase during implementation of the NCIP.

By accounting for anticipated climate change effects during the planning process, the BLM can make management decisions that reflect the anticipated impacts on vulnerable resources to assure that public lands and ecosystems are resilient to sea-level rise, increasing temperatures, and changing precipitation patterns. Management will maintain habitat connectivity and resiliency, promote carbon sequestration by providing for the long-term health and productivity of vegetation communities, and implement best management practices to reduce emissions of greenhouse gases for authorized activities in accordance with regional and state climate goals. Additionally, the NCIP allows the BLM to coordinate forestry actions to develop treatments that achieve silvicultural objectives while considering impacts on carbon sequestration, acquire land to manage for coastal resiliency, reduce or eliminate uses that degrade natural

systems that protect the human environment from climate change, and contribute to regional habitat and water quality monitoring efforts.

Wildland Fire and Fuels Management

Managing for diverse, ecologically resilient landscapes and healthy forests will be central to adapting to a changing climate. Due to drought and abnormally warm temperatures, wildfires in California have increased in frequency, size, and severity, with eight of the 20 largest fires in California's history occurring since 2017 and the area burned annually by wildfire in California increasing since 1950 (California Air Resource Board, 2020). Fire management in the Arcata and Redding RMPs does not include current guidance or best management practices for wildland fire management. During public outreach efforts, commenters expressed concern related to wildland fire risk and requested that fire response be considered in the proposed NCIP management actions. Public commenters highlighted how prescribed fire could be used to manage or improve landscape conditions, reduce the risk and damage from catastrophic wildfires, and improve the overall soil and ecosystem health of a region.

The NCIP emphasizes forest and vegetation management strategies that account for the protection of adjacent human values, public use, and public safety, while enhancing or maintaining ecosystem function and productivity. Wildland fire management strategies that establish multiple resource-based objectives in addition to public, infrastructure, and first responder safety would improve wildfire outcomes as fire occurrence, size, and severity increase. Planned treatments, such as hazardous fuels reduction through mechanical, biological, chemical, or manual means, would be identified, especially in high-risk or fire-prone portions of the planning area. Prescribed burning within fire-dependent ecosystems would be established as a priority management strategy to maintain disturbance regimes. To guide management decisions, the BLM will use the most up-to-date fuels treatment, planning, and analysis tools, including interagency spatial fire planning platforms and decision support tools that drive wildfire and fuels management planning.

Promote Recovery of Special Status Species

BLM-administered lands within the planning area have served as important habitat for listed and special status plants, fish, and animals. As climate change impacts increase and development of private lands intensifies, the importance of BLM-administered lands for the recovery of these species has continually increased and will continue to do so during the NCIP's implementation.

The NCIP intends to enhance, maintain, or protect habitat and migration corridors for a range of special status species, including species identified as threatened and endangered under the Endangered Species Act of 1973 (ESA) and the California Endangered Species Act. The NCIP brings management guidance in line with certain recovery plan recommendations for threatened and endangered species. Further, the NCIP promotes the recovery of special status populations and diminish or remove invasive, nonnative species through the management and restoration of habitats to promote long-term recovery of these species.

Manage Wilderness, Wilderness Study Areas, and Lands with Wilderness Characteristics

The NCIP decision area includes approximately 50,040 acres of designated wilderness (approximately 13 percent of the decision area), including the Elkhorn Ridge (11,120 acres), Yuki (17,150 acres), South Fork Eel River (13,020 acres), Yolla Bolly-Middle Eel (8,550 acres), and Ishi (200 acres) Wilderness Areas. Most wilderness areas are surrounded by private lands that are managed for a variety of uses, including industrial forestry, rural development, and cannabis production. Preserving wilderness character is a key component

of wilderness management. The NCIP will provide management direction to ensure wilderness character is preserved in accordance with FLPMA and BLM Manual 6340 Management of Designated Wilderness Areas.

The NCIP decision area includes four wilderness study areas (WSAs) designated under Section 603 of FLPMA totaling 8,450 acres, including Big Butte (1,550 acres), Eden Valley (6,150 acres), Thatcher Ridge (150 acres), and Yolla Bolly (600 acres). The BLM will continue to manage these WSAs so as not to impair the suitability of such areas for preservation as wilderness until Congress either designates them as wilderness or releases them for other uses consistent with the requirements of Section 603(c) of FLPMA. Through the NCIP, the BLM will also determine if administratively designating additional WSAs identified as part of the lands with characteristics inventories consistent with Section 202 of FLPMA would best protect wilderness characteristics in the decision area. The BLM will administer all WSAs (both those designated under Section 603, as well as those designated under Section 202) under the management policies for WSAs (BLM Manual 6330 – Management of Wilderness Study Areas [BLM 2012c]), which details the non-impairment standard.

In 2015, the BLM began conducting lands with wilderness characteristics inventories for the planning area under Section 201 of FLPMA. This process identified 10 areas possessing wilderness characteristics. Consistent with FLPMA's multiple-use mandate, the BLM is evaluating whether to manage for the protection of wilderness characteristics as part of a spectrum of resource values to be considered during land use planning. If the BLM concludes through the land use planning process that protection of wilderness characteristics is appropriate, the NCIP will provide management direction consistent with protection of those wilderness characteristics.

Protect Areas of Critical Environmental Concern

Consistent with Section 202(c) of the FLPMA, as amended, and the BLM's regulations at 43 CFR 1610.7-2, BLM may designate areas with relevant and important values that require special management attention Areas of Critical Environmental Concern (ACEC) in the development of land use plans. The planning area currently contains 16 ACECs designated to protect a variety of resources with relevant and important values, including but not limited to plant communities, wildlife, fisheries, and scenic, cultural and historic values. The NCIP will evaluate existing and proposed ACECs nominated by the public and BLM staff to determine if ACEC designations are necessary to protect values described above. ACEC designations will enable BLM to provide special management attention to these areas. Further, the NCIP will establish management direction for management of these ACECs, including establishing goals, objectives, and allowable resource uses.

Protect Wild and Scenic Rivers

The planning area is hydrologically complex, with a variety of river and stream systems with fluctuating flow rates throughout the year that are dependent on seasonal variability, water-year type, dam operation, and land use patterns such as agriculture and urban development. The planning area also supports diverse aquatic ecosystems, including habitats for salmonids like salmon and trout which are sensitive to water temperature, flow, and water quality. The planning area contains three rivers designated under Section 2(a)(ii) of the Wild and Scenic Rivers Act of 1968 (WSRA; Public Law 90-542; 16 United States Code 1271-1287), the Eel River, the Klamath River, and the Trinity River Wild and Scenic Rivers, totaling 52 miles. The NCIP will provide management direction to protect and enhance the segments of state-administered (WSRA Section 2(a)(ii)), WSRs. Consistent with the provisions of the WSRA, the BLM is

analyzing river and stream segments that might be eligible and suitable for inclusion in the National Wild and Scenic Rivers System in the NCIP. The NCIP further provides management direction enabling protection and enhancement of the designated, eligible, and suitable WSRs. The BLM's policy, direction, and guidance for identifying, evaluating, planning, and managing eligible and suitable WSRs and managing designated components of the National Wild and Scenic River System is contained in BLM Manual 6400, Wild and Scenic Rivers Policy and Program Direction for Identification, Evaluation, Planning, and Management.

Developing the Land Tenure Patterns and Access Strategy

Through implementation of the existing RMPs over the past three decades, the BLM has made substantial changes in landownership through land tenure adjustments, including exchanges, acquisitions, and disposals. This change in landownership has been effective at consolidating BLM-administered lands and disposing of scattered parcels. Despite the success of these adjustments, many scattered parcels still exist in the planning area.

The NCIP will weigh the current land tenure adjustment strategies against other land tenure adjustment options and the needs of other resources, resource uses, and Tribal interests. This would ensure land tenure adjustment actions are in line with current management direction, policy, and law. The NCIP will identify criteria for consideration of lands for retention, disposal, and acquisition, and specify those parcels that meet the disposal criteria. Further, the NCIP will consider areas where consolidating BLM administration of lands would enhance public values, such as conservation of important resources, recreation and public access, and integration with the needs of local communities.

Provide for a Broad Array of Recreation Uses

Increasing populations have also brought a large increase in recreation on BLM-administered lands, especially those lands near human population centers, such as Redding, Chico, Eureka, and Arcata. The public currently engages in a wide array of recreation uses, such as hunting, fishing, boating, target shooting, bird-watching, biking, off-highway vehicle (OHV) riding, and car touring. Previous public outreach efforts have identified a great deal of public interest in maintaining existing recreational opportunities and a desire for more opportunities (for example, hiking, biking, equestrian, and OHV trails). The BLM has also experienced an increase in requests for organized events, such as races.

The BLM will manage recreation in the NCIP decision area by designating SRMAs and Extensive Recreation Management Areas (ERMAs). The NCIP will provide specific goals for recreation outcomes in each recreation management area (RMA). The NCIP will develop a range of recreation management area scenarios in relation to other land use allocations and management objectives among the alternatives, while providing public access, promoting public health and safety, and minimizing conflicting uses.

Respond to Increasing Population and Changing Use Patterns

Within the planning area, the human population has grown by 20 to 30 percent in some counties over the past three decades. With increasing population has come increased development near BLM-administered lands. Such development and attendant infrastructure have led to increased numbers of rights-of-way (ROWs) across BLM-administered lands.

The BLM must balance the increasing need for ROWs with the protection of natural and cultural resources. The NCIP will continue to provide for the use of BLM-administered lands in accordance with

applicable laws and regulations, manage the public lands in support of the goals and objectives of other resource programs, and support the use and development of adjacent private lands, through the issuance of ROWs, leases, and permits, where appropriate. Land use allocations will define resource uses and land designations to help resolve conflicts between infrastructure and resource protection.

1.3 DESCRIPTION OF THE PLANNING AREA, DECISION AREA, AND ANALYSIS AREA

The planning area is the overall geographic area the BLM must consider during the land use planning effort. Throughout this RMP, the term "planning area" is used to refer to all lands within the region, regardless of jurisdiction. The BLM, however, will only make management decisions on the portions of the planning area that fall under the BLM's jurisdiction; the BLM will consider how these decisions affect adjacent lands.

The NCIP planning area is approximately 14.4 million acres in northwest California. It encompasses all lands within the Arcata and Redding FO boundaries, regardless of ownership (**Map 1-1** in **Appendix A**). Eight counties fall within the planning area: Mendocino, Humboldt, Del Norte, Siskiyou, Trinity, Shasta, Tehama, and Butte. Approximately 70 percent of the planning area is within the boundaries of the 1994 Northwest Forest Plan (NWFP; USDA and USDOI 1994a), with eastern areas located outside the NWFP boundary. Planning will occur over a broad geographic scale, recognizing the unique sets of issues, resources, and communities within the diverse northwestern California region. **Table 1-1** shows the number of surface acres administered by federal and state agencies in the planning area.

Table 1-1
Surface Landownership in the NCIP Planning Area

Surface Landownership	Acres[1]
BLM, the decision area	382,200
BLM, outside the decision area	75,000
Private/other	7,861,300
Forest Service	5,422,100
State	273,300
Bureau of Indian Affairs	208,700
National Park Service (NPS)	208,800
Reclamation	10,100
Fish and Wildlife Service	10,700
Other federal	4,500
Local government	1,800
Total	**14,458,500**

Source: BLM GIS 2023
[1] Acres are rounded to the nearest 100

BLM-administered lands within the planning area are generally surrounded by private lands managed for industrial timber production, ranching, agriculture, and home development, although some lands are adjacent to national forests and other state and federal lands (lands administered by Reclamation, the NPS, and the USFWS). The planning area is characterized by a diverse range of social and cultural values. Over the past 30 years, the population within northwestern California has been growing and shifting, with some counties experiencing substantial increases. For instance, Tehama County's population has surged by almost 30 percent.

An assortment of resources is represented within the planning area, which spans from the Pacific coast to the Sierra Nevada. These resources include a diversity of vegetation communities, such as coastal dunes, coniferous forests, chaparral, grasslands, and oak woodlands.

Tribal lands and reservations for a number of federally recognized Native American Tribes fall within the planning area. In addition, BLM-administered lands include sacred sites, gathering areas, and other places important to Tribes. Management of these lands requires consultation and collaboration between the BLM and the Tribes, including development of co-stewardship agreements (see **Chapter 4** for additional information).

Other federal lands within the planning area include the Six Rivers, Shasta-Trinity, Klamath, Lassen, Plumas, and Mendocino National Forests; Lassen Volcanic and Redwoods National Parks; the Whiskeytown and Smith River National Recreation Areas; the Sacramento, Castle Rock, and Humboldt Bay National Wildlife Refuges; and Black Butte Lake (managed by the US Army Corps of Engineers). Reclamation manages numerous land holdings, recreation, and facilities within the planning area, including six hydroelectric dams and lands that are comanaged under a memorandum of agreement with the Redding FO near the Shasta Dam and Keswick Reservoir. In addition to federally-managed lands, there are an extensive number of State-managed beaches, parks, wildlife areas, and recreation areas in the planning area (see **Chapter 4** for list of cooperating agencies).

Separate RMPs guide management of the following National Landscape Conservation System units within the planning area (totaling approximately 75,000 acres):

- Headwaters Forest Reserve RMP (BLM 2003)
- King Range National Conservation Area RMP (BLM 2005a)
- Cascade-Siskiyou National Monument RMP[1] (BLM 1993)

Additionally, there are three onshore units of the California Coastal National Monument (CCNM) within the NCIP planning area that have separate implementation level plans that tier to the 1992 Arcata RMP, as amended by the 2005 California Coastal National Monument RMP. These onshore units are not covered under the NCIP. The CCNM is currently undergoing a plan evaluation with an expected plan amendment to address all onshore units. Until then, these units will continue to be managed under the 1992 Arcata RMP.

The four National Landscape Conservation System units listed above are not in the decision area for the NCIP. In other words, the NCIP will not amend decisions made for these units.

Decision Area. The decision area is made up solely of lands in the planning area that the BLM administers, as well as federal mineral estate where the BLM has authority to make decisions. The decision area is, collectively, the surface estate and mineral estate (split estate) lands in the planning area over which the BLM has authority to make land use planning and management decisions.

[1] Approximately 2,500 acres of the Redding RMP were added to the Cascade-Siskiyou National Monument in 2013. The BLM is currently undergoing a separate RMP revision effort for the 2008 Cascade-Siskiyou National Monument RMP that will include incorporating these additional lands under that new RMP once complete. Until then, the lands remain under the management of the 1993 Redding RMP; those lands are excluded from this revision's decision-making.

The surface decision area is the 382,200 acres of BLM-administered lands (**Map 1-2** in **Appendix A)**, excluding those BLM-administered units mentioned above that are not included in the NCIP decision area. BLM-administered surface lands and subsurface mineral estate (the BLM subsurface decision area) comprise 295,100 acres of the decision area (**Map 1-3** in **Appendix A**). Decisions in **Appendix B** apply to the areas described to the extent that the BLM has jurisdiction. The BLM does not make decisions pertaining to federal minerals development on National Forest System lands, NPS lands, or Tribal lands; federal mineral estate underlying these surface jurisdictions are not in the decision area.

Analysis Area. The analysis area refers to any lands, regardless of jurisdiction, for which the BLM synthesizes, analyzes, and interprets data and information for the lands it administers. The analysis area can be any size, vary according to resource, and be located anywhere within, around, partially outside, or completely outside the planning or decision areas. For the NCIP, the analysis area is typically the same as the decision area unless otherwise noted in the resource section in **Appendix C** and **Appendix D**. The cumulative effects analysis in the NCIP may expand beyond the planning boundaries, depending on the resource or resource use.

1.4 PLANNING PROCESS

The RMP preparation process employs several steps that adhere to the BLM Land Use Planning Handbook, H-1601-1 (BLM 2005d). The public is encouraged to participate throughout the planning process, and the BLM is mandated to support public participation and review. The BLM also collaborates with cooperating agencies during development of the RMP/EIS. **Chapter 4**, Consultation and Coordination, provides detailed information about the involvement of the public and other agencies throughout the RMP/EIS process. This process also requires the expertise of an interdisciplinary team of resource specialists to complete each step.

Four alternatives—A, B, C, and D—are examined in this Proposed RMP/Final EIS. Alternative A is the existing management situation and explores a "no action" response. Alternatives B, C, and D explore alternative actions to the existing management situation and comply with the FLPMA requirement of managing for multiple use and sustained yield on public land.

As a result of public comments received on the Draft RMP/EIS (**Appendix K**), best available science, cooperating agency coordination, and internal review of the Draft RMP/EIS, the Arcata and Redding managers have identified and recommended Alternative D to the BLM State Director as the proposed alternative. The Proposed RMP/Final EIS focuses on addressing public comments, while continuing to meet the BLM's legal and regulatory mandates. The proposed alternative is a variation of the preferred alternative (Alternative D as presented in this plan) and is within the range of alternatives analyzed in the Draft RMP/EIS.

The BLM identified and evaluated the predicted effects resulting from each alternative (**Appendix D**). Best management practices were considered in evaluating impacts. A summary description of the existing environment in the planning area and the potential environmental consequences are discussed in **Chapter 3**.

The Draft RMP/EIS was distributed to the public, initiating a 90-day review and comment period. At the close of the comment period, the BLM reviewed and incorporated public comments, as appropriate, and published the Proposed RMP/Final EIS. This publication will be followed by a 30-day protest period and

the governor's consistency review. Pending the results of the protest period and consistency review, the BLM will publish the Approved RMP and Record of Decision.

While developing the RMP/EIS, the BLM is applying the landscape approach and adaptive management principles to management alternatives. The environmental analyses span across jurisdictional boundaries to best understand the implications of management decisions on all lands and ecosystems.

Monitoring Plan

Over time, the BLM will implement, monitor, and evaluate actions, resource conditions, and trends to determine whether implementation of the RMP is occurring as planned, whether management goals and objectives are being met, and whether there are unanticipated results from implementation. Monitoring and evaluation are essential components of effective resource management and will enable the BLM to detect issues early enough to adjust implementation strategies, as necessary, to assure goals and objectives are achieved. The BLM will keep the RMP current through maintenance, amendments, or revisions as demands on resources change or new information is acquired.

The BLM will adhere to the guidelines outlined in 43 CFR Section 1610.4-9 regarding monitoring and evaluation. Consistent with direction in the BLM's LUP Handbook, the BLM would evaluate the RMP at a minimum of every five years. Further resource-specific intervals and standards for assessing implementation and effectiveness of the approved RMP would be established in alignment with the sensitivity of the resources following the signing of the Approved RMP and associated Record of Decision. These intervals and standards would facilitate ongoing evaluation to ascertain the effectiveness of management actions, detect any significant changes in related plans of other federal, state, or local agencies, or Tribes, and consider new data of significance to the plan. The BLM would provide for the monitoring and evaluation of the plan, following the established intervals to meet current BLM policy and best available methods and science to determine changes needed. Additionally, assessments would be conducted at other appropriate times to determine whether there is sufficient cause to warrant and amendment or revision of the plan, as specified in the regulations.

1.4.1 Current DOI Priorities

The DOI identifies several priorities that are reflected in the alternatives for management of BLM-administered lands within the NCIP planning area:

- **Identifying steps to accelerate responsible development of renewable energy on public lands and waters.** The DOI is investing in climate research and environmental innovation to incentivize the rapid deployment of clean energy solutions, while reviewing existing programs to restore balance on America's public lands and waters to benefit current and future generations.
- **Strengthening the government-to-government relationship with sovereign Tribal nations.** The DOI understands that Tribal sovereignty and self-governance, as well as honoring the federal trust responsibility to Tribal nations, must be the cornerstones of federal Indian policy.
- **Making investments to support the Biden administration's goal of creating millions of family-supporting and union jobs.** This includes establishing a new Climate Conservation Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.

- **Working to conserve at least 30 percent each of BLM-administered lands and waters by the year 2030.** The DOI will work to protect biodiversity, slow extinction rates, and help leverage natural climate solutions by conserving 30 percent of America's lands and waters by 2030 (also known as the "America the Beautiful" campaign). This relies on support for local, state, private, and Tribally led nature conservation and restoration efforts that are underway across America.
- **Centering equity and environmental justice.** The impacts of the multiple crises in the US are not evenly distributed in our society. Communities of color, low-income families, and rural and Indigenous communities have long suffered disproportionate and cumulative harm from air pollution, water pollution, and toxic sites. At every step, the DOI will engage diverse stakeholders across the country and conduct formal consultation with Tribes in recognition of the US government's trust responsibilities.

America the Beautiful Initiative and California's 30×30 Initiative

In 2021, the federal government undertook a 10-year program to "conserve and restore the lands and waters upon which we all depend, and that bind us together as Americans." This initiative responds to the federal goal of conserving at least 30 percent of our lands and waters by 2030, as described in EO 14008, Tackling the Climate Crisis at Home and Abroad (hereafter referred to as the America the Beautiful Initiative; USDOI et al. 2021). The America the Beautiful Initiative does not currently have a published definition of what to consider "conserved;" however, it does recognize that locally and regionally designed approaches can play a key role in conserving resources. It also recognizes that approaches can be tailored to meet the priorities and needs of local communities and the nation.

Similarly, the State of California is undertaking its own conservation initiative (hereafter referred to as California 30×30) to conserve 30 percent of the state's lands and coastal waters by 2030. This initiative is further defined in the *Pathways to 30×30 California* document produced by the California Natural Resources Agency (California Natural Resources Agency 2022). In California's 30×30 program, an area is considered a 30×30 Conservation Area if it meets the following definition: land and coastal water areas that are durably protected and managed to sustain functional ecosystems, both intact and restored, and the diversity of life that they support, regardless of land ownership, including federal lands. Currently, BLM-administered lands outside of National Landscape Conservation System units are not included in this definition for the state initiative. While the California 30×30 definition of conserved land does include federal lands, this does not define or make federal land conserved for federal purposes. Defining the conservation status of federal land is subject to Congress and the BLM.

The BLM can contribute to this effort through ecosystem restoration and conservation, land tenure, and the management actions identified in the land use planning process. For the NCIP, the BLM determined how much land would be conserved under each alternative. To identify the NCIP contribution, the protections of an area and the durability of those protections were considered. Identified "conserved areas" for the NCIP include the acreages of proposed ACECs, lands with wilderness characteristics that are managed as a priority, suitable wild and scenic rivers (WSRs), designated WSRs, wilderness areas, WSAs and late successional reserves. While not all of these designations provide the protection and durability necessary to be automatically considered "conserved areas," the goals, objectives, and management actions prescribed for these designated areas in the NCIP do provide enough protection and durability to be considered conserved. These areas are displayed, by alternative, in **Table 1-2**, below, and shown on applicable **Chapter 2** maps in **Appendix A**.

Table 1-2
America the Beautiful Conserved Areas in the NCIP Decision Area

Conservation Area (in acres)	Alternative A	Alternative B	Alternative C	Alternative D
ACECs	54,600	88,820	42,430	87,890
Designated WSRs	15,000	15,000	15,000	15,000
Suitable WSRs	100	50,200	3,600	36,800
Wilderness areas	50,040	50,040	50,040	50,040
WSAs	8,450	8,450	8,450	8,450
Section 202 WSAs	0	12,090	0	540
Late successional reserves	78,600	78,600	78,600	78,600
Lands with wilderness characteristics managed as a priority	0	21,970	5,840	11,570
Total	206,790 (54% of the decision area)	325,170 (85% of the decision area)	203,960 (53% of the decision area)	288,890 (76% of the decision area)

Source: BLM GIS 2023

1.5 EXECUTIVE ORDER 14072 AND NORTHWEST FOREST PLAN

The NWFP was adopted in 1994 and updated in 2023 (USDA 2023); it amended the existing Arcata and Redding RMPs (BLM 1992a, 1993, respectively). The NWFP provided the framework for a landscape approach to federal land management in the Pacific Northwest region of the US to address the ecological and economic challenges facing the region's forests. The plan was based on a scientific assessment of the region's ecological resources and conditions and the impacts of various management options of those conditions.

The NCIP will revise the existing Arcata and Redding RMPs (BLM 1992a, 1993, respectively) and thus replace the NWFP guidance set forth in the amended land use plans. In the development of alternatives for the NCIP, some aspects of the NWFP are carried forward, and others are not. Overall, the NCIP carries forward the goals of protecting and enhancing late-seral conifer forests, riparian resources, and the suite of species that depend on these ecosystems in the NWFP.

The NWFP includes land allocations that guide the allowable management actions and standards for late-successional reserves, riparian management areas, managed late-successional areas, adaptive management areas, administratively withdrawn areas, and matrix lands. In the NCIP, most of these land allocations are not carried forward; however, the late-successional reserves and riparian management areas would continue under the NCIP. The BLM would continue to manage the late-successional reserves for late-successional forest values, but the management actions in the NCIP may allow more or less mechanical entry into these reserves, depending on the alternative. Additionally, the NCIP would carry forward the aquatic conservation strategy's (ACS) objectives and riparian area management from the NWFP.

Watershed restoration would continue to be an emphasis in the NCIP; however, key watershed designations and watershed analyses would not be carried forward in the NCIP. Finally, depending on the species, the NCIP would carry forward applicable species' protection buffers as prescribed in the NWFP. The survey-and-manage program from the NWFP would not be carried forward in the NCIP. In the NCIP,

the BLM would use the BLM's special status species program to protect rare species, including those species from the survey-and-manage program that warrant protection.

EO 14072, Strengthening the Nation's Forests, Communities, and Local Economies, which was issued by President Biden in April 2022, aims to protect and restore forests on federal lands with an emphasis on the importance of science-based, sustainable forest management, as well as conservation, restoration, and reforestation efforts to mitigate the impact of climate change and protect biodiversity. The EO also calls for collaboration with state and local governments, private sector organizations, and Indigenous communities to achieve these goals.

The NCIP addresses this EO through a suite of management actions to promote late-seral forest characteristics by prioritizing forest health, fuels treatments, and post- wildland fire restoration and replanting to promote forest ecosystem health and function. Additionally, the NCIP would promote management that would make forest stands more resilient to climate-driven stresses, and contribute to the recovery of federally listed species. The NCIP allows commercial timber harvest as one of many tools to create sustainable forest management while protecting wildlife habitat and meeting multiple resource objectives; all of these would include coordinating with local governments, interest groups, and Tribes.

The following are highlights of how the BLM is integrating EO 14072 and the NWFP into the NCIP:

- Climate change and forest resilience: Both EO 14072 and the NWFP recognize the importance of managing forests for resilience in the face of climate change. The NWFP, for example, includes a goal of maintaining and restoring ecological processes that contribute to forest resilience, while the EO includes directives related to the restoration of degraded forests, the reduction of wildland fire risk, and the use of sustainable forestry practices. All NCIP action alternatives provide improved direction to forest managers for improving resilience in both late-successional and degraded forest stands while reducing wildland fire risk (see **Table B-1** in **Appendix B**). Additionally, Alternative B is specifically designed to improve habitat connectivity and resilience.
- Community and economic benefits: EO 14072 and the NWFP recognize the importance of supporting rural communities that depend on forests for their economic and social well-being. The NWFP includes provisions for protecting and enhancing aquatic and riparian habitats, which can provide important economic benefits such as fishing and tourism. Similarly, EO 14072 includes directives related to supporting rural economies through the use of forest restoration projects and the promotion of sustainable forest management practices. The NCIP brings forward NWFP riparian management areas and aquatic protections, and Alternative C specifically includes management actions to increase access and recreational opportunities. The NCIP action alternatives provide a range of social and economic benefits, while also protecting late-successional forests and promoting treatments of degraded forests to improve forest health (see **Table B-1** in **Appendix B**).
- Tribal consultation: EO 14072 and the NWFP recognize the importance of consulting with Tribal nations in the development and implementation of forest management plans. The NWFP includes provisions for Tribal consultation and the protection of cultural resources, while EO 14072 includes a directive to consult with Tribes on the development of a new strategy for managing federal forests. To safeguard the interests of Tribes, the NCIP alternatives emphasize consultation with Tribal nations on proposals, recommendations, and knowledge relating to the stewardship of BLM-administered lands and resources. Additionally, the NCIP emphasizes the identification of

opportunities for co-stewardship with Tribes through the sharing of technical expertise, building relationships, combining capabilities to improve resource management, and including Traditional knowledge, experience, and perspectives in planning and management decisions (see **Table B-1** in **Appendix B**).

Overall, EO 14072 builds on the legacy of the NWFP by recognizing the importance of science-based management, ecological resilience, community benefits, and Tribal consultation in the management of federal forests. The BLM developed the NCIP action alternatives based on the most-up-to date science, including the synthesis of science developed to inform land management within the NWFP area (Spies et al. 2018), along with the consideration of community input and data to ensure the goals objectives and management actions are established to maintain healthy forests, improve wildland fire resiliency, and protect important ecosystems and local communities from the effects of climate change..

1.6 CONSISTENCY WITH LOCAL LAND USE PLANS

An RMP must be "consistent with officially approved or adopted resource-related plans, and the policies and procedures contained therein, of other federal agencies, state and local governments, and Tribes, so long as the guidance and resource management plans are also consistent with the purposes, policies, and programs of federal laws and regulations applicable to public and" (43 CFR 1610.3-2(a)). **Appendix E** lists the relevant plans, policies, and programs identified by the BLM. In reviewing those plans, the BLM did not identify any inconsistencies.

1.7 CHANGES BETWEEN DRAFT RMP/EIS AND PROPOSED RMP/FINAL EIS

The Proposed RMP/Final EIS incorporates changes based on substantive public comments, cooperating agency input, and internal BLM reviews of the Draft RMP/EIS.

Alternative D, the proposed preferred alternative, builds upon Alternative D from the Draft RMP/EIS. It reflects public comments, corrections, and rewording for clarity while ensuring the BLM meets legal and policy requirements.

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Chapter 2. Alternatives

This chapter details Alternatives A through D for the NCIP and includes references to maps (found in **Appendix A**) identifying where allocations would apply. The BLM formulated the alternatives in response to issues and concerns identified through public scoping, in an effort to resolve deficiencies with current management strategies and to explore opportunities for enhanced management of resources and resource uses. A **Glossary** that provides a definition of terms can be found following the **References** section.

2.1 DESCRIPTION OF THE ALTERNATIVES

Resource management plan decisions consist of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allocations for allowable resource uses (allocations) and management direction necessary for achieving the goals and objectives. These critical determinations guide future land management direction and subsequent site-specific implementation actions to meet multiple-use and sustained-yield mandates.

Each alternative must respond to the issues identified during scoping, seek to resolve conflicts among resources and resource uses, meet the purpose of and need for the RMP, and be feasible to implement. After considering the issues and the purpose and need, the BLM developed three action alternatives to analyze in detail, in addition to the No Action alternative (Alternative A). Each alternative contains a complete set of goals, objectives, and management direction representing a stand-alone management approach for evaluation in the EIS. The Proposed RMP could be a combination of elements from the different alternatives presented in the Draft RMP/EIS. Resource program goals are met in varying degrees with the potential for different long-range outcomes and conditions.

The relative emphasis given to particular resources and resource uses also differs, including allocations, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives. All alternatives manage for multiple use and long-term sustainability and provide for public use and enjoyment of BLM-administered lands.

Meaningful quantitative differences among the alternatives are provided in **Table 2-1** (Quantitative Summary of the Alternatives), shown in acres of each allocation within the decision area. **Appendix B** (Land Use Plan Decisions by Alternative) provides a complete description of proposed decisions for each alternative, including goals, objectives, management direction, and allocations for individual resource programs. Maps in **Appendix A** provide a visual representation of differences between alternatives.

Under all alternatives, the BLM would implement mitigation measures during project-level implementation. The BLM takes a landscape-scale approach to mitigation, utilizing best management practices, ensuring mitigation measures are durable, monitoring mitigation measures for compliance and effectiveness, and adaptively managing mitigation measures. It also uses best science to develop mitigation that supports the DOI's commitment to conserving and managing the nation's natural resources and cultural heritage. The BLM's mitigation policy is outlined in Instruction Memorandum (IM) 2021-046, Manual 1794, and Handbook H-1794-1.

The BLM has used geographic information systems (GIS) data to perform acreage calculations and to generate the maps in **Appendix A**. Calculations depend on the quality and availability of data. Most calculations in this RMP/EIS are rounded to the nearest 100 acres or 0.10 miles. Some calculations in **Chapter 3** and **Appendix D** are rounded to the nearest 1 mile. Given the scale of the analysis, the compatibility constraints between data sets, and the lack of data for some resources, all calculations are approximate; they serve for comparison and analytic purposes only. Likewise, the maps in **Appendix A** are provided for illustrative purposes and subject to the limitations discussed above. The BLM may receive additional or updated data; therefore, acreages may be recalculated and revised later.

2.1.1 Alternative A (No Action Alternative)

Alternative A meets the requirement that a no action alternative must be considered. This alternative continues current management direction and prevailing conditions derived from existing planning decisions. Goals and objectives for resources and resource uses are based on the applicable portions of the 1992 Arcata RMP and 1993 Redding RMP, along with associated amendments. Laws, regulations, and BLM policies that supersede RMP decisions would apply.

The goals and objectives for BLM-administered lands and mineral estate would not change. Appropriate allocations and restrictions pertaining to activities such as recreation, forestry and vegetation management, ROWs, mineral leasing and development, and livestock grazing would also remain the same. The BLM would continue to manage 16 ACECs/research natural areas (RNAs) to protect relevant and important values. Additionally, the BLM would continue to manage the designated WSRs to protect and enhance river values, four WSAs, and five designated wilderness areas. Additionally, 117 river segments would continue be managed as eligible, and a 0.1-mile segment would be managed as suitable for inclusion in the National Wild and Scenic River System (NWSRS). While the BLM has identified lands with wilderness characteristics, these lands would not be managed in any specific way under Alternative A.

As part of the NWFP, Alternative A includes actions that would protect important old-growth forest stands and identify late successional forest areas that would not be subject to programmed timber harvest. These areas would also comply with the USFWS' recovery guidelines for the northern spotted owl (NSO).

Any environmental impacts that would result from implementation of the No Action alternative are identified as required by Title III of the Budget Deficit Act (Section 321(a)(3)(B)(iii).

Management Areas

In the 1992 Arcata RMP and the 1993 Redding RMP, the BLM divided the lands within each FO's jurisdiction into management areas to help focus the planning effort on issues that involve particular areas over the large geographic landscape. For the Arcata FO, seven management areas were identified:

- Samoa Peninsula
- Lacks Creek
- Butte Creek
- King Range Vicinity
- Red Mountain
- Covelo
- Scattered Tracts

Seven management areas were also identified for the Redding FO:

- Scott Valley
- Klamath
- Trinity
- Shasta
- Sacramento River
- Ishi
- Yolla Bolly

These management areas are not carried forward into the action alternatives. As a result, a direct comparison of management actions in the table of land use plan decisions by alternative provided in **Appendix B** is not always possible.

2.1.2 Alternative B

Alternative B emphasizes habitat connectivity and resilience, while allowing appropriate development scenarios for resource uses (such as recreation, ROWs, livestock grazing, and mineral leasing). Under Alternative B, the BLM would maintain corridors of relatively undeveloped areas to provide for connectivity of wildlife and fisheries habitat and to serve as a resilient refuge to ongoing development and climate change. This alternative introduces areas identified as "essential connectivity corridors of high biological value" (essential connectivity corridors or ECCs), as developed by the California Department of Fish and Wildlife, to guide goals, objectives, allowable uses, and management actions. These, in turn, would provide a recreational and aesthetic resource for public enjoyment. The identified ECCs would be the same under each action alternative. However, under Alternative B, management actions that promote habitat connectivity would be given priority consideration.

Alternative B is the most proactive in promoting conservation and recovery of threatened, endangered, and other special status species, as well as protecting other social and scientific values. It also would provide the most restrictions in terms of areas closed to OHV use, fewer land disposal opportunities, more ROW avoidance areas, and limitations on mineral development. The BLM would retain small or isolated parcels that provide natural resource refugia and contribute to climate change resiliency, are in ECCs, or are important wildlife habitat. Alternative B would provide opportunities for recreation and improved access by designating one special recreation management area (SRMA) and four extensive recreation management areas (ERMAs).

Alternative B would also manage for other social and scientific values by designating 25 ACECs to be managed to protect biological, cultural, and scenic values. Alternative B would find 117 eligible rivers suitable for inclusion in the NWSRS. The BLM would continue to manage the designated WSRs to protect and enhance river values, four Section 603 WSAs, and five designated wilderness areas. The BLM would manage 12,090 acres of lands with wilderness characteristics as Section 202 WSAs. In addition, 21,970 acres of lands with wilderness characteristics would be managed to protect those characteristics as a priority over other multiple uses, and 0 acres of lands with wilderness characteristics would be managed to minimize impacts while emphasizing other uses.

Table 2-1
Quantitative Summary of the Alternatives

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Riparian management areas	**A**	**B** (Map 2-1)	**C** (Map 2-1)	**D** (Map 2-2)
Total	0	68,800	41,000	103,500
Essential habitat connectivity corridors	**A**	**B** (Map 2-3)	**C** (Map 2-3)	**D** (Map 2-3)
Essential habitat connectivity corridors[1]	0	92,900	92,900	92,900
Wildland fire management	**A**	**B** (Map 2-4)	**C** (Map 2-5)	**D** (Map 2-5)
Wildland urban interface (WUI);	0	28,000	44,600	44,600
WUI in an essential connectivity corridor	0	16,600	0	0
Interface	0	16,100	16,100	16,100
Non-WUI	382,200	321,500	321,500	321,500
Total	382,200	382,200	382,200	382,200
Visual resource management (VRM)	**A** (Map 2-6)	**B** (Map 2-7)	**C** (Map 2-8)	**D** (Map 2-9)
VRM class I—preserve the existing character of the landscape	59,000	70,600	58,500	59,000
VRM class II—retain the existing character of the landscape	24,600	72,400	20,900	61,600
VRM class III—partially retain the existing character of the landscape	297,000	237,800	301,900	260,800
VRM class IV—provide for management activities that require major modification of the existing character of the landscape	1,600	1,400	900	800
Total	382,200	382,200	382,200	382,200
Late-successional reserves	**A** (Map 2-10)	**B** (Map 2-10)	**C** (Map 2-10)	**D** (Map 2-10)
Late-successional reserves	78,600	78,600	78,600	78,600
Lands and realty—land tenure	**A** (Map 2-11)	**B** (Map 2-12)	**C** (Map 2-13)	**D** (Map 2-14)
Lands identified for disposal	101,000	6,000	49,400	5,900
Lands identified for retention	281,400	376,500	333,100	376,600
Total	382,400	382,500	382,500	382,500

[1] On **Map 2-3** in **Appendix A**, the blue areas identify the corridor with the greatest ease of movement.

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Lands and realty—land use authorizations	**A** (Map 2-15)	**B** (Map 2-16)	**C** (Map 2-17)	**D** (Map 2-18)
Existing or potential right-of-way corridor	400	400	400	400
Right-of-way exclusion area	58,500	135,100	94,100	108,100
Right-of-way avoidance area	11,300	135,900	166,400	165,200
Open to right-of-way authorization	312,000	110,800	121,300	108,600
Total	382,200	382,200	382,200	382,300
Fluid and nonenergy mineral leasing—BLM surface	**A** (Map 2-19)	**B** (Map 2-20)	**C** (Map 2-21)	**D** (Map 2-22)
Closed to mineral leasing	61,300	187,800	117,700	164,200
Open to mineral leasing, subject to no surface occupancy	19,300	33,100	53,400	87,900
Open to mineral leasing subject only to standard terms and conditions	301,600	161,300	211,100	130,100
Total	382,200	382,200	382,200	382,200
Fluid and nonenergy mineral leasing—BLM subsurface estate only (split estate)	**A** (Map 2-19)	**B** (Map 2-20)	**C** (Map 2-21)	**D** (Map 2-22)
Closed to mineral leasing	400	3,000	800	2,800
Open to mineral leasing, subject to no surface occupancy	300	500	500	14,800
Open to mineral leasing subject only to standard terms and conditions	294,400	291,600	293,800	277,500
Total	295,100	295,100	295,100	295,100
Locatable minerals—BLM surface	**A** (Map 2-23)	**B** (Map 2-24)	**C** (Map 2-25)	**D** (Map 2-26)
Withdrawn from locatable mineral entry	60,000	60,000	60,000	60,000
Open to locatable mineral entry	322,200	322,200	322,200	322,200
Total	382,200	382,200	382,200	382,200
Recommend for withdrawal from locatable mineral entry	0	104,700	56,100	86,600
Locatable minerals—BLM subsurface estate only (split estate)	**A** (Map 2-23)	**B** (Map 2-24)	**C** (Map 2-25)	**D** (Map 2-26)
Withdrawn from locatable mineral entry	400	400	400	400
Open to locatable mineral entry	294,700	294,700	294,700	294,700
Total	295,100	295,100	295,100	295,100

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Recommend for withdrawal from locatable mineral entry	0	1,100	1,100	1,900
Mineral materials—BLM surface	**A** (Map 2-27)	**B** (Map 2-28)	**C** (Map 2-29)	**D** (Map 2-30)
Closed to mineral materials development	81,800	206,700	167,800	209,600
Open to mineral materials development	300,400	175,500	214,400	172,600
Total	382,200	382,200	382,200	382,200
Mineral materials—BLM subsurface estate only (split estate)	**A** (Map 2-27)	**B** (Map 2-28)	**C** (Map 2-29)	**D** (Map 2-30)
Closed to mineral materials development	800	1,300	1,600	5,600
Open to mineral materials development	294,300	293,800	293,500	289,500
Total	295,100	295,100	295,100	295,100
Recreation—SRMAs and ERMAs	**A** (Map 2-31)	**B** (Map 2-32)	**C** (Map 2-33)	**D** (Map 2-34)
Chappie-Shasta OHV Area SRMA	0	23,800	31,100	31,100
Forks of Butte Creek SRMA	2,200	0	0	0
Interlakes SRMA	37,800	0	0	0
Iron Mountain Target Shooting Area SRMA	0	0	600	600
Redding Trails SRMA	0	0	9,900	9,900
Samoa Dunes SRMA	190	0	190	190
Redding Trails ERMA	0	9,900	0	0
Swasey ERMA	0	500	500	500
Lacks Creek ERMA	0	9,000	9,000	9,000
Forks of Butte Creek ERMA	0	2,200	2,200	2,200
Samoa Dunes ERMA	0	190	0	0
Mike Thompson Wildlife Area, South Spit, Humboldt Bay ERMA	0	0	600	0
Sacramento River Bend ERMA	0	0	20,400	20,400
Trinity River ERMA	0	0	9,500	9,500
Ewing Area ERMA	0	0	1,000	1,000
Weaverville Community Forest ERMA	0	0	3,100	3,100
Ma-le'l Dunes ERMA	0	0	180	180
Total	40,190	45,590	88,270	87,670

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Travel and transportation management	**A** (Map 2-35)	**B** (Map 2-36)	**C** (Map 2-37)	**D** (Map 2-38)
Closed to OHV travel	59,200	73,600	58,800	61,500
OHV travel limited to existing and designated routes	322,800	308,400	323,300	320,600
Open to OHV travel	190	190	190	190
Total	382,190	382,190	382,290	382,290
Livestock grazing	**A** (Map 2-39)	**B** (Map 2-40)	**C** (Map 2-41)	**D** (Map 2-42)
Unavailable for livestock grazing	195,300	149,400	110,400	193,600
Available for livestock grazing**	186,900	232,800	271,800	188,600
Total	382,200	382,200	382,200	382,200
Special designations—ACECs	**A** (Map 2-43)	**B** (Map 2-44)	**C** (Map 2-45)	**D** (Map 2-46)
Baker Cypress ACEC (see also the Upper Burney Dry Lake and Baker Cypress ACEC, below)	140	0	0	0
Butte Creek ACEC	2,250	2,250	0	2,250
Sacramento Island ACEC	90	90	0	90
Deer Creek ACEC	570	570	0	570
Elder Creek ACEC	3,060	0	0	0
Forks of Butte Creek ACEC	2,900	2,900	2,900	2,900
Gilham Butte ACEC	2,620	9,330	2,620	9,330
Hawes Corner ACEC	40	40	0	40
Iaqua Buttes ACEC	1,110	1,110	0	1,110
Lacks Creek ACEC	7,480	2,140	0	2,140
Manila Dunes ACEC (see also the Ma-le'l Dunes ACEC, below)	150	0	0	0
Red Mountain ACEC	6,800	0	0	0
Sacramento River Bend ACEC	18,600	20,420	18,600	20,420
Shasta and Klamath Rivers Canyon ACEC	1,210	1,270	0	1,270
South Fork Eel River ACEC	7,110	0	0	0
Swasey Drive ACEC	470	0	470	470
Upper Burney Dry Lake and Baker Cypress ACEC	0	210	0	210

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Beegum Creek Gorge ACEC	0	4,380	0	4,380
Black Mountain ACEC	0	1,110	0	1,110
Corning Vernal Pools ACEC	0	170	0	170
Eden Creek ACEC	0	0	4,590	0
Eden Valley ACEC	0	10,810	0	10,810
Grass Valley Creek ACEC	0	19,560	13,070	19,560
Ma-le'l Dunes ACEC	0	180	180	180
North Fork Eel ACEC	0	500	0	500
North Table Mountain ACEC	0	50	0	50
Sheep Rock ACEC	0	1,410	0	1,410
South Spit ACEC	0	630	0	630
Swasey Clear Creek Greenway ACEC	0	5,960	0	0
Upper and Lower Clear Creek ACEC	0	0	0	4,560
Upper Klamath Bench ACEC	0	90	0	90
Upper Mattole ACEC	0	460	0	460
Willis Ridge ACEC	0	3,180	0	3,180
Total	54,600	88,820	42,430	87,890
Special designations—national historic trails (NHTs; miles)	**A**	**B** (Map 2-47)	**C** (Map 2-47)	**D** (Map 2-47)
California NHT Nobles Route	0.0	1.5	1.5	1.5
California NHT, Yreka Route	0.0	1.7	1.7	1.7
Total	0.0	3.2	3.2	3.2
Special designations—WSRs (miles)	**A** (Map 2-48 and 2-49)	**B** (Map 2-48 and 2-50)	**C** (Map 2-48 and 2-51)	**D** (Map 2-48 and 2-52)
Eligible WSR	201.7	0.0	0.0	0.0
Suitable WSR	0.1	201.7	14.2	147.2
Designated WSR	52.0	52.0	52.0	52.0
Total	253.8	253.7	66.2	199.2

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Special designations—WSR corridors (acres)	**A** (Map 2-48 and 2-49)	**B** (Map 2-48 and 2-50)	**C** (Map 2-48 and 2-51)	**D** (Map 2-48 and 2-52)
Eligible WSR	50,200	0	0	0
Suitable WSR	100	50,200	3,600	36,800
Designated WSR	15,000	15,000	15,000	15,000
Total	65,300	65,200	18,600	51,800
Special designations— designated wilderness and Section 603 WSAs	**A** (Map 2-53)	**B** (Map 2-53)	**C** (Map 2-53)	**D** (Map 2-53)
Elkhorn Ridge Wilderness	11,120	11,120	11,120	11,120
Ishi Wilderness	200	200	200	200
South Fork Eel River Wilderness	13,020	13,020	13,020	13,020
Yolla Bolly-Middle Eel Wilderness	8,550	8,550	8,550	8,550
Yuki Wilderness	17,150	17,150	17,150	17,150
Big Butte WSA	1,550	1,550	1,550	1,550
Eden Valley WSA	6,150	6,150	6,150	6,150
Thatcher Ridge WSA	150	150	150	150
Yolla Bolly Contiguous WSA	600	600	600	600
Total	58,490	58,490	58,490	58,490
Special designations—Section 202 WSAs	**A**	**B** (Map 2-54)	**C**	**D** (Map 2-56)
Brushy Mountain/ English Ridge	0	5,500	0	0
Gilham Butte (Subunit 1)	0	5,840	0	0
Red Mountain	0	320	0	320
Trinity Alps (Subunit 4)	0	220	0	220
Yolla Bolly (Subunit 2)	0	180	0	0
Yolla Bolly (Subunit 1)	0	30	0	0
Total	0	12,090	0	540
Lands with wilderness characteristics	**A** (Map 3-15)	**B** (Map 3-15)	**C** (Map 3-15)	**D** (Map 3-15)
Lands with wilderness characteristics, outside of designated wilderness, outside existing Section 603 WSAs, and regardless of management	34,060	34,060	34,060	34,060

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Lands with wilderness characteristics managed to protect wilderness characteristics as a priority over other multiple uses	**A** (Map 3-15)	**B** (Map 2-54)	**C** (Map 2-55)	**D** (Map 2-56)
Brushy Mountain/ English Ridge	0	0	0	5,500
Cahto Peak (Subunit 1)	0	310	0	0
Camp St. Michael (Subunits 3 and 4)	0	50	0	0
Chappie-Shasta (Subunit 3)	0	7,250	0	0
Grass Valley South (Subunit 1)	0	7,700	0	0
Gilham Butte (Subunit 1)	0	0	5,840	5,840
Red Mountain	0	0	0	0
Sacramento River Bend (Subunit 2)	0	6,640	0	0
Trinity Alps (Subunit 4)	0	0	0	0
Yolla Bolly (Subunit 1)	0	0	0	30
Yolla Bolly (Subunit 2)	0	0	0	180
Yolla Bolly (Subunit 3)	0	20	0	20
Total	0	21,970	5,840	11,570
Lands with wilderness characteristics managed to minimize impacts to wilderness characteristics while emphasizing other multiple uses	**A** (Map 3-15)	**B** (Map 2-54)	**C** (Map 2-55)	**D** (Map 2-56)
Brushy Mountain/ English Ridge	0	0	5,500	0
Cahto Peak (Subunit 1)	0	0	310	310
Camp St. Michael (Subunits 3 and 4)	0	0	50	50
Chappie-Shasta (Subunit 3)	0	0	7,250	7,250
Gilham Butte (Subunit 1)	0	0	0	0
Grass Valley South (Subunit 1)	0	0	7,700	7,700
Red Mountain	0	0	320	0
Sacramento River Bend (Subunit 2)	0	0	6,640	6,640
Trinity Alps (Subunit 4)	0	0	220	0
Yolla Bolly (Subunit 1)	0	0	0	0
Yolla Bolly (Subunit 2)	0	0	0	0

Resource, Resource Use, or Special Designation (acres unless noted)	Alternative			
Yolla Bolly (Subunit 3)	0	0	230	0
Total	0	0	28,220	21,950

*Acres are calculated using GIS and are rounded to the nearest 100 or 10 acres.
** Available for livestock grazing, subject to site-specific suitability

2.1.3 Alternative C

Alternative C is similar to Alternative B in that it would manage for multiple use and public enjoyment; however, it would prioritize BLM-administered lands to provide for recreational opportunities and access, travel and utility opportunities, and social and economic benefits. Alternative C would provide more flexibility in management of natural and cultural resources with resource uses, such as mineral development, recreation, livestock grazing, and ROW development. This alternative would prioritize retention and acquisition of lands that provide opportunities for public access. Under Alternative C, management direction would promote active vegetation management to enhance ecosystem resiliency to large disturbances (such as fire, drought, and rain) and protection of infrastructure.

The BLM would establish four SRMAs and nine ERMAs to promote recreational opportunities. Alternative C would designate seven ACECs and determine three eligible river segments suitable for inclusion in the NWSRS. The BLM would continue to manage the designated WSRs to protect and enhance river values, four Section 603 WSAs, and five designated wilderness areas. No lands would be managed as Section 202 WSAs. In addition, 5,840 acres of lands with wilderness characteristics would be managed to protect those characteristics as a priority over other multiple uses; the remaining 28,220 acres would be managed to minimize impacts on wilderness characteristics while emphasizing other multiple uses. Alternative C would make the most acreage available for mineral leasing; however, a large portion of the acreage would have stipulations, such as no surface occupancy.

2.1.4 Alternative D (Proposed Alternative)

Alternative D would strike a balance between creating opportunities for resource uses, such as recreation, motorized and mechanized travel, and livestock grazing, and maintaining ecological function and meeting land capability to protect habitat connectivity. The BLM would prioritize lands for retention and acquisition comparable to Alternative B, while also prioritizing acquisition of lands that provide public access. Alternative D would provide similar opportunities for recreation and improved access as Alternative C by designating four SRMAs and eight ERMAs. Alternative D would also designate 26 ACECs.

The BLM would identify 62 eligible river segments as suitable for inclusion in the NWSRS under Alternative D. The BLM would continue to manage the designated WSRs to protect and enhance river values, four Section 603 WSAs, and five designated wilderness areas. The BLM would manage 540 acres of lands with wilderness characteristics as Section 202 WSAs. In addition, 11,570 acres of lands with wilderness characteristics would be managed to protect those characteristics as a priority over other multiple uses; the remaining 21,950 acres would be managed to minimize impacts on wilderness characteristics while emphasizing other multiple uses.

2.2 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The following alternatives were considered but eliminated from detailed analysis. This is because they do not meet the purpose of and need for the RMP (see **Section 1.2**) or because they do not fall within technical, legal, or policy constraints for BLM-managed resources and resource uses.

2.2.1 Recommending Wilderness Designation by Congress

Although the BLM inventoried wilderness characteristics and will analyze the impacts on those characteristics, it does not intend to make wilderness designation recommendations in this plan. Nonetheless, the plan will provide sufficient detail to support designation recommendations should the Secretary of the Interior choose to pursue such options. The BLM has considered a full range of reasonable alternatives addressing how, where practical, it will manage certain lands managed for wilderness characteristics as a priority for the appearance of naturalness, solitude, and outstanding opportunities for primitive and unconfined recreation.

2.3 DEVELOPMENT OF THE PROPOSED RMP

The Proposed Alternative is a modification of Alternative D that was analyzed in the Draft RMP/EIS. In developing the Proposed Alternative, the BLM made modifications based on its internal review, new information and best available science, the need for clarification in the RMP, and ongoing coordination with stakeholders. The BLM also received substantive public comments on the Draft RMP/EIS (**Appendix K**), which informed the BLM's development of the Proposed Alternative. Changes in BLM regulations, policy, and guidance were also considered.

2.4 MANAGEMENT GUIDANCE FOR THE ALTERNATIVES

Table B-1 in **Appendix B** is a description of all management decisions proposed for each alternative, including goals and objectives. All decisions in **Table B-1** are land use plan-level decisions. Additional information, including instructions on how to read **Table B-1** are included in **Appendix B.**

2.5 SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

Table 2-2 summarizes the impacts from planning-level direction across alternatives on each topic area evaluated in **Chapter 3** and **Appendix D**. Impacts that are the same across one or more alternatives are indicated by combining cells in the table or by denoting those impacts as "same as under Alternative B," for example. In general, this summary seeks to compare the impacts that each alternative would have related to the topic area, often by highlighting the differences among alternatives. For a full analysis of impacts by alternative, see **Appendix D**.

Table 2-2
Summary Comparison of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Resources			
Air Quality and Climate			
Resource uses would continue to be a source of criteria pollutant, toxic air pollutant, and GHG emissions that would have associated direct and indirect impacts on air quality and climate change in the planning area, primarily from recreation and travel management, livestock grazing, development in ROWs, vegetation management (mainly prescribed fire), and mineral materials disposal. Direct impacts would continue to occur from vehicle and equipment-related combustion emissions and fugitive dust generation from surface-disturbing activities. Indirect impacts would continue to occur from activities that expose soils and create conditions for windblown dust. Management actions for soils are generally projected to continue to result in increased vegetation (density and height), lower overall surface and soil disturbance, and lower overall wind and water surface erosion. This would continue to result in reductions in windborne particulates from reduced erosion of exposed soils as vegetation improves over time. It would also continue to result in increased carbon sequestration. The 54,600 acres that would be managed as ACECs, 58,490 acres designated as wilderness or managed as WSAs, and 201.7 miles of eligible WSRs would continue to provide protection to air resources and maintenance of carbon sequestration from limitations on surface disturbance and emission-generating activities. There would continue to be no units managed as lands with wilderness characteristics.	Direct and indirect impacts on air quality would be similar to those described under Alternative A for recreation and travel management, livestock grazing, development in ROWs, and vegetation management. This is because there would be no appreciable difference in areas open to grazing, similar areas would be closed to vehicle travel, similar areas would be open to renewable energy development, and similar impacts and mitigations for discrete prescribed fire treatments would occur. With more acres closed to mineral leasing and mineral development, Alternative B potentially would have fewer air quality impacts and fewer GHG contributions than Alternative A related to mineral development. Management actions for soils would have similar benefits as described under Alternative A. Under Alternative B, 88,820 acres would be managed as ACECs, 58,490 acres would continue to be designated as wilderness or would be managed as WSAs, 12,090 acres would be managed as Section 202 WSAs, and there would be 201.7 miles of suitable WSRs. In addition, the BLM would manage 21,970 acres to protect wilderness characteristics. The greater acreage managed for these uses would increase air quality protections and potentially maintain carbon sequestration more than under any other alternative.	Direct and indirect impacts on air quality would be similar to those described under Alternative B. Management actions for soils would have similar benefits as described under Alternative A. Under Alternative C, 42,430 acres would be managed as ACECs, 58,490 acres would continue to be designated as wilderness or would be managed as WSAs, and there would be 14.2 miles of suitable WSRs, In addition, the BLM would manage 5,840 acres to protect wilderness characteristics. The greater acreage managed as for these uses would have air quality protections and carbon sequestration similar to Alternative A.	Direct and indirect impacts on air quality would be similar to those described under Alternative B. Management actions for soils would have similar benefits as described under Alternative A. Under Alternative D, 87,890 acres would be managed as ACECs, 58,490 acres would continue to be designated as wilderness or would be managed as WSAs, 540 acres would be managed as Section 202 WSAs, and there would be 147.2 miles of suitable WSRs. In addition, the BLM would manage 11,570 acres to protect wilderness characteristics. The greater acreage managed as for these uses would increase air quality protections and potentially maintain carbon sequestration more than under Alternatives A and C.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Soil Resources			
Soil resources would continue to be impacted by actions that remove vegetation and expose the surface to accelerated wind and water erosion. Existing management would continue current acreage allowances and practices for ROWs, grazing, mineral development, recreation and OHV use, special designation areas, and forestry/fire/vegetation management. Under Alternative A, 186,900 acres would remain available for livestock grazing; however, only 62,600 acres are within active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas where grazing allotments are active. Under Alternative A, the BLM would continue to utilize existing soil management approaches to protect soil resources. Areas with sensitives soils or degraded areas could continue to be at risk for erosion from authorized activities, resource uses, and/or natural disturbance(s). Additionally, existing mitigation and management measures may not align with current standards, may not take into consideration current technology and mapping, and may not utilize current science for best management practices (BMPs) to address soil erosion and soil resources. However, there are some standards in place that would minimize potential impacts with ongoing current *management* strategy, including Rangeland Health Assessments, sediment source assessments, and effectiveness/implementation monitoring for BMPs for many ground-disturbing activities pursuant to Clean Water Act compliance. Current management would also include protection measures for sensitive soils such as decomposed granite and serpentine ultramafic soils, which would continue to protect these sensitive soils.	As described under Alternative A, soil resources would be impacted by actions that remove vegetation and expose the surface to accelerated wind and water erosion. Under Alternative B, the BLM would prioritize designated areas for resource protection and strive to minimize overall ground disturbance. Alternative B also would provide for more protection of sensitive soils by closing these areas to mineral development. There would also be fewer acres available for grazing with active grazing allotments (62,000 acres) as compared to Alternative A. In addition, during implementation-level travel planning, redundant routes within the Grass Creek watershed would be closed to address sediment impairment. Impacts on soil resources would continue from resources uses and natural processes but may be reduced when compared with Alternative A due to an increased focus on restoration of degraded areas, the increase in acreage of designated areas, and the management of areas of sensitive soils as ROW avoidance.	As described under Alternative A, soil resources would be impacted by management actions that remove vegetation and expose the surface to accelerated wind and water erosion. There would also be more acres available for grazing with active grazing allotments (64,500 acres) as compared to Alternative A. Management of soil resources would be less protective than under Alternative B, allowing for mineral materials development in the floodplain, if it is consistent with natural and cultural resource goals. Alternative C would allow activities on sensitive soils with inclusion of a stormwater prevention plan and BMPs specified by BLM. This alternative would allow dredging (except in ACECs to protect fisheries and anadromous streams). Overall, effects on soil resources would be similar to those described under Alternative A.	As described under Alternative A, soil resources would be impacted by actions that remove vegetation and expose the surface to accelerated wind and water erosion. Management of soil resources would be similar to that described for Alternative B, except that Alternative D would allow for mineral materials development in the floodplain, if it is consistent with natural and cultural resource goals. There would also be fewer acres available for grazing with active grazing allotments (59,000) as compared to Alternative A. Overall, effects on soil resources would be more protective than under Alternatives A and C but less protective than under Alternative B.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Water Resources			
This alternative would continue to have the highest potential for impacts on watershed health and water quality based on areas remaining open for ROW use (312,000 acres), while designating approximately 58,500 acres as ROW exclusion areas. Alternative A would have the second highest acreage available for grazing (186,900 acres); however only 62,600 acres would continue to be managed as grazing allotments. Existing management would continue with existing acreage allowances and practices for ROWs, grazing, mineral development, recreation and OHV use, special designation areas, and forestry/fire/vegetation management. Alternative A would continue to utilize existing soil management approaches to protect water resources.	Alternative B would result in the least potential impacts on water resources among the alternatives based on acreage. This alternative would have the least acreage designated as open for ROW use (110,800 acres). This would protect water resources by limiting disturbance. There would be 232,800 acres available for livestock grazing under Alternative B. However, only 62,000 acres would continue to be managed as grazing allotments, which would be a reduction from Alternative A. Alternative B would update and enhance the BLM's current efforts to manage streams and rivers for beneficial waters. Water quality would continue to be managed through existing and newly developed BMPs in coordination with State of California agencies. In particular, almost all surface-disturbing activities would be prohibited within the active floodplain. During implementation-level travel planning, redundant routes within the Grass Creek watershed would be closed to address sediment impairment, with associated beneficial effects on water resources.	Alternative C would result in an intermediate level of impacts on water resources among the alternatives based on a balance of acreages with potential surface disturbance for various uses, including the highest amount open for grazing at approximately 271,800 acres, and the second highest amount open for ROW authorizations (121,300 acres). While 271,800 acres would be available for livestock grazing under Alternative C, only 64,500 acres would continue to be managed as grazing allotments, which would be an increase from Alternative A. Alternative C would update and enhance the BLM's current efforts to manage streams and rivers for beneficial waters. Water quality would continue to be managed through existing and newly developed BMPs in coordination with State of California agencies. In particular, BLM-permitted surface-disturbing activities would be allowed within the active floodplain.	Alternative D would result in an intermediate level of impacts on water resources among the alternatives. The balance of acreages with potential surface disturbance would be similar to Alternative A, including similar acreage available for grazing (188,600 acres), with acres available for ROW authorizations (108,600 acres) similar to Alternative B. While 188,600 acres would be available for livestock grazing under Alternative D, only 59,000 acres would continue to be managed as grazing allotments, which would be a reduction from Alternative A. Like Alternative C, Alternative D would update and enhance the BLM's current efforts to manage streams and rivers for beneficial waters. Water quality would continue to be managed through existing and newly developed BMPs in coordination with State of California agencies. BLM-permitted surface-disturbing activities would be allowed within the active floodplain.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Vegetation			
The BLM would continue to manage vegetation on a case-by-case basis, per direction contained in the existing RMPs. Desired conditions would not be defined or managed for; this means that movement toward these conditions would be slower than using a landscape-scale approach proposed under the action alternatives. The range of available vegetation treatment methods also would be more limited. The BLM would continue to carry out special status plant management in management areas with known plant occurrences. This would be done to maintain and improve the extent and condition of known occurrences (for instance, dune-associated rare plants at Samoa Dunes and Manila Dunes, serpentine-associated species at Red Mountain, vernal pool species in the Sacramento Valley, and rare cypress stands in the Ishi Management Area). Invasive nonnative plant species would continue to be managed to meet management area goals and objectives. Following standard operating procedures for identifying, treating, and monitoring nonnative, invasive plants during vegetation treatments would continue to reduce the potential for their establishment and spread. Management to bring back low-intensity prescribed fire to fire-adapted ecosystems would be done on a case-by-case basis with a site-specific analysis; this would hinder widespread use of this beneficial tool on the landscape compared with the other alternatives. Vegetation benefits would be a secondary effect of proposed treatments. Carrying out prescribed fire treatments would move treated areas toward desired conditions and improve ecological resilience, but requirements to implement treatments would likely mean the overall acres treated would continue to remain relatively low.	Defining and managing for desired conditions for each vegetation cover type, considering anticipated future climate conditions, would increase the resistance and resilience to disturbance in the face of climate change under all action alternative to a greater extent than under Alternative A. Expanding available treatment methods to include more widespread use of prescribed fire would improve the structure, function, and resilience of fire-adapted vegetation cover types. A summary of anticipated effects by cover type is below: • In chaparral shrubland, improved structural, age class, and species heterogeneity would improve resistance from climate-driven disturbances like uncharacteristically large and severe fire. • Coastal forests would be managed to maintain condition and function in response to natural processes; removing encroaching conifers in interspersed coastal prairies may reduce coastal forest extent. • Removing encroaching conifers in coastal prairie would maintain or increase the extent of this community, and prescribed fire, native plantings, and soil amendments would improve the structure and function. • Emphasizing conifers and promoting late seral stand structure would shift structural composition of Douglas-fir and tanoak-dominated forests. This would, minimize the effects of sudden oak death infection, reduce fuels, and lower severe fire risk, maintaining the extent and condition in the long term. • Invasive plant removal in coastal dunes would maintain and improve habitat suitability for rare plants. Allowing inland retreat would minimize habitat loss in the long term. • Enhancing oak regeneration in the oak woodland type would shift the structural composition, reduce the fire risk, improve ecological function, and improve opportunities for traditional use and harvest. • Improving hydrological connectivity in grassland, vernal pool, and wetland cover types would improve the condition and function. Prescribed fire would promote native perennial grasses and forbs, improving pollinator and wildlife habitat and habitat conditions for rare plant species. • Restoring the fire regime in knobcone would improve stand structure and help to maintain this cover type. • Improving stand structure in the mixed conifer type would improve structure, function, and resilience. • Enhancing oak regeneration and native perennial grassland understory in the oak savannas and open woodlands type would improve ecological condition and opportunities for traditional use and harvest. • Reducing conifer encroachment and restoring the historical fire regime, and promoting cypress regeneration in the rare cypress forest type would maintain the extent and improve the structure and function. • Restoring degraded areas and enhancing floodplain connectivity in the valley foothill riparian type would increase the extent and improve the structure and function. Management for known special status plant species would continue to maintain the extent and condition; however, improved vegetation cover type structure and function, as described above, would improve conditions for rare plant species and improve resilience in the face of climate change. An increased focus on eradicating small, cross-jurisdictional infestations and monitoring high-threat and high-value areas, such as motorized routes and ACECs would improve invasive nonnative plant control effectiveness. This would improve ecological function in affected vegetation cover types and areas that support rare plants. The BLM would manage vegetation in response to observed and anticipated human development, fire, and climate trends. Implementing specific fuels prescriptions by vegetation cover type and proximity to human development would facilitate movement toward desired conditions while protecting human developments. Prioritizing fuels treatments to mimic historical fuels conditions would move vegetation towards historical conditions. A programmatic hazardous fuels reductions NEPA analysis would enable faster pace and more widespread scale of prescribed fire treatments and vegetation benefits, and prescribed fire could be used as a primary tool to meet vegetation objectives.		
Continuing to manage riparian management areas according to the Aquatic Conservation Strategy objectives in the 1994 NWFP would help maintain the distribution, connectivity, and ecological integrity of riparian vegetation where these reserves are managed. Greater protections would be afforded to fish-bearing streams as outlined in the objectives and the existing RMPs for the Redding and Arcata FOs.	The location, extent, and management of riparian management areas would be based on the type and hydroperiod of the aquatic resource. This would increase the amount of riparian management areas compared with Alternative A. Basing management on the ecological and hydrological characteristics of the area would facilitate movement toward desired conditions. Designing and implementing watershed restoration projects to promote long-term ecological integrity, using site-appropriate native species, removing invasive, nonnative plants, and reducing fuels would lower the risk of catastrophic fire and improve resilience to future climate-related disturbances like fire and drought.	The proposed management for riparian management areas would be similar across all action alternatives, but riparian management area widths would generally be narrower under Alternative C. Effects on riparian condition, function, and resilience would be similar to those described for Alternative B, but would occur in fewer areas.	Effects on vegetation in riparian management areas would be the same as under Alternative B.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Wildlife			
Alternative A would continue current management direction and prevailing conditions, with the focus of wildlife management on avoiding jeopardizing the existence of any federally listed, state-listed, or proposed species, actively promoting species recovery, and improving the status of candidate and sensitive species. This would continue to benefit species status species. Other wildlife species that use similar habitat types would also likely continue to benefit from protections. Because current wildlife management does not focus on widespread protection or enhancement of all wildlife habitats and vegetation types, not all wildlife species may experience the same protections. By continuing to manage vegetation and forest as Management Areas rather than by vegetation cover class, desired conditions for wildlife habitat could take longer to be realized than under the action alternatives, potentially resulting in more homogenous conditions that may support a lower diversity of wildlife species relative to the natural range of variation and habitat that is less resilient to disturbance and stressors, with resultant impacts on wildlife. Because management for essential connectivity corridors are not specified under Alternative A, the BLM could miss opportunities to pursue land allocations and/or water rights to benefit wildlife habitat, including big game and riparian habitat more than under the action alternatives.	Alternative B would emphasize habitat connectivity and resilience and thus would be the most proactive in promoting conservation and recovery of threatened, endangered, and other special status species. It would prioritize actions that promote and maintain corridors of relatively undeveloped areas to provide habitat connectivity and to serve as a resilient refuge to ongoing development and climate change. Alternative B would also have more protection for sensitive amphibian species than the other alternatives. The BLM would survey and establish buffers for these species and prioritize acquiring lands for essential habitat connectivity corridors. Including more areas of ACECs—with increased protections in some cases—under Alternative B would benefit wildlife and their habitats as a result of decreased disturbances and reduced potential for habitat alterations more than under the other alternatives.	Alternative C would prioritize management actions that promote ecosystem resiliency to large disturbances (such as: fire, drought, and rain). This could lead to short-term adverse effects on wildlife but long-term beneficial effects from the reduced risk of habitat loss due to disturbance. Land tenure adjustments under Alternative C would increase habitat connectivity for big game species more than under Alternative A but less than under Alternatives B and D. Including fewer areas as ACECs would reduce protections to wildlife and their habitats as a result of increased disturbances and potential for habitat alterations to the extent that these protections are not provided through other designations.	Alternative D would provide a balance between wildlife management and other land uses, including treatments to prioritize ecosystem resiliency. Like Alternative C, this could lead to short-term adverse effects on wildlife but long-term beneficial effects from the reduced risk of habitat loss due to disturbance. Land tenure adjustments under Alternative D would increase habitat connectivity for big game species would be similar to Alternative B. Including more acres of ACECs—with increased protections in some cases—would benefit wildlife and their habitats as a result of decreased disturbances and reduced potential for habitat alterations, but to a lesser extent than under Alternative B.
Without specific management for cave and karst resources, habitat for bats would not be protected and bat species could be at risk of disturbance, habitat degradation, and spread of white-nosed syndrome more than under the action alternatives. Likewise, lack of specific management for pollinator species may lead to habitat loss or degradation for pollinator species, such as monarch butterflies.	The action alternatives would implement guidance for protection of caves and mines that are used as roost sites for bats, which would help reduce threats from disturbance, habitat degradation, and potential spread of disease. Overall, the action alternatives would protect bats and their habitats and promote the recovery of sensitive bat species more than Alternative A. The action alternatives also would implement specific management actions to maintain and enhance pollinator habitat, which would have beneficial impacts on pollinators and other wildlife species associated with these habitat types more than under Alternative A.		
Fish and Aquatic Species			
Under Alternative A, fish and aquatic species would continue to have the potential be affected by surfacing-disturbing activities that alter riparian habitat, while specially designated areas would continue to provide protections by limiting habitat-alternating actions that can occur in these areas. Based on the acres available to ROW authorization, OHV use, and grazing; acres managed as ACECs, VRM Class I and II, and WSR corridors; and acres managed for wilderness characteristics, Alternative A would have the second-highest overall impacts on fish and aquatic habitat among the alternatives.	Under Alternative B, fish and aquatic species would continue to have the potential be affected by surfacing-disturbing activities that alter riparian habitat, while specially designated areas would continue to provide protections by limiting habitat-alternating actions that can occur in these areas. Based on the acres available to ROW authorization, OHV use, and grazing where active allotments occur; acres managed as ACECs, VRM Class I and II, and WSR corridors; and acres managed for wilderness characteristics, Alternative B would have the fewest overall impacts on fish and aquatic habitat (similar to Alternative D).	Under Alternative C, fish and aquatic species would continue to have the potential be affected by surfacing-disturbing activities that alter riparian habitat, while specially designated areas would continue to provide protections by limiting habitat-alternating actions that can occur in these areas. Based on the acres available to ROW authorization, OHV use, and grazing where active allotments occur; acres managed as ACECs, VRM Class I and II, and WSR corridors; and acres managed for wilderness characteristics, Alternative C would have the most overall impacts on fish and aquatic habitat.	Under Alternative D, fish and aquatic species would continue to have the potential be affected by surfacing-disturbing activities that alter riparian habitat, while specially designated areas would continue to provide protections by limiting habitat-alternating actions that can occur in these areas. Based on the acres available to ROW authorization, OHV use, and grazing where active allotments occur; acres managed as ACECs, VRM Class I and II, and WSR corridors; and acres managed for wilderness characteristics, Alternative D would have the fewest overall impacts on fish and aquatic habitat (similar to Alternative B).

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Coastal Resources and Management			
This alternative would have the highest potential for impacts on coastal resources, primarily due to a lack of management direction in the current plans. For example, Alternative A would not include management actions for coastal resiliency, and it would include fewer protections for habitat, vegetation, and wildlife, and fewer restrictions for land tenure and minerals decisions.	This alternative would result in the lowest level of impacts on coastal resources. It would place the most protections on sensitive habitat and wildlife, and the most restrictions on OHV travel, recreation, land tenure decisions, and minerals decisions. These would minimize land and habitat disturbance. This alternative would be the most proactive in managing for coastal resiliency in the face of rising sea levels and climate change. It also would maximize the ability of coastal resources to move and adapt to the change in sea level. A focus on land acquisitions for habitat and resiliency purposes would maximize opportunities to promote coastal resilience.	This alternative would prioritize recreation and human activities and would therefore allow more disturbance of coastal resources. It would result in more surface disturbance than Alternatives B and D from recreation, OHV travel, land tenure decisions, and minerals actions. A focus on land acquisitions for recreation purposes would limit opportunities to promote coastal resiliency. Although surface disturbance would be greater than under Alternatives B and C, impacts would be reduced compared with Alternative A due to protective regulations and mitigations.	There would be more impacts from surface disturbance than under Alternative B, but less than under Alternative C. This alternative would be more restrictive on recreation, OHVs, and land tenure and minerals management decisions than Alternatives A and C, but it would have fewer protections for wildlife and habitat than Alternative B.
Wildland Fire Management			
Management actions designed to reduce the amount of vegetation fuels within the planning area under Alternative A would aid in fire suppression efforts. However, continued fire suppression in most areas would increase the amount of fuel within the planning area, having an impact on BLM's ability to suppress and manage wildland fires. This alternative would have the least impact on the fire program.	Alternative B would prioritize construction and maintenance of shaded fuel breaks along with low-to-moderate intensity prescribed burns. These would lead to moderated wildfire behavior when compared with Alternative A. Restoration of suppression lines to the original contour and vegetation to minimize the visual contrast would be required under this alternative. This action could hinder future wildfire suppression efforts. Treatments to remove nonnative species would also be prioritized. This would lead to moderated fire behavior and more successful post-fire restoration than under Alternative A.	Alternative C would maintain suppression lines, as appropriate, as long-term, strategic fire breaks. This would enhance suppression efforts for a longer duration than under Alternatives A and B. Where special designations and interface zones conflict, treatments would be prioritized to protect Interface Zones. This would prioritize protection of human life and property as opposed to special designation areas, as would occur under Alternative B.	Alternative D would provide a more cohesive and holistic strategy for wildland fire management than what is proposed under Alternatives A, B, and C. Alternative D would consider many varied factors and resource objectives. This alternative would have the greatest impact on fire and fuels as compared with the other alternatives.
Cultural Resources			
Management of cultural resources is governed by a number of regulations, executive and secretarial orders, and other policies. Of those, the most relevant is the National Historic Preservation Act, which requires federal agencies to identify historic properties, while also assessing potential effects on historic properties stemming from all federal undertakings. If adverse effects are found, these must be avoided, minimized, or mitigated through the Section 106 consultation process. Under Alternative A, these policies and practices would continue. While current management does provide additional approaches and guidance specific to certain resources and the intersections with cultural resources, these vary in scope and direction. Reducing impacts on cultural resources would largely continue through the Section 106 consultation process, compliance with other relevant federal regulations, and other policies.	Under Alternative B, the BLM would implement several comprehensive cultural resource management approaches tailored to resource types and uses not addressed under Alternative A. The increased emphasis on cultural resources as part of the wholistic management strategy would provide a more cohesive framework that the BLM would be able to apply throughout the decision area. In addition to these practices, as well as the continued requirements to address potential effects through the Section 106 consultation process and compliance with other federal regulations, Alternative B would increase special designations and other protective overlays that would reduce the amount of acreage available for potential surface-disturbing uses. Collectively, these conditions would reduce the potential for impacts on cultural resources compared with the current management practices under Alternative A.	Impacts under Alternative C would be similar to those described for Alternative B; this is because the BLM would implement comprehensive cultural resource management approaches tailored to other resource types and uses, in addition to required assessments of potential adverse effects on cultural resources through the Section 106 process. However, Alternative C would provide less protections and restrictions on resource uses than Alternative B. Alternative C's levels would generally be more reflective of the conditions under Alternative A, but overall changes to management and continued project-level review would offset impacts on cultural resources compared with Alternative A.	Impacts would be similar to those described for Alternative B; this is because the BLM would implement comprehensive cultural resource management approaches tailored to other resource types and uses. As with all other alternatives, an assessment of potential adverse effects on cultural resources would also be required under Alternative D through the Section 106 consultation process. Generally, Alternative D would provide a mixture of protective special designations and available resource uses that reflect a compromise between Alternatives B and C. The increased use, however, would primarily be in the form of increased recreation. While increased recreation and visitation have the potential to impact cultural resources directly and indirectly, specific management practices and increased education in areas of cultural significance and high visitor use would offset some of these potential impacts. Further recreation planning and other strategies at the specific plan or project design phases would further address these potential effects on cultural resources through the Section 106 consultation process. This alternative would likely result in fewer potential impacts than Alternative A.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Paleontological Resources			
There are no current management goals, objectives, decisions, or actions for paleontological resources in any of the current management plans with the exception of requirements under the Geothermal Amendment (2008). While management direction for paleontological resources is limited, current management practices under Alternative A would adhere to applicable laws protecting these nonrenewable resources. In general, the BLM manages fossils to promote their use in research, education, and recreation in accordance with the Paleontological Resources Preservation Act (PRPA), Subtitle D of the Omnibus Public Land Management Act of 2009 (16 USC 470aaa through 470aaa-11), and the general guidance of FLPMA and NEPA.	Under Alternative B, formalizing goals, objectives, and management direction would result in better protection of paleontological resources than under Alternative A. In addition, prioritizing areas with high sensitivity potential for paleontological resources for retention and acquisition would maintain or increase protections in more of the planning area than under Alternative A. Under Alternative B, less acreage would be available for some surface-disturbing activities, including mineral materials, ROW OHV uses. Conversely, more land in SRMAs and ERMAs could increase potential impacts on paleontological resources from concentrated recreation than under Alternative A. In addition, impacts from livestock grazing may be greater due to more acres being available for grazing than under Alternative A. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to the 62,000 acres managed as active grazing allotments under Alternative B. More acres within designated ACECs and, within suitable WSRs, as well as increased management for other resources including wildfire, visual resources, coastal resources, wilderness characteristics, and caves and karsts would benefit paleontological resources through regulated surface disturbance and human use.	Implementing management specific to paleontological resources would have the same effects as described for Alternative B. As with Alternative B, areas with paleontological resource potential would be prioritized for land retention and acquisition. With a focus on resource uses, impacts on paleontological resources under this alternative may be greater than described for the other alternatives. A small increase in potential impacts is anticipated from OHV travel and livestock grazing. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to the 64,500 acres managed as active grazing allotments under Alternative C. In addition, more land would be included in SRMAs and ERMAs with the potential for increased impacts from concentrated recreation. Under Alternative C, fewer ACECs would be designated than under any other alternatives with more potential for impacts from surface disturbance and human use.	Implementing management specific to paleontological resources would have the same effects as described for Alternatives B and C. As with Alternatives B and C, areas with paleontological resource potential would be prioritized for land retention and acquisition. Impacts on paleontological resources from ROW management would be expected to be less than under Alternative A, the same as under Alternative B, and slightly less than Alternative C. Impacts from RMAs would be nearly the same as under Alternative C, and higher than under Alternatives A or B. Impacts from livestock grazing may be greater due to more acres being available for grazing than under Alternative A. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to the 59,000 acres managed as grazing allotments under Alternative D. Protections from designated ACECs would be similar to Alternative B and more than under Alternatives A or C.
Visual Resources			
Under Alternative A, 16 percent of the planning area would be in VRM Classes I and II, providing preservation and minor changes to the visual environment, Alternative A would have the least protections of all the alternatives. Under Alternative A, 83 percent of the planning area would be in VRM Classes III and IV. These classes allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.	Under Alternative B, 36 percent of the planning area would be in VRM Classes I and II, providing preservation and minor changes to the visual environment; this alternative would offer the most protections of all the alternatives. Under Alternative B, 63 percent of the planning area would be in VRM Classes III and IV, which would allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.	Under Alternative C, 20 percent of the planning area would be in VRM Classes I and II, providing preservation and minor changes to the visual environment. Alternative C would offer the third-most protections of all the alternatives. Under Alternative C, 79 percent of the planning area would be in VRM Classes III and IV, which would allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.	Under Alternative D, 27 percent of the planning area would be in VRM Classes I and II areas, providing preservation and minor changes to the visual environment; this alternative would have the second-most protections of all the alternatives. Under Alternative D, 73 percent of the planning area would be in VRM Classes III and IV areas, which would allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Cave and Karst Resources			
Under Alternative A, there are no current management objectives, decisions, or actions for cave and karst resources in any of the existing planning documents. As management designed specifically to protect cave and karst resources does not exist, potential impacts to cave and karst resources may not be specifically avoided and subsequent damages would continue to occur. Alternative A includes 186,900 acres of lands available for livestock grazing; however, only 62,600 acres are managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. Compared with the action alternatives, the BLM would manage fewer SRMAs and ERMAs and no recreation management zones (RMZs). This would reduce the likelihood of incidental discovery of unknown cave and karst resources as compared with the action alternatives.	Under Alternative B, formalizing goals, objectives, and management direction, including actions that inventory resources and those that restrict uses in areas of sensitive cave and karst resources, would result in better protection of cave and karst resources than under Alternative A. Compared with Alternative A, more land would be included in SRMAs and ERMAs, increasing the potential for incidental discovery and damage to unknown resources, though fewer acres would be in limestone outcrop areas. There is the potential for impacts related to the increase in acres of limestone outcrop areas available for grazing, though more measures to protect these areas would be implemented, which would offset the potential for impact. Impacts from livestock grazing would be limited to 62,000 acres managed as grazing allotments, and the BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. Under Alternative B, fewer acres would be open to mineral materials development, including fewer acres in limestone outcrop areas, providing more protection from this use than under Alternative A.	The BLM would implement the same management specific to cave and karst resources as under Alternative B. Compared with Alternatives A and B, more land would be included in SRMAs and ERMAs, increasing the potential for incidental discovery and damage to unknown resources, including in slightly more limestone outcrop area than Alternatives A and B. The potential for increased impacts from more areas being available for livestock grazing would be the same as Alternative B, with the same measures to protect these areas offsetting the potential for impact. Impacts from livestock grazing would be limited to 64,500 acres managed as grazing allotments, and the BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. Under Alternative C, fewer acres would be open to mineral materials development, including fewer acres in limestone outcrop areas, providing more protection from this use than under Alternative A but less than under Alternative B.	The BLM would implement the same management specific to cave and karst resources as under Alternative B. Increased potential for incidental discovery and damage to unknown resources in SRMAs and ERMAs would be the same as described for Alternative C. The potential for increased impacts from more areas being available for livestock grazing would be the same as Alternatives B and C. Impacts from livestock grazing would be limited to the 59,000 acres managed as grazing allotments, and the BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. Under Alternative D, fewer acres would be open to mineral materials development, including fewer acres in limestone outcrop areas, providing more protection from this use than under Alternative A but less than under Alternative B.
Forestry			
Under Alternative A, continuing to adhere to the existing regulatory framework and BLM forest/vegetation/wildland fire management practices (for example, those contained in BLM manuals and handbooks) would have a beneficial effect on maintaining forest and ecosystem health. However, under Alternative A the health of unmanaged forests and woodlands in the planning area is expected to continue to decline due to fire, pests, pathogens and climate change.	Managing for and promoting a web of ecological benefits that support aquatic health, wildlife species, and botanical species, as well as managing for and promoting resource values related to fire resiliency, safety, and preparedness are integral to Alternative B. The management actions supporting these goals would be more robust and more likely to foster beneficial impacts on resource values than under Alternative A. Compared with Alternative A, Alternative B would better serve the goals and objectives set for forest and ecosystem health, water quality, and fire resiliency. Under Alternative B, where these two themes conflict, the BLM would give more deference to the goals relating to the web of ecological benefits that support aquatic health, wildlife species, and botanical species than those related to wildland fire management under Alternatives C or D. Goals relating to fire resiliency, safety, and preparedness would still be highly prioritized. This would increase the pace and scale of forest restoration management when compared with Alternative A except in late successional areas.	As with Alternative B, managing for and promoting a web of ecological benefits, as well as managing for and promoting resource values related to fire resiliency, safety, and preparedness are integral to Alternative C. As with Alternative B, management actions supporting these goals are more likely to foster beneficial impacts on resource values than under Alternative A. Compared with Alternative A, Alternative C would better serve the goals and objectives set for forest and ecosystem health, water quality, and fire resiliency. Under Alternative C, where these two themes conflict, more deference would be given to the goals relating to fire resiliency, safety, and preparedness than under Alternatives B or D. Goals relating to the web of ecological benefits that support aquatic health, wildlife species, and botanical species would still be highly prioritized. The pace and scale of forest restoration management actions would increase compared with Alternative A.	As with Alternatives B and C, managing for and promoting a web of ecological benefits, as well as managing for and promoting resource values related to fire resiliency, safety, and are integral to Alternative D. As with the other action alternatives, management actions supporting these goals are more likely to foster beneficial impacts on resource values than under Alternative A and better serve the goals and objectives set for forest and ecosystem health, water quality, and fire resiliency. Under Alternative D, more of a balance would be struck that addresses resource conflicts between these two themes than under Alternatives B and C. Emphasis would be placed on management promoting late- seral forest characteristics that collectively benefit wildlife and riparian habitats, recreational needs, cultural resources, community stability, and commodity production, including commercial timber and other forest products.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Lands and Realty			
Land Tenure			
Disposal: The BLM would identify 101,000 acres (26 percent of the decision area) as potentially suitable for disposal. Beneficial impacts would occur related to the manageability of lands and public access; potential adverse impacts on protected resources would be minimized through environmental review. Retention: The BLM would identify 281,400 acres (74 percent of the decision area) for retention. The BLM would acquire lands that complement important resource values, further management objectives, and provide or maintain access to all BLM administered lands when feasible. All existing withdrawals would be continued. New withdrawal proposals would continue to be analyzed on a case-by-case basis.	Disposal: Under Alternative B, the BLM would identify 6,000 acres (2 percent of the decision area) as potentially suitable for disposal. The BLM would dispose of parcels adjacent to Tribal lands to Tribes. Issues with survey-related unauthorized use and occupancy within the Trinity WSR would not be resolved. Retention: Under Alternative B, the BLM would identify 376,500 acres (98 percent of the decision area) for retention. Retention would have beneficial impacts on natural resource refugia that contribute to climate change resiliency, ECCs of high biological value, important wildlife habitat, and cultural resources. Under Alternative B, acquisition criteria would result in greater beneficial impacts on climate, wildlife, vegetation, water resources and wetlands, fish and aquatic species, coastal resources, cave and karst resources, visual resources, and wilderness resources than under Alternative A. All existing withdrawals would be continued. New withdrawal recommendations would have beneficial impacts on cultural resources, recreation sites, communication sites, WSRs, lands with wilderness characteristics, and certain ACECs.	Disposal: Under Alternative C, the BLM would identify 49,400 acres (13 percent of decision area) as potentially suitable for disposal. The BLM would dispose of isolated parcels without access, lands too small to manage effectively, and BLM inholdings within or adjacent to National Forest System and NPS lands to consolidate management. This would improve manageability of BLM-administered lands in the planning area. Retention: Under Alternative C, the BLM would identify 333,100 acres (87 percent of the decision area) for retention. Designating lands for retention would result in beneficial impacts because it allows the BLM to better serve the public interest by maintaining public access and recreational opportunities and ensuring continued protection of natural resources. Under Alternative C, acquisition criteria would result in greater beneficial impacts on recreational and visitor services, travel and transportation, and other public uses than under Alternative A. All existing withdrawals would be continued. New withdrawal recommendations would have the beneficial impacts described under Alternative B.	Disposal: Under Alternative D, the BLM would identify 5,900 acres (2 percent of the decision area) as potentially suitable for disposal. The BLM would dispose of parcels adjacent to Tribal lands. Retention: Under Alternative D, the BLM would identify 376,600 acres (99 percent of the decision area) for retention. Retention would have beneficial impacts on natural resource refugia that contribute to climate change resiliency, ECCs of high biological value, important wildlife habitat, cultural resources, manageability of BLM and National Forest System land but may limit the BLM's ability to consolidate public lands and acquire additional resources through exchange. Under Alternative D, acquisition criteria would have the same impacts as described for both Alternatives B and C. All existing withdrawals would be continued. New withdrawal recommendations would have the beneficial impacts described under Alternative B.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Use Authorizations			
Under Alternative A, 58,500 acres (15 percent of the decision area) would be in ROW exclusion areas; beneficial impacts would occur on Tunnel Ridge Wilderness Area, the Yolla Bolly Contiguous WSA, Black Mountain, Stringtown Mountain, and all eligible WSR study corridors with a preliminary classification as "scenic" or "wild." Under Alternative A, 11,300 acres (3 percent of the decision area) would be ROW avoidance areas; beneficial impacts would occur on designated WSRs, Butte Creek, and Sacramento River Management Area. The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. No changes to BLM's application process for water ROWs, such as restrictions on new water ROWs or wells in impaired watersheds or groundwater priority areas, would be implemented. The lack of protections from new water ROW development would continue.	Under Alternative B, 135,100 acres (35 percent of the decision area) would be in ROW exclusion areas; beneficial impacts would occur on designated wilderness areas, WSAs, LWCs, WSR "Wild" designations, and ACECs and on natural resources due to reduced proliferation of ROWs across landscape. Adverse impacts would occur on minerals, renewable energy, recreation, and transportation due to limited acreage available for ROWs. Under Alternative B, 135,900 acres (36 percent of the decision area) would be in ROW avoidance areas; beneficial impacts would occur on cultural resources, soils, forests, critical habitats, WSRs with "Scenic" and "Recreational" designations, Coastal Strip ECCs of high biological value, and most ACECs. Under this alternative, existing communications sites would be formally designated, resulting in a beneficial impact on visual resources, LSRs, and northern spotted owl 0.5-mile buffer zones due to exclusion of new communication uses. The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. Adverse impacts on apiary uses would occur due to restrictions on dunes, within ECCs of high biological value, within 2.5 miles of sensitive species habitat or large populations of non-native and invasive species, or within 2.5 miles of critically imperiled vegetation. New water ROW authorizations would be considered on a case-by-case basis. Implementing restrictions on new water ROWs or wells in impaired watersheds or groundwater priority areas would enhance protections for impaired waters and groundwater. This would result in increased protections to water quality and groundwater as compared to Alternative A.	Under Alternative C, 94,100 acres (25 percent of the decision area) would be ROW exclusion areas and 166,400 acres (44 percent of the decision area) would be ROW avoidance areas. Beneficial impacts would occur for the same resources described under Alternative B, except there would be more protection for SRMAs and less protection for essential connectivity corridors and certain ACECs. Under this alternative, existing communications sites would be formally designated, resulting in less restrictions than under Alternative B. This would be beneficial for ROW applicants but adverse to visual resources, LSRs, and northern spotted owl 0.5-mile buffer zones. Under this alternative, collocation of new ROWs and communications sites with existing sites would be encouraged but not required. The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. Adverse impacts on apiary uses would occur due to prohibitions within areas open to OHVs, campgrounds, recreation facilities, and within 300 feet of designated trails and trailheads. New water ROW authorizations would be considered on a case-by-case basis. However, no restrictions on new water ROWs or wells would be implemented in impaired watersheds or groundwater priority areas. Impacts to water resources and groundwater would be similar to those under Alternative A.	Under Alternative D, 108,100 acres (28 percent of the decision area) would be ROW exclusion areas; beneficial impacts would occur on the same resources as described for Alternative B. Under Alternative D, 165,200 acres (43 percent of the decision area) would be ROW avoidance areas; beneficial impacts would occur on the same resources as Alternative B as well as on SRMAs. Impacts related to communications sites would be the same as described for Alternative B. The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. Adverse impacts on apiary uses would occur due to prohibitions within OHV open areas, campgrounds, recreation facilities, and 300 feet of designated trails and trailheads. New water ROW authorizations would be considered on a case-by-case basis. The BLM would consider impacts to downstream affected resources when considering applications.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Renewable Energy			
Under Alternative A, there would be no impact on utility-scale solar development or geothermal leasing. Under Alternative A, the BLM would open 312,000 acres (82 percent) of the decision area to renewable energy development with minimal siting considerations. There would be no impact to wind or solar or biomass. Existing hydropower withdrawals or permits would be extended/renewed. Under Alternative A, 201.7 miles of river segments would continue to be managed as eligible, and a 0.1-mile segment would continue to be managed as suitable for inclusion in the NWSRS, making them subject to hydropower development restrictions.	Under Alternative B, there would be no impacts on utility-scale solar development or geothermal leasing Approximately 110,800 acres (29 percent) of the decision area would be open to renewable energy development with minimal siting considerations; additional wind exclusion areas would have a limited impact on wind energy development due to the limited high potential areas and low demand in the decision area. The BLM would consider biomass permits and ROWs on a case-by-case basis; these would be prioritized in areas close to biomass plants. Existing hydropower withdrawals or permits would be extended/renewed. Under Alternative B, 201.7 miles of river segments would be managed as suitable for inclusion in the NWSRS and would be subject to hydropower development restrictions. In areas inside and outside of suitable WSR corridor, the BLM would consider non-FERC regulated, small-scale (less than 10 MW) hydropower applications on a case-by-case basis, provided they would not impede fish passage, wildlife access to water, or basic stream functionality or impact the BLM's ability to manage its surface lands through inundation or other means. Therefore, Alternative B would limit opportunities for new hydropower projects compared with Alternative A.	Under Alternative C, there would be no impact on utility-scale solar development or geothermal leasing. Approximately 121,300 acres (32 percent) of the decision area would be open to renewable energy development with minimal siting considerations; additional wind exclusion areas would have a limited impacts on wind energy development due to the limited high potential areas and low demand in the decision area. Impacts related to biomass would be the same as described for Alternative B. Existing hydropower withdrawals or permits would be extended/renewed. Under Alternative C, 14.2 miles of river segments would be managed as suitable for inclusion in the NWSRS and would be subject to hydropower development restrictions. In areas inside and outside of suitable WSR corridors, the BLM would authorize non-FERC regulated, small-scale (<10MW) hydropower applications on a case-by-case basis in accordance with laws and regulations in place at the time of application.	Under Alternative D, there would be no impact on utility-scale solar development or geothermal leasing. Approximately 108,900 acres (28 percent) of the decision area would be open to renewable energy development with minimal siting considerations; impacts would be similar to Alternative B. Impacts related to biomass would be the same as described for Alternative B. Under Alternative D, 147.2 miles of river segments would be managed as suitable for inclusion in the NWSRS and would be subject to hydropower development restrictions. In areas inside and outside of suitable WSR corridors, impacts from restrictions on small-scale, non-FERC (<10MW) hydropower applications would be the same as those discussed under Alternative B.
Nonrenewable Energy and Minerals			
Leasable Minerals			
While the alternatives identify areas unavailable for mineral leasing and consider stipulations that would be applied to mineral leases in areas that are available for mineral leasing, because of low potential and lack of reasonably foreseeable development, there would be no realized difference between the alternatives in terms of impacts on fluid or solid leasable minerals.			
Locatable Minerals			
Under all alternatives, locatable minerals would be managed to prevent unnecessary or undue degradation of public lands by mining operations. These mining-related activities would be managed by the BLM under 43 CFR 3809. Under 43 CFR 3809, permit applications and monitoring activities would be implemented prior to all mining operations greater than casual use. In addition, the BLM would require all mining developers within the planning area to operate in a manner that does not result in unnecessary or unde degradation, and to perform restoration efforts in accordance with approved reclamation plans. Reclamation plans would meet all criteria outline in 43 CFR 3809.420(b)(3). Under all alternatives, 60,400 acres are withdrawn from locatable mineral entry. Under all alternatives, the BLM would recommend that some areas be withdrawn from mineral entry. A recommendation for withdrawal is a non-binding petition to the Secretary of the Interior, the enactment of a withdrawal is a separate action requiring an implementing action by Congress or the Secretary of the Interior that may not occur, areas recommended for withdrawal would not be withdrawn until further investigation and NEPA analyses can be completed and Secretarial notice is published in the *Federal Register*. No impacts would be realized until this action occurs or if it does not occur. Recommendations for withdrawal from mineral entry do not result in impacts on locatable minerals.			
Under Alternative A, 54,600 acres would be designated as ACECs, 65,300 acres would be managed as eligible WSR segments under the NWSRS, and 59,200 acres would be closed to OHV use. In these areas operations that would otherwise be able to operate per notice-level operation requirements would be impacted by additional expense and time required to complete a plan of operations.	Under Alternative B, 88,820 acres would be designated as ACECs, 65,200 acres would be managed as suitable for inclusion in the NWSRS, and 73,600 acres would be closed to OHV use. In these areas operations that would otherwise be able to operate per notice-level operation requirements would be impacted by additional expense and time required to complete a plan of operations. The total acres of these areas under Alternative B would be 48,520 more than under Alternative A.	Under Alternative C, 42,430 acres would be designated as ACECs, 18,600 acres would be managed as suitable for inclusion in the NWSRS, and 58,800 acres would be closed to OHV use. In these areas operations that would otherwise be able to operate per notice-level operation requirements would be impacted by additional expense and time required to complete a plan of operations. The total acres of these areas under Alternative C would be 59,270 acres less than under Alternative A.	Under Alternative D, 87,890 acres would be designated as ACECs, 51,800 acres would be managed as suitable for inclusion in the NWSRS, and 61,500 acres would be closed to OHV use. In these areas operations that would otherwise be able to operate per notice-level operation requirements would be impacted by additional expense and time required to complete a plan of operations. The total acres of these areas under Alternative D would be 22,090 acres more than under Alternative A.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Mineral Materials			
Alternative A would maintain the current management stipulations closing 81,800 acres of BLM-administered lands and 800 acres of BLM subsurface mineral estate (split estate) to mineral materials disposal. Alternative A would continue to keep 300,400 acres of BLM surface and 294,300 acres of BLM subsurface mineral estate (split estate) open to mineral materials development. There would continue to be eight free use permits (FUPs) issued to Reclamation for river restoration efforts.	Alternative B would close 206,700 acres of BLM-administered lands and 1,300 acres of BLM subsurface mineral estate (split estate) to mineral materials development. Alternative B would allow mineral materials disposal on 175,500 acres of BLM-administered lands and 293,800 acres of BLM subsurface mineral estate (split estate). Under Alternative B, some areas closed to mineral materials development would allow exceptions for mineral materials used for stream or habitat restoration purposes, or consider exceptions on a case-by-case basis. Eliminating these acres from mineral material development would have little effect as the majority of the impacts occur under the approved FUPs. Under these FUPs consumptive uses of mineral materials reserves will occur during restoration projects.	Alternative C would close 167,800 acres of BLM-administered lands and 1,600 acres of BLM subsurface mineral estate (split estate) to mineral materials development. Alternative C would allow mineral materials disposal on 214,400 acres of BLM-administered lands and 293,500 acres of BLM subsurface mineral estate (split estate). Under Alternative C, some areas would allow exceptions for mineral materials used for stream or habitat restoration purposes, or consider exceptions on a case-by-case basis. Eliminating these acres from mineral material development would have little effect as the majority of the impacts occur under the approved FUPs. Under these FUPs consumptive uses of mineral materials reserves will occur during restoration projects.	Alternative D would close 209,600 acres of BLM-administered lands and 5,600 acres of BLM subsurface mineral estate (split estate) to mineral materials development. Alternative D would allow mineral materials disposal on 172,600 acres of BLM-administered lands and 289,500 acres of BLM subsurface mineral estate (split estate). Under Alternative D, some areas closed for mineral materials development would allow exceptions for mineral materials used for stream or habitat restoration purposes, or consider exceptions on a case-by-case basis. Eliminating these acres from mineral material development would have little effect as the majority of the impacts occur under the approved FUPs. Under these FUPs consumptive uses of mineral materials reserves will occur during restoration projects.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Recreation and Visitor Services			
Under Alternative A, the broad range of recreational opportunities available in the decision area would continue. The Interlakes SRMA, Samoa Dunes SRMA, and Forks of Butte Creek SRMA would continue to be managed as they were designated. There would continue to be 40,190 acres of designated SRMAs within the decision area. There would continue to be no ERMAs designated in the decision area. The management direction for most RMAs would continue to be outdated and unable to account for increases in visitor use and changes in recreation technology and activities, such as e-bikes. Management of recreation use, such as camping and shooting, would continue to be outdated generally. The BLM would not be able to respond to new conditions around camping with the comprehensive planning wide decisions. OHV recreation would continue to be based on technology present when the current RMPs were adopted. OHV users would continue to have access to existing OHV open and designated routes. However, e-bike users would continue to lack specified management guidelines and would be limited to motorized trails, which would close certain non-motorized trails to e-bikes that would likely be appropriate. Under Alternative A, there would continue to be outdated management guidelines for lands with wilderness characteristics, ACECs, and WSRs, which would continue to limit recreation opportunity that would be supported by special designations and protections, such as hiking, camping, and wildlife viewing. However, for other forms of recreation, such as OHV use and mountain biking, current management would allow a wide range of access and opportunities that would not occur with updated protections. Special recreation permits (SRPs) would continue to be managed under current guidelines. The BLM would continue to be unable to meet the demand for greater numbers of SRPs and the specific current conditions that require updated SRP guidance. Lack of updated wildfire management actions would continue to threaten locations of high recreation quality, which may continue to not be treated for fire danger. As a result, in the case of a potentially avoidable wildfire, visitor safety and recreation opportunities, experiences, or access may be degraded.	Under Alternative B, only the Chappie-Shasta OHV Area (23,800 acres) would be designated as an SRMA. Additionally, five areas would be designated as ERMAs (21,790 acres total). There would be 45,590 acres of recreation management areas (RMAs) designated under Alternative B. Though less area would be designated as SRMAs, overall recreation opportunities would be provided through expanded ERMAs. Overall, there would be updated management guidance for multiple recreation uses, including camping, shooting, OHV, e-bikes, and trail management. Management under Alternative B would have greater restrictions on camping compared with under Alternative A. Recreational target shooting under Alternative B would provide more specific restrictions on the types of targets and ammunition permissible. Under Alternative B, the BLM would manage e-bikes similarly to OHVs. On natural surface routes in OHV limited areas, e-bike travel would be analyzed and approved on a case-by-case basis. OHV use would be more restricted under Alternative B compared with Alternative A. However, this increase in acres closed to OHVs would result in very few miles of closures of preliminary routes. While these preliminary routes might not exactly match what is on the ground, they do illustrate that there could be some impact on recreational users, but this impact would be relatively minimal. Special designations and protections for lands with wilderness characteristics, ACECs, and WSRs would improve natural quality and scenery important to more primitive forms of recreation. Under Alternative B, SRPs would be issued as a discretionary action for activities that are consistent with resource and program objectives, are within budget constraints, and would not cause public health and safety issues or create user conflicts. The BLM would collaborate with applicable agencies and SRP holders in the SRP application process as necessary to address potential resource limitations and recreational conflicts. Multiple RMAs would have specific SRP guidelines depending on the site-specific needs. More specific guidance for SRP issuance and monitoring would help BLM staff better manage SRP applications and priorities, compared with Alternative A. Fire management would be more proactive, and treatments have the potential to conflict with recreation use due to smoke or noise. However, in the long term, landscapes would be better protected from fire damage, which would maintain scenic quality and recreation safety.	Under Alternative C, the BLM would designate four SRMAs totaling 41,790 acres, and nine ERMAs totaling 46,480. Combined, there would be 88,270 RMAs designated under Alternative C. Compared with Alternative A, there would more acres managed for recreation, including both SRMAs and ERMAs. Alternative C would have the greatest expansion in recreation opportunity and updated management guidelines, similar to Alternative B. The BLM would manage SRPs the same as under Alternative B with the exception of issuing SRPs for the Iron Mountain Target Shooting SRMA. Management of camping would be the same as under Alternative B. Under Alternative C, the Iron Mountain Target Shooting SRMA would be designated, which would provide opportunities for recreational target shooting. All other management for firearm use would be the same as under Alternative B. There would be less acreage closed to OHV use under Alternative C compared with Alternative A. E-bikes would be managed similarly to Alternative B. Under Alternative C, there would be fewer designated ACECs compared with Alternative A. There would also be negligible changes in lands with wilderness characteristics. As a result, there would be expanded recreation opportunities in previously designated areas. Impacts on recreation use due to fire management under Alternative C would be similar to described under Alternative B, with minimal visual differences due to suppression zone maintenance and the location of fuels treatments.	Under Alternative D, SRMA designations would be the same as under Alternative C. Under Alternative D, there would be eight areas designated as ERMAs, totaling 45,880 acres. Compared with Alternative A, more acres would be managed for recreation. Impacts would be the same as described for Alternative C. The BLM would manage SRPs the same as under Alternative C. Acres of OHV closed would be slightly higher than in Alternatives A and C but lower than Alternative B. There would be mixed, but likely minimal, impacts to recreational users from these travel management decisions. E-bike use would be managed the same as under Alternative C. Management under Alternative D would have an increased number of special designations, such as ACECs and lands with wilderness characteristics compared with Alternative A. Impacts on recreation would be the same as described under Alternative B. Impacts on recreation from WSR management would be the same as under Alternative C. Impacts on recreation use due to fire management under Alternative D would be the same as under Alternative C.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Travel and Transportation Management			
There are 59,200 acres identified as closed to OHV travel under Alternative A, and 322,800 acres with OHV travel limited to existing and designated routes. Unlike under the action alternatives, the BLM would not manage SRMAs and ERMAs beyond what is listed as OHV use limited to existing and designated routes. This would have impacts on travel and transportation compared with the action alternatives. The BLM would continue to have a gap in the management of e-bike trails because there would be no management action for e-bike trails. The resulting lack of specific direction would adversely impact travel and transportation management by restricting trail access for e-bike users to motorized trails. Under Alternative A, the BLM would identify fewer acres of land for retention and more acres of lands for disposal compared with the action alternatives. The retention or acquisition of lands could increase access to the transportation network within BLM-administered surface lands, and disposal could result in the elimination of lands that could eventually provide connection between trail networks or isolated parcels of BLM-administered lands. As a consequence, Alternative A would have the greatest degree of adverse impact on travel and transportation with respect to lands for retention or disposal. It is important to note that disposal of inaccessible or isolated parcels to acquire land around popular recreation sites has been a part of disposal decisions under Alternative A to improve public access. As a result, generally, impacts on travel and transportation management would be greater than they would be under the action alternatives; this is because the No Action alternative would continue to enable the reduction in the BLM's ability to expand the transportation network.	Under Alternative B, there would be 73,600 acres identified as closed to OHV travel, which would be an increase in acres from Alternative A and the highest among all alternatives. There would be fewer acres identified as OHV limited under Alternative B (308,400 acres) as compared with Alternative A. Temporary crossings of riparian management areas with equipment or motor vehicles would only be allowed if they do not retard the attainment of Aquatic Conservation Strategy objectives. While this may restrict some existing crossings, the BLM would identify appropriate stream crossing locations for new temporary routes so the effect would be similar to Alternative A. Under Alternative B, the BLM would not allow e-bikes unless they are analyzed and approved on a case-by-case basis at the implementation level. If approved, e-bikes would be allowed on natural surface, non-motorized routes in areas where OHV travel is limited to existing and designated routes. Compared with the other action alternatives, this could potentially lead to a greater impact on travel and transportation management by limiting access to existing trails for e-bike users; however, Alternative B would enable e-bikes on more trails than Alternative A.	Under Alternative C, there would be 58,800 acres identified as closed to OHV travel, which would be a decrease in acres from Alternative A and the lowest among all alternatives. There would be more acres identified as OHV limited under Alternative C (323,300 acres) as compared with Alternative A.. The effect on travel and transportation management from the management of temporary crossings of riparian management areas would be the same as Alternative B. Under Alternative D, Class 1 e-bikes would be limited to where biking is allowed; therefore, when compared with the other alternatives, Alternative C would have the smallest impact on travel and transportation by allowing access to existing trails by e-bike users.	Under Alternative D, there would be 61,500 acres identified as closed to OHV travel, which would be an increase in acres compared to Alternative A. There would also be 320,600 acres with OHV travel limited to existing and designated routes, which would be a decrease in acres compared to Alternative A. Under Alternative D, there would be the greatest restrictions on travel and transportation management with respect to minimizing roads and landing locations in riparian management areas compared with all other alternatives. Under Alternative D, Class 1 e-bikes would be managed as described under Alternative C.
Livestock Grazing			
Under Alternative A, there would continue to be 186,900 acres available to grazing and 195,300 acres unavailable to grazing. Furthermore, although 186,900 acres of BLM-administered land would be categorized as available and open to consideration for future grazing, only 62,600 acres would continue to be managed as grazing allotments under Alternative A. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP.	Under Alternative B, 232,800 acres would be available to grazing, and 149,400 acres unavailable to grazing. Furthermore, although 232,800 acres of BLM-administered land is categorized as available and open to consideration for future grazing, only 62,000 acres would be managed as grazing allotments under Alternative B. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP.	Under Alternative C, 271,800 acres would be available to grazing, and 110,400 acres unavailable to grazing. Furthermore, although 271,800 acres of BLM-administered land is categorized as available and open to consideration for future grazing, only 64,500 acres would be managed as grazing allotments under Alternative C. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP.	Under Alternative D, 188,600 acres would be available to grazing, and 193,600 acres would be unavailable to grazing. Furthermore, although 188,600 acres of BLM-administered land is categorized as available and open to consideration for future grazing, only 59,000 acres would be managed as grazing allotments under Alternative D. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Areas of Critical Environmental Concern			
Under Alternative A, there are currently 16 designated ACECs covering a total of 54,600 acres of the decision area. These ACECs were designated to protect a variety of relevant and important values (such as rare vegetation and wildlife habitats, late successional and old-growth forests, fisheries, and scenic and cultural resources). These ACECs are: • Baker Cypress ACEC • Butte Creek ACEC • Deer Creek ACEC • Elder Creek ACEC • Forks of Butte Creek ACEC • Gilham Butte ACEC • Hawes Corner ACEC • Iaqua Buttes ACEC • Lacks Creek ACEC • Manila Dunes ACEC • Red Mountain ACEC • Sacramento Island ACEC • Sacramento River Bend ACEC • Shasta and Klamath Rivers Canyon ACEC • South Fork Eel River ACEC • Swasey Drive ACEC There would be no change in ACEC designations under Alternative A. These existing ACECs would continue to protect the relevant and important values for which they were initially designated.	Under Alternative B, the BLM would designate 25 ACECs comprised of existing and internally and externally nominated areas. These ACECs would cover a total of 88,820 acres of the decision area to protect the relevant and important values for each respective ACEC. These ACECs are: • Beegum Creek Gorge ACEC • Black Mountain ACEC • Butte Creek ACEC • Corning Vernal Pools ACEC • Deer Creek ACEC • Eden Valley ACEC • Forks of Butte Creek ACEC • Gilham Butte ACEC • Grass Valley Creek ACEC • Hawes Corner ACEC • Iaqua Butte ACEC • Lacks Creek ACEC • Ma-le'l Dunes ACEC • North Fork Eel ACEC • North Table Mountain ACEC • Sacramento Island ACEC • Sacramento River Bend ACEC • Shasta and Klamath River Canyon ACEC • Sheep Rock ACEC • South Spit ACEC • Swasey Drive Clear Creek Greenway ACEC • Upper Burney Dry Lake and Baker Cypress ACEC • Upper Klamath Bench ACEC • Upper Mattole ACEC • Willis Ridge ACEC More ACECs would be designated under Alternative B compared with Alternative A, which would minimize some impacts to natural and cultural resources within designated ACECs. ACEC designation includes management that would close or limit some activities to protect relevant and important values, such as closure of limitations on surface-disturbing activities. The additional ACEC designations under Alternative B would increase protection of relevant and important values compared to Alternative A.	Under Alternative C, seven ACECs comprised of existing and internally and externally nominated areas would be designated; these would cover a total of 42,430 acres of the decision area to protect the relevant and important values for each respective ACEC: • Eden Creek ACEC • Forks of Butte Creek ACEC • Gilham Butte ACEC • Grass Valley Creek ACEC • Ma-le'l Dunes ACEC • Sacramento River Bend ACEC • Swasey Drive ACEC Alternative C would designate fewer ACECs compared with Alternative A, and therefore, fewer relevant and important values would be protected by these designations. ACEC designation includes management that would close or limit some activities to protect relevant and important values, such as closures or limits on surface-disturbing activities. Alternative C would designate the fewest ACECs (and acreage) and therefore, would provide the least protection to relevant and important values compared to other alternatives.	Under Alternative D, 26 ACECs comprised of existing and internally and externally nominated areas would be designated; these would cover a total of 87,890 acres of the decision area to protect the relevant and important values for each respective ACEC: • Beegum Creek Gorge ACEC • Black Mountain ACEC • Butte Creek ACEC • Corning Vernal Pools ACEC • Deer Creek ACEC • Eden Valley ACEC • Forks of Butte Creek ACEC • Gilham Butte ACEC • Grass Valley Creek ACEC • Hawes Corner ACEC • Iaqua Butte ACEC • Lacks Creek ACEC • Ma-le'l Dunes ACEC • North Fork Eel ACEC • North Table Mountain ACEC • Sacramento Island ACEC • Sacramento River Bend ACEC • Shasta and Klamath River Canyon ACEC • Sheep Rock ACEC • South Spit ACEC • Swasey Drive ACEC • Upper and Lower Clear Creek ACEC • Upper Burney Dry Lake and Baker Cypress ACEC • Upper Klamath Bench ACEC • Upper Mattole ACEC • Willis Ridge ACEC which would minimize impacts to natural and cultural resources within these designated areas. Impacts are anticipated to be similar to those described for Alternative B, with more relevant and important values identified and protected compared to Alternative A. Closures or limitations on some activities would reduce the potential for impacts on natural and cultural resources within these areas.
National Scenic and Historic Trails			
Management for national scenic and historic trails does not vary by alternative. There is no existing management included in the current RMPs. A 150-foot-wide trail corridor would be established for the 1.5 miles of the Nobles Trail route of the California NHT and for 1.7 miles of the Yreka trail route of the California NHT on BLM-administered lands. Trail corridor infrastructure would not be allowed to detract from the heritage values, except where features are already in place. Future changes to existing infrastructure in the trail corridors would not be allowed to detract from the trail values.			

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Wild and Scenic Rivers			
Under Alternative A, the BLM would manage 117 eligible segments (totaling 201.7 miles) to protect their free-flowing condition, identified tentative classification, and preservation of ORVs until a suitability determination can be made. A 0.1-mile river segment would also continue to be managed as suitable for inclusion in the NWSRS.	Under Alternative B, the BLM would manage all 117 identified river segments (totaling 201.7 miles) as suitable for inclusion in the (NWSRS. Under this alternative the BLM would apply interim protections until congressional action formally designates these areas as WSRs or releases them from the interim protections. Existing designated WSRs (the Trinity River WSR, Klamath River WSR, and Eel River WSR would be retained (totaling 52 miles). If a designated WSR does not have an identified management corridor, then the management corridor would be 0.25-miles on each side of the river until an implementation-level WSR management plan is completed. Under Alternatives B, C, and D, the BLM would manage all suitable WSR segments to protect and enhance the free-flowing character and identified river values in coordination with the tentative classifications. Individual projects within the WSR corridors would be analyzed at the site-specific implementation level as needed.	Under Alternative C, the BLM would manage 3 river segments (totaling 14.2 miles) as suitable for inclusion in the NWSRS. Under this alternative the BLM would apply interim protections until congressional action formally designates these areas as WSRs or releases them from the interim protections. Impacts for existing designated WSRs would be the same as those described under Alternative B.	Under Alternative D, the BLM would manage 62 identified river segments (totaling 147.2 miles) as suitable for inclusion in the NWSRS. Under this alternative the BLM would apply interim protections until congressional action formally designates these areas as WSRs or releases them from the interim protections. Impacts for existing designated WSRs would be the same as those described under Alternative B.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Wilderness			
Under all alternatives, the BLM would continue to manage 50,040 acres (13 percent of the decision area) as wilderness areas. Any new wilderness areas designated by Congress would be managed to preserve wilderness character. These forms of management would continue to preserve the qualities and values of these areas. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Wilderness areas would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. Wilderness areas would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under this alternative, 11,200 acres would continue to be available to livestock grazing in wilderness areas. However, only 10,900 acres of wilderness would overlap with three active grazing allotments. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, so impacts on wilderness would be limited to those areas of overlap with active allotments. OHV use is currently not authorized in wilderness, except in cases where ROW maintenance or grazing/livestock management is required. New range improvements are only allowed to protect the naturalness aspect of wilderness character. While new range improvements could have a negative impact on some aspects of wilderness character (untrammeled), overall they would not be allowed if they would not improve or maintain wilderness character.	Under all alternatives, the BLM would continue to manage 50,040 acres (13 percent of the decision area) as wilderness areas. Any new wilderness areas designated by Congress would be managed to preserve wilderness character. These forms of management would continue to preserve the qualities and values of these areas. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Wilderness areas would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. Wilderness areas would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under Alternative B, the types of impacts from livestock grazing on wilderness would be the same as Alternative A. Livestock grazing would be available on 11,300 acres of wilderness, however, only 10,900 acres of wilderness would overlap three active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas, which would be the same as under Alternative A.	Under all alternatives, the BLM would continue to manage 50,040 acres (13 percent of the decision area) as wilderness areas. Any new wilderness areas designated by Congress would be managed to preserve wilderness character. These forms of management would continue to preserve the qualities and values of these areas. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Wilderness areas would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. Wilderness areas would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Impacts from livestock grazing on wilderness would be the same as those described under Alternative A.	Under all alternatives, the BLM would continue to manage 50,040 acres (13 percent of the decision area) as wilderness areas. Any new wilderness areas designated by Congress would be managed to preserve wilderness character. These forms of management would continue to preserve the qualities and values of these areas. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Under all alternatives, wilderness areas would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Wilderness areas would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. Wilderness areas would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under Alternative D, livestock grazing would be available on 9,400 acres of wilderness, however, only 9,100 acres of wilderness would overlap three active allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited those areas of overlap with active allotments, which would be a decrease from Alternative A.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Section 603 and Section 202 Wilderness Study Areas			
Under all alternatives, the BLM would manage 8,450 acres (2 percent of the decision area) as Section 603 WSAs. Existing Section 603 WSAs would continue to be managed according to the non-impairment standard under all alternatives. If Congress were to release a Section 603 WSA, the BLM would continue to manage the lands to emphasize primitive recreation opportunities. There are currently no Section 202 WSAs within the planning area. Under all alternatives, WSAs would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. WSAs would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. WSAs would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under this alternative, 1,600 acres would continue to be available to livestock grazing in Section 603 WSAs; however, only 1,400 acres would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on Section 603 WSAs would be limited to those areas of overlap with active allotments. New range improvements are only allowed to protect the naturalness aspect of wilderness character. While new range improvements could have a negative impact on some aspects of wilderness character (untrammeled), overall, they would not be allowed if they would not improve or maintain wilderness character.	Under all alternatives, the BLM would manage 8,450 acres (2 percent of the decision area) as Section 603 WSAs. Existing Section 603 WSAs would continue to be managed according to the non-impairment standard under all alternatives. If Congress were to release a Section 603 WSA, the BLM would continue to manage the lands to emphasize primitive recreation opportunities. The BLM would elect to manage 12,090 acres of Section 202 WSAs. These areas exhibit naturalness and in combination with the contiguous wilderness, have the same outstanding opportunities for solitude, primitive and unconfined recreation, and supplemental values possessed by the existing wilderness area. Under all alternatives, WSAs would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Under all alternatives, WSAs would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. WSAs would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. WSAs would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under Alternative B, livestock grazing would be available on 1,300 acres of Section 603 and Section 202 WSAs; however, only 900 acres of the WSAs would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited those areas of overlap with active allotments, which would be a decrease from Alternative A. Compared with Alternative A, this would provide more protection as there would be fewer acres where WSAs could be impacted by livestock grazing on active allotments.	Under all alternatives, the BLM would manage 8,450 acres (2 percent of the decision area) as Section 603 WSAs. Existing Section 603 WSAs would continue to be managed according to the non-impairment standard under all alternatives. If Congress were to release a Section 603 WSA, the BLM would continue to manage the lands to emphasize primitive recreation opportunities. No Section 202 WSAs would be designated. Under all alternatives, WSAs would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. Under all alternatives, WSAs would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. WSAs would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. WSAs would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under Alternative C, 2,400 acres of Section 603 WSAs would be available to livestock grazing; however, only 1,400 acres of the WSAs would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited to those areas of overlap with active allotments, which would be the same as under Alternative A.	Under all alternatives, the BLM would manage 8,450 acres (2 percent of the decision area) as Section 603 WSAs. Existing Section 603 WSAs would continue to be managed according to the non-impairment standard under all alternatives. If Congress were to release a Section 603 WSA, the BLM would continue to manage the lands to emphasize primitive recreation opportunities. The BLM would elect to manage 540 acres of Section 202 WSAs. These areas exhibit naturalness and in combination with the contiguous wilderness, have the same outstanding opportunities for solitude, primitive and unconfined recreation, and supplemental values possessed by the existing wilderness area. Under all alternatives, WSAs would continue to be within VRM Class I. The goal of this class is to preserve the existing character of the landscape. WSAs would continue to be managed as a ROW exclusion area. ROW development may lead to surface disturbances and the presence of infrastructure capable of causing the loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation. This would continue to not occur in ROW exclusion areas. Vegetation and fuels treatments would continue to protect or enhance the wilderness characteristics or values in wilderness areas. WSAs would continue to be closed to OHV travel. OHV use could affect wilderness areas by leading to a loss of naturalness and outstanding opportunities for solitude or primitive and unconfined types of recreation and increased noise disturbances. Under Alternative D, 100 acres of Section 603 and Section 202 WSAs would be unavailable to livestock grazing; those 100 acres of WSAs would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited to those areas of overlap with active allotments, which would be a decrease from Alternative A. The impacts on Section 603 WSAs would be similar to Alternative B; however, under Alternative D there would be no overlap with Section 202 WSAs and lands available for livestock under Alternative D.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Lands with Wilderness Characteristics			
Under Alternative A, current management plans do not provide the proper direction regarding the management of lands that possess wilderness characteristics, and they are currently not given priority over other resources or resource uses. In areas with wilderness characteristics where livestock grazing could occur (which currently comprise 12,700 acres) new developments and maintenance of range improvements could impact the solitude and apparent naturalness. However, because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on areas with wilderness characteristics from livestock grazing would be limited to those areas with active grazing allotments. Mineral development could result in surface disturbances by leading to a loss of naturalness and opportunities for primitive and unconfined recreation. Actions consistent with VRM Class III could result in a loss of natural character of the areas with wilderness characteristics. Areas open to ROW development under this alternative could lead to surface disturbances and if the ROW features bisect an area with wilderness characteristics, it could reduce the area, so it no longer meets the size criteria. Management actions for vegetation, forestry and fuels may result in short term impacts, but over time would promote the health of native vegetation communities leading to no impact on areas with wilderness characteristics.	Under Alternative B, there would be fewer impacts from livestock grazing compared with Alternative A because there would be fewer acres available to livestock grazing. Specifically, livestock grazing could occur on 7,900 acres of lands with wilderness characteristics (6,900 acres would be managed to protect as a priority over other uses). However, there would only be 3,100 acres of lands with wilderness characteristics to protect wilderness characteristics as a priority that overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to these areas of overlap with active allotments. Compared with Alternative A, this would provide more protection to lands with wilderness characteristics as there would be 4,800 fewer acres available to livestock grazing under Alternative B. There would also be fewer impacts from surface disturbances created by mineral development compared with Alternative A. Alternative B would close the most acreage to OHV travel as compared to the other alternatives, which would reduce impacts on overlapping or nearby lands with wilderness characteristics. Lands with wilderness characteristics would be more protected from ROW development than under Alternative A because of the ROW exclusion areas. There would be more protections under this alternative compared to Alternative A for visual resources management because there would be more areas managed as a VRM Class II. There would be more beneficial impacts caused by the restoration of the naturalness through vegetation, forestry, and fuels management under this alternative because these areas would be given priority unlike Alternative A.	Under Alternative C, livestock grazing would be available on 3,500 acres of lands with wilderness characteristics that would be managed to protect as a priority over other multiple uses. Livestock grazing would also be available on 12,700 acres of lands with wilderness characteristics that would be managed to minimize impacts while emphasizing multiple uses. Impacts from livestock grazing on lands with wilderness characteristics would be the same as described under Alternative A. However, there would only be 4,000 acres of lands with wilderness characteristics managed to minimize impacts on wilderness characteristics while emphasizing other uses that overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on lands with wilderness characteristics would be limited to these areas of overlap with active allotments. Under Alternative c, there would also be less impacts from surface disturbances created by mineral development compared with Alternative A. Impacts from OHV use would be similar to impacts under Alternative A. Lands with wilderness characteristics would be more protected from ROW development than under Alternative A because of the ROW exclusion and avoidance areas. There would be more protections under this alternative compared to Alternative A for visual resources management because there would be more areas managed as a VRM Class II. There would be more beneficial impacts caused by the restoration of the naturalness through vegetation, forestry, and fuels management under this alternative because these areas would be given priority unlike Alternative A.	Under Alternative D, livestock grazing could occur on 6,700 acres of lands with wilderness characteristics that would be managed to minimize impacts. However, there would only be 3,000 acres of lands with wilderness characteristics managed to minimize impacts on wilderness characteristics that overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on lands with wilderness characteristics would be limited to these areas of overlap with active allotments. These impacts would be similar to Alternative B, except there would be 1,200 fewer acres of lands with wilderness characteristics available to grazing There would also be less impacts from surface disturbances created by mineral development compared with Alternative A. Alternative D would close slightly more acreage to OHV travel than under Alternative A; impacts between the two alternatives would be similar. Lands with wilderness characteristics would be more protected from ROW development than under Alternative A because of the ROW exclusion and avoidance areas. There would be more protections under this alternative compared to Alternative A for visual resources management because there would be more areas managed as a VRM Class II. There would be more beneficial impacts caused by the restoration of the naturalness through vegetation, forestry, and fuels management under this alternative because these areas would be given priority unlike Alternative A.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Socioeconomics			
Under Alternative A, land uses, such as grazing, timber harvest, and recreation, would continue to contribute to the local economy. A regional economic modeling analysis indicates livestock grazing would support about two total jobs, $53,400 in total labor income, and $194,000 in total output in the Arcata FO's administrative boundaries. Livestock grazing would support six jobs, $205,000 in total labor income, and $745,400 in total output in the Redding FO's administrative boundaries. Timber harvest would result in minor contributions of $10,700 total output from timber harvest in the Arcata FO analysis area and $5.5 million in total output in the Redding FO analysis area under Alternative A and all action alternatives. Recreation would continue to support the largest level of economic contributions including 705 and 598 total jobs and over $100 million and $80 million in total output in the Arcata FO and the Redding FO analysis areas, respectively. Mineral leasing would result in minimal economic contributions under Alternative A and all action alternatives. Under Alternative A, the areas identified for disposal would continue to be 101,00 acres, which would decrease BLM-administered lands by about 18 percent. When these acres are removed from federal lands, the amount of payment in lieu of taxes (PILT) the counties receive would decrease from the current amount of PILT that the counties in the planning area receive ($8,122,551). The actual amount of changes to PILT would depend on the acres disposed, which historically has been substantially less than the total identified acres for disposal. Under Alternative A, areas managed for protection of resources (i.e., 54,600 acres designated as ACECs and 253.8 miles of eligible WSR corridors) would continue to provide non-market values such as benefits from viewing and recreating in nature and values from conserving areas for future generations. In addition, developed recreation in ACECs and ERMAs would continue to support quality of life for area residents, including but not limited to recreation benefits of improved mental and physical health.	Under Alternative B, the economic contributions associated with livestock grazing could increase compared with Alternative A; this is due to an increase in acreage available for grazing of about 25 percent more land. Actual impacts would depend on the level of AUM reductions. There would be an increase in contributions from recreation for all types, except for OHVs and e-bikes. This is due to the 12 percent increase in SRMA and ERMA lands. In addition, the increase in lands with wilderness characteristics and ACECs would enhance recreational experiences for visitors interested in preserving wildlife. Opportunities could potentially decrease for OHV recreationists, under Alternative B; this is because there would be an increase in OHV-closed areas by 14,400 acres compared with Alternative A. In the short-term, fire management and riparian management area management could limit recreational opportunities under Alternative B. However, in the long term, fire management and riparian management area management could increase recreation and recreation's economic contribution by improving the scenic views, habitat quality, and recreation safety. Under Alternative B, the BLM would identify roughly 94 percent fewer areas for disposal compared with Alternative A. Compared with Alternative A, this could result in a higher level of retained lands and PILT contributions over the planning period. The actual level of changes to PILT would depend on the acres disposed. Under Alternative B, the land managed for wilderness characteristics and the land designated as ACECs would be almost six times greater and 63 percent greater than under Alternative A, respectively. This suggests the non-market values to society from conserved land would be greater than under Alternative A. Contributions to quality of life from recreation activities would be maintained or increased due to increased acres in SRMAs and ERMAs.	Under Alternative C, the economic contributions associated with livestock grazing could increase compared with Alternative A. This is due to an increase in acreage available for grazing of about 45 percent more land. Actual impacts would depend on the level of AUM reductions. There would be an increase in contributions from recreation, particularly for those interested in developed recreational experiences. This is due to the increase in SRMAs and ERMAs of about 2.18 times the land (in total) under Alternative A. However, there would be a decrease in the number of total areas designated as ACECs and managed with lands with wilderness characteristics, which could decrease the recreational opportunities associated with quiet, un-developed recreational experiences compared with Alternative A. Under Alternative C, 400 acres would be moved from OHV closed to OHV limited; therefore, there would be a greater amount of acreage available to OHV travel compared with under Alternative A. This could increase the opportunities and economic contributions associated with motorized recreational experiences. Under Alternative C, the areas identified for disposal would be about 51 percent less than under Alternative A. Compared with Alternative A, this could result in the retention of more lands and PILT over the planning period. The actual level of changes to PILT would depend on the acres disposed. Under Alternative C, the total land managed for wilderness characteristics and designated for ACECs would be about 22 percent less than under Alternative A. This suggests the non-market values to society associated with conserved land would be less under Alternative C, than under Alternative A. Contributions to quality of life from recreation activities would be maintained or increased due to increased acres in SRMAs and ERMAs.	Under Alternative D, the impacts on economic contributions from livestock grazing may increase compared to Alternative A, due to an increase in acreage available to grazing of about 1 percent more land. Actual impacts would depend on the level of AUM reductions, which would minimally be impacted from the lower number of suitable acres. Under Alternative D, there would be an increase in contributions from recreation, particularly for those interested in developed recreational experiences. This is due to the increase in SRMAs and ERMAs of about 1.6 times the land (in total) under Alternative A. Impacts from ACECs, land tenure, and riparian management area management would be the same as under Alternative B. Compared with Alternative A, this management could result in increased recreation and economic contributions from recreation focused on quiet recreational experiences compared to Alternative A. The impacts of limiting OHVs would be similar as to those under Alternative B and would reduce access to recreation opportunities for OHV users, because there would be an increase in OHV-closed areas by 2,300 acres compared with Alternative A. Under Alternative D, the areas identified for disposal would be about 94 percent less land than under Alternative A. Compared with Alternative A, this could result in the retention of more land and PILT over the planning period. The actual level of changes to PILT would depend on the acres disposed. Under Alternative D, the land managed for wilderness characteristics and the land designated as ACECs would be about one and a half times greater and 61 percent greater than under Alternative A, respectively. This suggests that the non-market values to society from conserved land would be greater than under Alternative A. Contributions to quality of life from recreation activities would be maintained or increased due to increased acres in SRMAs and ERMAs.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Environmental Justice			
The current approved RMPs do not identify specific management with respect to environmental justice populations beyond the existing EOs or secretarial orders, laws and regulatory requirements. Any disproportionate economic and health impacts on environmental justice populations arising from climate change and wildfires would continue at current levels. Under this alternative, historically underserved or disadvantaged communities would continue to experience disproportionate adverse impacts with respect to accessibility and inclusivity of recreational opportunities. The BLM would continue to make a reasonable and good faith effort to identify Native American concerns. Existing protective measures that would prioritize hazardous material cleanup near historic and prehistoric cultural resources and Traditional Tribal economic resources would be implemented to minimize impacts. Also, measures within existing special designation areas protecting Native American resources would continue at their current rate. Alternative A would result in a lower amount of OHV access limitations, compared with all other alternatives, providing continued support for those with mobility impairments, including Tribal members.	Alternative B would prioritize landscape resiliency against climate change impact (including from severe wildfires). This would indirectly benefit environmental justice populations by minimizing the risks from housing and property loss or health impacts from wildfire smoke. Alternative B would result in more acres closed to OHV travel than under Alternative A, and fewer acres designated as OHV limited than under Alternative A. However, under Alternative B, the BLM would increase and prioritize development of recreational opportunities for underserved and disadvantaged communities, such as offering low expense disability-inclusive facilities and culturally adaptive experiences for a diverse population. This would result in beneficial impacts on environmental justice communities. An increase in the number and area of special designations and protected areas from Alternative A, would result in beneficial impacts on Tribal communities with potential natural and cultural resources within the protected areas. The BLM would also improve facilitation of use of federal lands and resources traditionally used for cultural and spiritual purposes, which would result in beneficial impacts on Tribal communities.	Impacts from BLM management would generally be the same as those described under Alternative B. Alternative C would emphasize fire resiliency in forested areas which would reduce the adverse impacts of severe wildfires on environmental justice populations compared with all other alternatives. Compared with Alternatives A and B, a reduction in the area and number of special designation areas specifically ACECs and miles of eligible WSRs, could result in the removal of some protection for resources with Tribal importance. Protection for natural and cultural resources would, however, be maintained based on existing federal laws and BLM regulations, including but not limited to NHPA, Antiquities Act of 1906, ARPA, and NAGPRA. The BLM would continue to work with Tribes to ensure access, management, and use of important areas.	Impacts from BLM management would generally be the same as those described under Alternative B. An increase in ACEC designations compared with Alternative A would increase protection of potential Tribal resources and benefit Tribal communities. Miles of wild and scenic rivers would be decreased compared with Alternative A. As noted in Alternative C, this could result in the site-specific removal of some protection for resources with Tribal importance. Protection for natural and cultural resources would, however, be maintained based on existing federal laws and BLM regulations.
Tribal Interests			
The approved RMPs do not identify any specific management approaches for Tribal interests beyond the existing regulatory and executive frameworks that require consultation with Native American Tribes and Tribal entities. This is often addressed in more specific planning efforts, as well as during project-level reviews of all federal undertakings, as required under Section 106, executive and secretarial orders, and other relevant federal regulations. Engagement and management regarding resources of Tribal interest would continue in this capacity. This could include variations between the Redding FO and Arcata FO practices and efforts due to the lack of central, regional management guidance beyond larger regulations and policies. The review of federal undertakings and addressing the potential for adverse effects on resources of Tribal interest would continue under Alternative A.	The BLM would implement a variety of new management approaches specific to each resource type that would specifically include policies and goals that would increase engagement and cooperation with Native American Tribes and Tribal entities. This would build upon the existing consultation processes associated with the regulatory and executive frameworks and strive to foster increased relationships to better manage a variety of resource types. This would also call for increased relationships that may include opportunities for co-stewardship, collaboration, and sharing of information to better manage resources, while also protecting resources of Tribal interest for continued use. Protections would also be expanded through increased special designations and limitations on potentially damaging uses throughout the BLM analysis area, However, certain designations, specifically related to wilderness characteristics, may inadvertently present new access and use challenges to areas and resources of Tribal interest. Despite some of these challenges, the new management policies and added protections would result in less potential for impacts than Alternative A.	Impacts would be similar to those described for Alternative B. This is because the management approaches specific to each resource type would be implemented under all action alternatives. Alternative C primarily differs in the use allocations, which are typically more open to increased development and activities that have the potential to cause surface disturbance, as well as altering the broader landscape and cultural setting. However, despite this increased potential for some resource uses, clearly defined management approaches and continued consultation through the regulatory and executive frameworks would continue to result in less potential impacts on Tribal resources than under Alternative A.	Impacts would be similar to those described for Alternative B. This is because the BLM would implement management approaches specific to each resource type under all action alternatives, which would foster increased cooperation, collaboration, and co-stewardship. Generally, impacts would be similar to those under both Alternatives B and C, as Alternative D presents a middle ground between increased protection with limited usage for select resources, with increased use for other resources. Specifically, Alternative D calls for increased recreation potential. However, this increased use would be offset through specific recreation management approaches that take into consideration the potential for important resources of Tribal interests. While the level of recreation would also be increased from Alternative A, the combination of comprehensive management approaches, increased emphasis on co-stewardship, and continuation of meaningful consultation would result in less potential impacts on resources of Tribal interest than under Alternative A.

Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Alternative)
Public Health and Safety			
Public health and safety issues related to land use and conditions and hazardous materials are not addressed in the current RMPs. Public health and safety issues related to land use and conditions, hazardous materials, and wildfire risk would be expected to continue. Management of lands identified for disposal (101,000 acres) would help keep the potential for impacts on public health and safety low because much of those lands are isolated tracts with identified hazards, such as illegal marijuana growing operations, hazardous materials spills and releases, solid waste accumulations, and unauthorized camps. Management actions to maintain the three SRMAs for a total of 40,190 acres would result in maintaining the current level of impacts on public health and safety from competing consumptive and non-consumptive resource users. As the population of foothills communities continues to increase so does the WUI and actions to address the buildup of hazardous vegetation and improve forestland health and wildfire resiliency as well as infrastructure improvements to support fire response capabilities are essential to mitigate impacts on public health and safety from wildfires. Currently, 382,200 acres are classified as non-WUI, with no acreages identified for the Intermix, Interface, and Influence Zones.	Under Alternative B, the large reduction in lands identified for disposal to 6,000 acres would increase the potential for impacts on public health and safety; this is because those isolated tracts with identified hazards would be retained and benefits from disposing of isolated tracts described in Alternative A would not occur. Management actions to remove the three existing SRMAs (for a total of 40,190 acres) and the addition of 1 new SRMA for a total of 23,800 acres, 4 new ERMAs for a total of 21,290 acres, and 4 new RMZs for a total of 9,930 acres would reduce public health and safety risks overall. This is because of the development and enforcement of area-use guidelines and regulations which would help to prevent antagonistic and accidental interactions between consumptive and non-consumptive resource users. For this alternative, 28,000 acres were identified as WUI (including the Intermix Zone and the Influence Zone), with 16,600 acres identified as WUI in essential connectivity corridors, which are habitat connectivity corridors that are ranked according to the greatest ease of wildlife movement (for a total WUI of 44,600 acres). The Interface Zone is broken out separately from WUI lands because different management actions may be needed to address wildfire response, suppression and resiliency in this zone. Vegetation treatments to reduce hazardous fuels and undesirable vegetation would improve wildland health and fire resiliency and reduce the risk of wildland fire. In conjunction with infrastructure management actions to close/block off unused roadways to prevent unauthorized entry, improve roadways to provide access to and travel from foothills communities, improve roadways and bridges to accommodate fire trucks and heavy equipment, and require ROW lease holders to clear hazard trees would greatly reduce impacts on public health and safety from wildfires.	The reduction in lands identified for disposal to 49,400 acres would result in a moderate increase in the potential for impacts on public health and safety; this is because some of those isolated tracts with identified hazards would be retained. Management of lands identified for retention (333,100 acres) would only help to increase impacts on public health and safety due to their use and condition. Management actions to remove 2 SRMAs for a total of 40,000 acres; the continuance of 1 SRMA of 190 acres; the addition of 3 new SRMAs for 41,600 acres, and 9 new ERMAs for 46,480 acres would greatly reduce impacts on public health and safety overall. This is because of the development and enforcement of area use guidelines and regulations that would help to prevent antagonistic and accidental interactions between consumptive and non-consumptive resource users. For this alternative, the WUI consists of 44,600 acres which includes lands in the Intermix Zone, the Influence Zone, and WUI lands in the essential connectivity corridor. The remainder of the Planning Area (321,500 acres) was identified as non-WUI lands. Vegetation treatments to reduce hazardous fuels and undesirable vegetation would improve wildland health and fire resiliency and reduce the risk of wildland fire. In conjunction with infrastructure management actions to close/block off unused roadways to prevent unauthorized entry, improve roadways to provide access to and travel from foothills communities, improve roadways and bridges to accommodate fire trucks and heavy equipment, and require ROW lease holders to clear hazard trees would greatly reduce impacts on public health and safety from wildfires.	The large reduction in lands identified for disposal to 5,900 acres would result in a substantial increase in the potential for impacts on public health and safety; this is because some of those isolated tracts with identified hazards would be retained. Management of lands identified for retention (376,600 acres) would only help to greatly increase impacts on public health and safety due to the lands use and condition. Management actions to remove two SRMAs for a total of 40,000 acres, the continuance of one SRMA for 190 acres, and the addition of 3 new SRMAs for 41,600 acres, and 8 new ERMAs for 45,880 acres, would reduce impacts on public health and safety overall. This is because of the development and enforcement of area use guidelines and regulations that would help to prevent antagonistic and accidental interactions between consumptive and non-consumptive resource users. For this alternative, total WUI lands (44,600 acres), Interface Zone lands (16,100 acres), and non-WUI lands (321,500 acres) are the same as those for Alternative C and risks to public health and safety would be the same as for that alternative. Vegetation treatments to reduce hazardous fuels and undesirable vegetation would improve wildland health and fire resiliency and reduce the risk of wildland fire. In conjunction with infrastructure management actions to close/block off unused roadways to prevent unauthorized entry, improve roadways to provide access to and travel from foothills communities, improve roadways and bridges to accommodate fire trucks and heavy equipment, and require ROW lease holders to clear hazard trees would greatly reduce impacts on public health and safety from wildfires.
Interpretation and Education			
The approved RMPs do not identify any specific management framework. Interpretive and educational programming would continue to be administered independently as part of individual resource management programs There would be no comprehensive management of interpretation and environmental education programming or research endeavors in the planning area. Development of interpretive and education programs would continue, as would current research and scientific study.	The BLM would develop a comprehensive interpretive plan, which would follow BLM guidelines and define the agency's overall interpretation and education vision, goals, themes, strategies, and opportunities. The plan would include a long-range implementation strategy that includes partnership development, staffing needs, and program costs. Identification of important cultural sites for scientific study and interpretative opportunities would be prioritized. An interpretive/educational center could be developed for the newly combined Swasey Drive Clear Creek Greenway ACEC. Research opportunities would be expanded across 50,050 more acres under ACECs, SRMAs, ERMAs, and RMZs than under Alternative A.	Impacts would be similar to those described for Alternative B; this is because as the comprehensive interpretive plan would be developed under this alternative. Sites identified for education and interpretation to support heritage tourism would have a strategy to "harden the site." Also, the BLM would work with interpretive staff and Tribal partners to enhance and develop opportunities at these sites. The interpretive/educational center could still be developed, but it would be for the existing Swasey Drive ACEC. Research opportunities would be reduced by 12,170 acres within designated ACECs, compared with Alternative A; however, they would be expanded across 59,010 more acres under SRMAs, ERMAs, and RMZs than under Alternative A.	Impacts would be similar to those described for Alternative B. This is because the BLM would develop the comprehensive interpretive plan under this alternative. Effects on interpretation and education for cultural resources would be the same as under Alternative C except the BLM would include a greater number of cultural sites that experience heavy visitation. The interpretive/educational center could still be developed for the existing Swasey Drive ACEC. Compared with Alternative A, research opportunities would be expanded across 91,700 more acres under ACECs, SRMAs, ERMAs, and RMZs.

Chapter 3. Affected Environment and Environmental Consequences

3.1 INTRODUCTION

This chapter provides a summary of the baseline environmental conditions (affected environment) for the resources that the RMP is likely to affect, and the environmental consequences of the alternatives being evaluated in this RMP/EIS. Though these two aspects are often in separate chapters in an EIS, they are combined here to facilitate continuity for the reader from baseline conditions to potential impacts on each resource. Following the description of baseline conditions, the discussion of potential direct, indirect, and cumulative impacts from proposed management actions under each resource provides the scientific and analytic basis for evaluating the potential impacts of each of the alternatives described in **Chapter 2** and detailed in **Appendix B**. The approach to impact analysis for each resource is discussed further in **Appendix C**. More general impact analysis methodologies followed for the NCIP are found in **Section D.1** of **Appendix D**.

Pursuant to 40 CFR 1500.1(b) and 1500.4, the discussions presented here are summaries of the completed analyses; they form the scientific and analytical basis for the alternatives' comparison. The detailed environmental baseline used for the impact analysis and the complete impact analysis, including cumulative effects, are all provided in **Appendix D**.

The methodology for the impact assessment conforms to the guidance found in the following sections of the CEQ regulations for implementing NEPA: 40 CFR 1502.23 (Methodology and Scientific Accuracy), 40 CFR 1502.16 (Environmental Consequences) and cumulative impacts as defined in 40 CFR 1508.1. Resources

3.1.1 Air Quality and Climate

Affected Environment

Air Quality

Air quality includes air quality management, interagency coordination, smoke abatement for prescribed fire, and air quality impact assessment. The air quality analysis area includes the planning area airshed within the Redding and Arcata FOs, which include: Del Norte, Siskiyou, Humboldt, Mendocino, Tehama, Trinity, Shasta, and Butte Counties.

Federal Class I areas, areas for which pristine air quality is desirable (such as national parks, wilderness areas, and Native American Indian reservations), are accorded the strictest protection from air quality degradation. In the planning area, Class I areas are: Redwood National Park, Marble Mountain Wilderness, Lava Beds National Monument, Yolla Bolly-Middle Eel Wilderness, Thousand Lakes Wilderness, and Lassen Volcanic National Park (**Map 3-1** in **Appendix A**).

For each criteria pollutant, the Environmental Protection Agency (EPA) classifies areas as in "attainment" if the area is in compliance with National Ambient Air Quality Standards (NAAQS) or as "non-attainment" if one or more NAAQS is exceeded. Air quality is good throughout the planning area, although Butte County and a portion of Tehama County are currently designated nonattainment areas for the federal 8-

hour ozone NAAQS for both the 2008 and 2015 standards (EPA 2022). In 2015, the EPA tightened the previous 0.075 parts per million ozone standard to 0.070 parts per million. Therefore, Butte County and Tehama County are considered "attainment/unclassified" areas for all other pollutants. These are the only counties with nonattainment areas in the NCIP Planning Area.

Historical trends for ambient concentrations of criteria air pollutants within the planning area show no significant deterioration over the last 20 years; however, wildfires have contributed to periods of very poor air quality with particulate matter 10 micrometers or less in diameter (PM_{10}) and particulate matter 2.5 micrometers or less in diameter ($PM_{2.5}$) levels well above the 24-hour standard of 5 micrograms per cubic meter ($\mu g/m^3$).

Climate Change and Greenhouse Gases

Climate change has and will continue to affect the BLM-administered lands within the planning area. While projected changes in temperature, precipitation, and sea level rise differ based on modeling assumptions, each of these climate components is expected to change during the implementation of the NCIP. By accounting for the potential effects of climate change during the planning process, the BLM can make management decisions that reflect anticipated impacts on vulnerable resources and, therefore, assure with higher probability that the BLM can attain its stated planning goals.

The major sources of GHG emissions in Northern California are power plants, industrial processes, wildfires, and waste disposal (EPA 2020). Greenhouse gas emissions may differ greatly from year to year and from region to region within a year because of the occurrence of wildfires within and outside the planning area. The other categories of emissions likely vary little from year to year because they come from ongoing human activities. Apart from wildfire emissions, the GHG production in the Northeast Plateau Air Basin (i.e., NCIP planning area) is very low.

Climate data indicate increasing minimum air temperatures across Northern California, which includes the planning area (LaDochy et al. 2007). Generally, increasing temperature is expected to promote a more rain-dominated hydrology, with a reduction in both the spatial and temporal extent of seasonal snowpack. As this snowmelt water supply is reduced, ecosystem changes may occur in ecosystems currently adapted to the water provided by spring and summer snowmelt.

The planning area hosts a number of species and ecosystems dependent on cold water. As temperatures increase, water temperature can become a limiting factor, restricting the range of species such as salmonids. Similarly, changes in the air temperature regime influence terrestrial biota. Shifts in the distribution and composition of vegetation communities occur as temperatures shift outside of physiological tolerance for a given species. Extreme temperature events (such as, summer heat waves and warm winter days) are expected to become more frequent.

Climate change is expected to result in greater variability of storm frequency and intensity, which is expected to result in more intense droughts coupled with more intense storms (Cayan et al. 2016; Dettinger 2016; and Yoon et al. 2015). Data from EcoAdapt suggest that by 2100, the change in average annual precipitation will range from a 19 percent decrease to 27 percent increase, compared with precipitation from 1951 to 1980 (EcoAdapt 2019). California will likely experience more frequent jarring transitions between dry and wet years, but also between dry and wet months within individual years (Swain 2018).

Sea level rise is also a critical issue facing coastal areas. Tide gauge data show global sea levels have risen approximately 3.4 millimeters per year (1.3 inches per decade) since 1993, approximately double the rate of the previous century (California Ocean Protection Council Science Advisory Team Working Group [COPC] 2017). Along the Northern California coastline, ongoing tectonic processes of crustal uplift and subsidence compound observed sea level changes. Where the coast is subsiding, observed sea level changes are greater than global projections. The apparent magnitude of sea level rise will vary considerably across the coastline, dictated by ongoing crustal uplift and subsidence. These changes, known as isostatic sea level changes, are apparent in tidal records from Humboldt Bay and may also be a factor elsewhere. Maintaining the resilience of coastal areas to accommodate rising sea levels is important for inland communities (Crooks 2004).

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Resource uses would continue to be a source of criteria pollutant, toxic air pollutant, and GHG emissions that would have associated direct and indirect impacts on air quality and climate change in the planning area, primarily from recreation and travel management, livestock grazing, development in rights-of-way, vegetation management (mainly prescribed fire), and mineral materials disposal. Direct impacts would continue to occur from vehicle and equipment-related combustion emissions and fugitive dust generation from surface-disturbing activities. Indirect impacts would continue to occur from activities that expose soils and create conditions for windblown dust.

Management actions for soils are generally projected to continue to result in increased vegetation (density and height), lower overall surface and soil disturbance, and lower overall wind and water surface erosion. This would continue to result in reductions in windborne particulates from reduced erosion of exposed soils as vegetation improves over time. It would also continue to result in increased carbon sequestration.

The 54,600 acres that would be managed as ACECs, 58,490 acres designated as wilderness or managed as WSAs, 201.7 miles of eligible WSRs and a 0.1-mile river segment managed as suitable would continue to provide protection to air resources and maintenance of carbon sequestration from limitations on surface disturbance and emission-generating activities. There would continue to be no units managed as lands with wilderness characteristics.

Alternative B

Direct and indirect impacts on air quality would be similar to those described under Alternative A resulting from recreation and travel management, livestock grazing, development in ROWs, and vegetation management. Even though there are differences between the alternatives in acres open to grazing, factors like whether an area is suitable for grazing, the appropriate stocking level, and general interest in the public lands for grazing would likely mean that actual differences in livestock grazing authorizations or number of livestock on the landscape would not be appreciably different among alternatives. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP; therefore, any impacts would be limited to those areas where grazing allotments are active. In addition, similar areas would be closed to vehicle travel, similar areas would be open to renewable energy development, and similar impacts and mitigations for discrete prescribed fire treatments would occur. With more acres closed to mineral leasing and

mineral development than Alternative A, Alternative B would potentially have fewer air quality impacts and fewer GHG contributions than Alternative A related to mineral development. Management actions for soils would have similar benefits as described under Alternative A.

Under Alternative B, 88,820 acres would be managed as ACECs, 58,490 acres would continue to be designated as wilderness or would be managed as WSAs, 12,090 acres would be managed as Section 202 WSAs, and there would be 201.7 miles of suitable WSRs. In addition, the BLM would manage 21,970 acres to protect wilderness characteristics. The greater acreage managed for these uses would increase air quality protections and potentially maintain carbon sequestration more than under any other alternative.

Alternative C

Direct and indirect impacts on air quality would be similar to those described under Alternative B. Management actions for soils under Alternative C would have similar benefits as described under Alternative A.

Under Alternative C, 42,430 acres would be managed as ACECs, 58,490 acres would continue to be designated as wilderness or would be managed as WSAs, and there would be 14.2 miles of suitable WSRs. In addition, the BLM would manage 5,840 acres to protect wilderness characteristics. The acreage managed for these uses would be slightly lower than under Alternative A, resulting in fewer air quality protections and carbon sequestration.

Alternative D

Direct and indirect impacts on air quality would be similar to those described under Alternative B. Management actions for soils would have similar benefits as described under Alternative A.

Under Alternative D, 87,890 acres would be managed as ACECs, 58,490 acres would continue to be designated as wilderness or would be managed as WSAs, 540 acres would be managed as Section 202 WSAs, and there would be 147.2 miles of suitable WSRs. In addition, the BLM would manage 11,570 acres to protect wilderness characteristics. The greater acreage managed for these uses under Alternative D would increase air quality protections and potentially maintain carbon sequestration more than under Alternatives A and C.

3.1.2 Soils

Affected Environment

Soils are a living system consisting of nutrient and hydrologic cycles, energy flows, and other ecological processes. Soils vary greatly across the planning area; variability in soil characteristics strongly influences land use and management as well as the relative resilience of soils to impacts from land use activities. Because of the complex topography and geology of the planning area, differences in soil properties can be observed within short distances. Soils in the planning area provide the foundation for habitat (such as, vegetation or wildlife) and for resource uses (such as livestock grazing or recreation). Soil properties drive decision-making for optimal siting of infrastructure such as roads, trails, and facilities.

A number of sensitive soil resources occur within the decision area that require special management consideration, including highly erodible soils, decomposed granite soils, ultramafic and serpentine soils, special status farmlands, biocrusts and cryptobiotic soils, and anthropic soils.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Soil resources would continue to be impacted by management actions that remove vegetation and expose the surface to accelerated wind and water erosion. Existing management would continue current acreage allowances and practices for ROWs, grazing, mineral development, recreation and off-highway vehicle (OHV) use, special designation areas, and forestry/fire/vegetation management. Under Alternative A, 186,900 acres would remain available for livestock grazing; however, only 62,600 acres are within active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas where grazing allotments are active. Under Alternative A, the BLM would continue to utilize existing soil management approaches to protect soil resources.

Areas with sensitives soils or degraded areas could continue to be at risk for erosion from authorized activities, resource uses, and/or natural disturbance(s). Additionally, existing mitigation and management measures may not align with current standards, may not take into consideration current technology and mapping, and may not utilize current science for best management practices (BMPs) to address soil erosion and soil resources. However, there are some standards in place that would minimize potential impacts with ongoing current management strategy, including Rangeland Health Assessments, sediment source assessments, and effectiveness/implementation monitoring for BMPs for many ground-disturbing activities pursuant to Clean Water Act compliance. Current management would also include protection measures for sensitive soils such as decomposed granite and serpentine ultramafic soils, which would continue to protect these sensitive soils.

Alternative B

Under Alternative B, the BLM would prioritize designated areas for resource protection and strive to minimize overall ground disturbance. Alternative B also would provide for more protection of sensitive soils as compared to Alternative A by closing these areas to mineral development. There would also be fewer acres available for grazing with active grazing allotments (62,000 acres) as compared to Alternative A. In addition, during implementation-level travel planning, redundant routes within the Grass Creek watershed would be closed to address sediment impairment. Impacts on soil resources would continue from resources uses and natural processes but may be reduced when compared with Alternative A due to an increased focus on restoration of degraded areas, the increase in acreage of designated areas, and the management of areas of sensitive soils as ROW avoidance.

Alternative C

Impacts on soil resources under Alternative C would be similar to Alternative A, but slightly less protective than under Alternative B. There would also be more acres available for grazing with active grazing allotments (64,500 acres) as compared to Alternative A. However, Alternative C would allow for mineral materials development in the floodplain if development is consistent with natural and cultural resource goals, which would increase the potential for impacts on soil resources.

Alternative C would allow activities on sensitive soils with inclusion of a stormwater prevention plan and BMPs specified by BLM. This alternative would allow dredging activities to take place, except in ACECs to

protect fisheries and anadromous streams. Overall, effects on soil resources would be slightly greater than those described under Alternative A.

Alternative D

Impacts on soil resources would be similar to those described under Alternative B; however, Alternative D would allow for mineral materials development in the floodplain, if it is consistent with natural and cultural resource goals. There would also be fewer acres available for grazing with active grazing allotments (59,000 acres) as compared to Alternative A. Overall, the effects of management actions on soil resources under Alternative D would be more protective than under Alternatives A and C, but less protective than under Alternative B.

3.1.3 Water Resources

Affected Environment

Water Quantity

Water quantity, particularly during late summer, is a key limiting factor for many aquatic organisms. Several stressors contribute to low flows seen across the planning area include vegetative changes, climate change (drought), withdrawals for various uses, and channel aggradation. In addition to decreased summer streamflow across the planning area, many of the larger rivers are regulated for flood control, water rights, or managed for hydropower. Water quantity in regulated rivers depends on a variety of regulatory mechanisms that guide the operation of hydropower facilities and associated flow releases.

Late summer streamflow is impaired in many smaller stream systems as a result of development for residential, agricultural, and industrial purposes. In addition to diversions, changes in the vegetation composition have also changed the evapotranspiration characteristics across many watersheds, particularly where timber harvest has occurred. Additionally, wildfires have altered the evapotranspiration, surface water runoff, and groundwater recharge characteristics across many watersheds within the planning area.

Springs and seeps are important water resources. They are often the source of stream flows, provide cold-water habitat for temperature-dependent species, and support unique vegetation communities. Comprehensive mapping of springs across the planning area has not occurred.

In many areas, groundwater resources are intricately linked with surface flows. These areas are commonly encountered in areas of extensive stream deposits (alluvium) and valleys. In areas dominated by volcanic geology, groundwater resources (and springs) may occupy fracture networks and empty magma conduits. The majority of the planning area is mapped as not having a primary underlying aquifer, with small areas on the coast overlying Coastal Basins aquifers (Eel River Valley, Eureka Plain, and the Mad River Valley), inland areas associated with Northern California basin-fill aquifers (scattered in eastern portion of planning area), as well as Northern California volcanic-rock aquifers (eastern portions of Siskiyou, Shasta, Tehama, and northern Butte counties) (USGS 1995).

Water Quality

The CWA of 1972, as amended, establishes the framework for regulating discharges of pollutants into waters of the US and regulating quality standards for surface waters (Copeland 2016). Potential sources of water pollution can be categorized as either point or nonpoint source pollution. Point source pollutants originate from a direct source, such as permitted industrial discharges or sewage plant discharges.

Nonpoint source pollution comes from many diffuse sources, such as roads, atmospheric lead deposition, suspended sediment, and pesticides. The CWA prohibits discharge of pollutants from a point source into navigable waters unless a permit is obtained (Copeland 2016). EPA's National Pollutant Discharge Elimination System permit program controls discharges of pollutants. The Safe Drinking Water Act is the principal federal law that protects the quality of drinking water in the US (EPA 2004). Under the Safe Water Drinking Act, the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The law requires many actions to protect drinking water and its sources, including rivers, lakes, reservoirs, springs, and groundwater.

Many waterbodies throughout the planning area are listed as impaired under Section 303(d) of the Clean Water Act; in the State of California, the CWA authority is delegated to the state by the EPA. Within the planning area, regulated waters such as the Sacramento, Trinity, Klamath, Eel, Mad, Feather rivers, and Stony Creek are listed as impaired.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Existing management would continue with existing acreage allowances and practices for ROWs, grazing, mineral development, recreation and OHV use, special designation areas, and forestry/fire/vegetation management. Alternative A would continue to utilize existing soil management approaches to protect water resources. However, Alternative A would continue to have the highest potential for impacts on watershed health and water quality based on areas remaining open for ROW authorization (312,000 acres), while designating approximately 58,500 acres as ROW exclusion areas. Alternative A would have the second highest acreage available for grazing (186,900 acres), which could lead to impacts on water quality. However, only 62,600 acres would continue to be managed as grazing allotments; impacts on water resources would be limited to those areas where allotments are active. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP.

Alternative B

Alternative B would result in the fewest potential impacts on water resources among the alternatives based on acreage. This alternative would have the least acreage designated as open to ROW use (110,800 acres) authorizations. This would protect water resources by limiting disturbance. This alternative would have 232,800 acres of land available for grazing, which would be more than under Alternative A. There would be 232,800 acres available for livestock grazing under Alternative B. However, only 62,000 acres would continue to be managed as grazing allotments, which would be a reduction from Alternative A. Impacts on water resources would be limited to those areas where livestock grazing allotments are active.

Alternative B would update and enhance the BLM's current efforts to manage streams and rivers for beneficial waters. Water quality would continue to be managed through existing and newly developed BMPs in coordination with State of California agencies. In particular, almost all surface-disturbing activities would be prohibited within active floodplains. Additionally, during implementation-level travel planning under Alternative B, redundant routes within the Grass Creek watershed would be closed to address sediment impairment, with associated beneficial effects on water resources.

Alternative C

Alternative C would result in an intermediate level of impacts on water resources among the alternatives based on a balance of acreages with potential surface disturbance for various uses, including the highest amount of area available for grazing (271,800 acres), and the second highest amount open to ROW authorizations (121,300 acres). While 271,800 acres would be available for livestock grazing under Alternative C, only 64,500 acres would continue to be managed as grazing allotments, which would be an increase from Alternative A. Impacts on water resources would be limited to those areas where livestock grazing allotments are active.

Alternative C would update and enhance the BLM's current efforts to manage streams and rivers for beneficial waters. Water quality would continue to be managed through existing and newly developed BMPs in coordination with State of California agencies. However, under Alternative C, BLM-permitted surface-disturbing activities would be allowed within active floodplains, which would greatly increase the potential for impacts on water resources.

Alternative D

Alternative D would result in an intermediate level of impacts on water resources among the alternatives. The balance of acreages with potential surface disturbance would be similar to Alternative B, with 188,600 acres identified as available for grazing and 108,600 acres designated as open to ROW authorizations. . While 188,600 acres would be available for livestock grazing under Alternative D, only 59,000 acres would continue to be managed as grazing allotments, which would be a reduction from Alternative A. Impacts on water resources would be limited to those areas where livestock grazing allotments are active.

As described under Alternative C, Alternative D would update and enhance the BLM's current efforts to manage streams and rivers for beneficial waters. Water quality would continue to be managed through existing and newly developed BMPs in coordination with State of California agencies. BLM-permitted surface-disturbing activities would be allowed within active floodplains, which would greatly increase the potential for impacts on water resources.

3.1.4 Vegetation

Affected Environment

Vegetation Cover Types

The BLM classified vegetation in the decision area based on cover type (see **Appendix B**). There are 16 vegetation cover types identified in the decision area; the acres of each vegetation cover type are summarized in **Table D 7**, Vegetation Cover Types in **Appendix D**. Vegetation cover types are shown on **Map 3-2** in **Appendix A**.

Vegetation in the planning area is driven by the area's Mediterranean climate with warm, dry summers and cool, wet winters (see **Section D.2.1**, Air Quality and Climate). Rain dominates precipitation in the planning area, though higher-elevation areas have a winter snowpack that is important in sustaining streamflow—and associated riparian vegetation cover types—during the dry season. Along the coast, the maritime climate promotes milder temperatures compared with inland areas. Distinct shifts in vegetation types are apparent between coastal and inland areas and lower- and higher-elevation areas, given the unique climate conditions associated with each.

Fire is a primary driver of vegetation type change. High-severity wildfires have recently burned large portions of the planning area (see **Section D.2.8**, Wildland Fire Management), affecting vegetation types and trajectories. Climate change will also affect vegetation on the BLM-administered lands in the planning area. While projected changes in temperature, precipitation, drought, and wildfire differ based on modeling assumptions, each of these climate components is expected to change during the proposed plan implementation.

Riparian Management Areas

The Aquatic Conservation Strategy from the 1994 NWFP was established and provides management direction for riparian management areas. Riparian management areas are currently managed to maintain and restore riparian habitats in the NWFP area according to conservation strategy goals and objectives. Riparian management areas are also currently managed in several of the management areas in the existing Redding and Arcata RMPs, as summarized in Chapter 3 of the AMS (BLM 2021a).

Notable waterways on BLM-administered lands within the planning area are the: Eel, Mattole, Smith, Mad, Sacramento, Klamath, Pit, Scott, Shasta, and Trinity Rivers as well as: Clear, Mill, Deer, Battle, Butte, Cow, and Cottonwood Creeks (BLM 2021a, Table 2-9). The BLM also manages human-made reservoirs and ponds, natural seeps and springs, bedrock basins, stock ponds, modified and natural vernal pools, and wetland complexes, which would also be included in riparian management areas.

Special Status Plants

Special status plant species are those that have the following characteristics:

- They have been proposed for listing under provisions of the ESA or are listed as threatened or endangered (16 USC 1531–1534).
- They are candidates for listing as threatened or endangered under the provisions of the ESA and are managed as the BLM sensitive species under Manual 6840, Special Status Species Management.
- They have been delisted for a minimum of 5 years and they are managed as the BLM sensitive species.
- They have been designated by the BLM California State Director as sensitive.

Currently, there are five federally listed vascular plant species and 44 BLM special status plant species likely to occur on the BLM-administered land within the planning area (see **Table D-8** in **Appendix D**). Federal-listed plant species on the BLM-administered lands in the planning area generally occupy unique or rare habitat types, including several that are considered to be vulnerable vegetation communities tracked by the CDFW (see **Table D-10** in **Appendix D**). These areas also provide suitable habitat for many of the other special status plant species.

There are an additional 68 special status plant species, including federally listed species, suspected to occur on the BLM-administered lands in the planning area (of these, 17 plants are suspected to occur in the Arcata FO jurisdiction and 51 in the Redding FO jurisdiction). Suspected species are those that could occur on the BLM-administered lands due to the presence of appropriate habitat and proximity to known populations.

Invasive, Nonnative Plants

Invasive, nonnative plants include noxious weeds as well as other plants that are not native to the US. An invasive species is defined as "a species that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental health or harm to human health" (US National Invasive Species Council 2008). According to the California Department of Food and Agriculture Code 5004, a "noxious weed" includes any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation, designates to be a noxious weed.

There are 236 species of invasive, nonnative species known from the planning area vicinity. Of those, 171 species are known to occur on the BLM-administered lands, and 77 of these are currently subject to active management for control and/or eradication by the BLM (BLM 2021a, p. 2-86). The BLM implements multiple strategies to manage invasive, nonnative plant species, including noxious weeds. This includes coordinating with local, county, state, and federal land managers in the planning area to carry out integrated weed management on the BLM-administered lands. Early detection and rapid response are facilitated by collaboration with partners including local weed management areas, resource conservation districts, watershed councils, county agriculture departments, and cooperative agreements with grazing lessees. A primary focus of the BLM is detection and treatment of smaller weed infestations in high-risk areas, with the aim of preventing further weed spread and maintaining or improving ecosystem health (BLM 2021a, p. 2-72).

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

The BLM would continue to manage vegetation on a case-by-case basis, per direction contained in the existing RMPs. Desired conditions would not be defined or managed for; this means that movement toward these conditions would be slower than using a landscape-scale approach proposed under the action alternatives. The range of available vegetation treatment methods also would be more limited.

The BLM would continue to carry out special status plant management in management areas with known plant occurrences. This be done to maintain and improve the extent and condition of known occurrences (for instance, dune-associated rare plants at Samoa Dunes and Manila Dunes, serpentine-associated species at Red Mountain, vernal pool species in the Sacramento Valley, and rare cypress stands in the Ishi Management Area).

Invasive nonnative plant species would continue to be managed to meet management area goals and objectives. Following standard operating procedures for identifying, treating, and monitoring nonnative, invasive plants during vegetation treatments would continue to reduce the potential for their establishment and spread.

Management to bring back low-intensity prescribed fire to fire-adapted ecosystems would be done on a case-by-case basis with a site-specific analysis; this would hinder widespread use of this beneficial tool on the landscape compared with the other alternatives. Vegetation benefits would be a secondary effect of proposed treatments. Carrying out prescribed fire treatments would move treated areas toward desired

conditions and improve ecological resilience, but requirements to implement treatments would likely mean the overall acres treated would continue to remain relatively low.

Continuing to manage riparian management areas according to the Aquatic Conservation Strategy objectives in the 1994 NWFP would help maintain the distribution, connectivity, and ecological integrity of riparian vegetation where these reserves are managed. Greater protections would be afforded to fish-bearing streams as outlined in the objectives and the existing RMPs for the Redding and Arcata FOs.

Alternative B

Defining and managing for desired conditions for each vegetation cover type, considering anticipated future climate conditions, would increase the resistance and resilience to disturbance in the face of climate change under Alternative B to a greater extent than under Alternative A. Expanding available treatment methods to include more widespread use of prescribed fire would improve the structure, function, and resilience of fire-adapted vegetation cover types. Anticipated effects by cover type would include:

- In chaparral shrubland, improved structural, age class, and species heterogeneity would improve resistance from climate-driven disturbances like uncharacteristically large and severe fire.
- Coastal forests would be managed to maintain condition and function in response to natural processes; removing encroaching conifers in interspersed coastal prairies may reduce coastal forest extent.
- Removing encroaching conifers in coastal prairie would maintain or increase the extent of this community, and prescribed fire, native plantings, and soil amendments would improve the structure and function.
- Emphasizing conifers and thinning tanoak would shift structural composition of Douglas-fir and tanoak-dominated forests. This would, minimize the effects of sudden oak death infection, reduce fuels, and lower severe fire risk, maintaining the extent and condition in the long term.
- Invasive plant removal in coastal dunes would maintain and improve habitat suitability for rare plants. Allowing inland retreat would minimize habitat loss in the long term.
- Enhancing oak regeneration in the foothill pine and oak woodland type would shift the structural composition, reduce the fire risk, improve ecological function, and improve opportunities for traditional use and harvest.
- Improving hydrological connectivity in grassland, vernal pool, and wetland cover types would improve the condition and function. Prescribed fire would promote native perennial grasses and forbs, improving pollinator and wildlife habitat and habitat conditions for rare plant species.
- Restoring the fire regime in knobcone would improve stand structure and help to maintain this cover type.
- Improving stand structure in the mixed conifer type would improve structure, function, and resilience.
- Enhancing oak regeneration and native perennial grassland understory in the oak savannas and open woodlands type would improve ecological condition and opportunities for traditional use and harvest.
- Reducing conifer encroachment and restoring the historical fire regime, and promoting cypress regeneration in the rare cypress forest type would maintain the extent and improve the structure and function.

- Restoring degraded areas and enhancing floodplain connectivity in the valley foothill riparian type would increase the extent and improve the structure and function.

Management for known special status plant species would continue to maintain the extent and condition; however, improved vegetation cover type structure and function, as described above, would improve conditions for rare plant species and improve resilience in the face of climate change.

An increased focus on eradicating small, cross-jurisdictional infestations and monitoring high-threat and high-value areas, such as motorized routes and ACECs would improve invasive nonnative plant control effectiveness. This would improve ecological function in affected vegetation cover types and areas that support rare plants.

The BLM would manage vegetation in response to observed and anticipated human development, fire, and climate trends. Implementing specific fuels prescriptions by vegetation cover type and proximity to human development would facilitate movement toward desired conditions while protecting human developments. Prioritizing fuels treatments to mimic historical fuels conditions would move vegetation towards historical conditions. A programmatic hazardous fuels reductions NEPA analysis would enable faster pace and more widespread scale of prescribed fire treatments and vegetation benefits, and prescribed fire could be used as a primary tool to meet vegetation objectives.

The location, extent, and management of riparian management areas would be based on the type and hydroperiod of the aquatic resource. This would increase the amount of riparian management areas compared with Alternative A. Basing management on the ecological and hydrological characteristics of the area would facilitate movement toward desired conditions. Designing and implementing watershed restoration projects to promote long-term ecological integrity, using site-appropriate native species, removing invasive, nonnative plants, and reducing fuels would lower the risk of catastrophic fire and improve resilience to future climate-related disturbances like fire and drought.

Alternative C

Impacts on vegetation under Alternative C would be the same as described under Alternative B.

Riparian management area widths would generally be narrower under Alternative C compared to other action alternatives, so potential effects would occur in fewer areas.

Alternative D

Impacts on vegetation and riparian management areas under Alternative D would be the same as described under Alternative B.

3.1.5 Wildlife

Affected Environment

Wildlife

The large area and diverse ecosystems in the planning area provide habitat for a multitude of wildlife species, including numerous birds, bats, mammals, reptiles, amphibians, and insects. Vegetation is one of the primary factors that influences species diversity and abundance and is one of the more obvious habitat components influenced by management, land use, and natural disturbance. Species' presence and absence

in the planning area, in many cases, is directly tied to availability, current ecological condition, and key ecosystem characteristics of vegetation types.

Key habitat features for wildlife in the planning area include mature/old growth conifer and mixed hardwood forest stands; wetland, riparian areas, and springs; snowy plover nesting habitat; coastal and inland prairies; rock outcroppings supporting nesting raptors; and vernal pool habitat. Connectivity is another key feature for wildlife because many species rely on large, undisturbed blocks of land for daily movements and movement between seasonal habitats. The CDFW's Essential Connectivity Map depicts large, relatively natural habitat blocks that support native biodiversity and areas essential for ecological connectivity between them. Based on the model, there are 5,446,600 acres of Essential Connectivity Corridors (ECCs) in the planning area habitats (**Map 2-2** in **Appendix A**). Of these, approximately 92,900 acres (2 percent of ECCs in the planning area) are on BLM-administered land. The BLM only has discretionary management over these acres.

Protected areas are important for wildlife because they are managed to protect and enhance wildlife populations and habitat. In the planning area, public lands protected for wildlife include the Mike Thompson Wildlife Area located on the South Spit Humboldt Bay, which is an important western snowy plover (*Charadrius nivosus nivosus*) breeding area. Additionally, ACECs in both FOs provide for the protection of unique plant communities, watersheds, and natural processes that benefit wildlife. The Paynes Creek Wetland Complex, within the Sacramento River Bend ACEC, provides habitat for waterfowl, shorebirds, wading birds, beaver, river otter, amphibians, reptiles, and aquatic invertebrates.

Additional baseline condition information on migratory birds, bats, mammals, reptiles and amphibians, small game, invertebrates, waterfowl, big game, and habitat conditions can be found in **Section D.2.5** in **Appendix D**.

Special Status Species

Special status species that have the potential occur in the planning area based on suitable habitat are listed in **Table D 28** in **Appendix D**. Some of these species are also listed as state threatened or endangered under the California Endangered Species Act (CESA) or are identified as State Species of Special Concern (SSC).

Critical habitat for the following federally listed terrestrial wildlife species occurs in the planning area: marbled murrelet (*Brachyramphus marmoratus)*, northern spotted owl (NSO; *Strix occidentalis caurina*), Pacific marten (*Martes caurina*), western snowy plover, and yellow-billed cuckoo (*Coccyzus americanus*) (**Map 3-7**, Critical Habitat, in **Appendix A**; USFWS 2023).

The current distribution of special status species in the planning area ranges widely. Some species, such as the NSO and marbled murrelet, are dependent on specific key habitat components (i.e., late-successional forest habitat), whereas, others, such as the Yuma myotis, are associated with several vegetation cover types (**Table D 25** in **Appendix D**). Special status species' trends also vary; some species are stable or increasing due to relatively low stressors and drivers (e.g., bald eagle, brown pelican). Other species of concern (NSO, marbled murrelet) have potentially high levels of risk and uncertainty.

Invasive, Nonnative Species

Terrestrial nonnative or introduced species, such as feral cats (*Felis catus*) and feral swine (*Sus scrofa*), and nonnative and invasive plants and aquatic species inhabit the planning area. These species can compete for resources, degrade vegetation communities, transfer diseases, or directly prey on native wildlife species; however, wildlife habitat degradation due to invasive weeds remains the greater threat to native wildlife. While common ravens (*Corvus corax*) and American crows (*Corvus brachyrhynchos*) are native to California, substantial population increases over the past few decades have led to predation by these species becoming a threat to several threatened and endangered species, including snowy plovers (Liebezeit and George 2002).

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Alternative A would continue current management direction and prevailing conditions, with the focus of wildlife management on avoiding jeopardizing the existence of any federally listed, state-listed, or proposed species, actively promoting species recovery, and improving the status of candidate and sensitive species. This would continue to benefit species status species. Other wildlife species that use similar habitat types would also likely continue to benefit from protections. Because current wildlife management does not focus on widespread protection or enhancement of all wildlife habitats and vegetation types, not all wildlife species may experience the same protections.

By continuing to manage vegetation and forest as Management Areas rather than by vegetation cover class, desired conditions for wildlife habitat could take longer to be realized than under the action alternatives, potentially resulting in more homogenous conditions that may support a lower diversity of wildlife species relative to the natural range of variation and habitat that is less resilient to disturbance and stressors, with resultant impacts on wildlife.

Because management for essential connectivity corridors are not specified under Alternative A, the BLM could miss opportunities to pursue land allocations and/or water rights to benefit wildlife habitat, including big game and riparian habitat more than under the action alternatives.

Without specific management for cave and karst resources, habitat for bats would not be protected and bat species could be at risk of disturbance, habitat degradation, and spread of white-nosed syndrome more than under the action alternatives. Likewise, lack of specific management for pollinator species may lead to habitat loss or degradation for pollinator species, such as monarch butterflies.

Alternative B

Alternative B would emphasize habitat connectivity and resilience and thus would be the most proactive in promoting conservation and recovery of threatened, endangered, and other special status species. It would prioritize actions that promote and maintain corridors of relatively undeveloped areas to provide habitat connectivity and to serve as a resilient refuge to ongoing development and climate change.

Alternative B would also establish more protection for sensitive amphibian species than the other alternatives. The BLM would survey and establish buffers for these species and prioritize acquiring lands for essential habitat connectivity corridors.

Alternative B would include more areas identified as ACECs than under Alternative A. These areas would provide increased protections in some cases that would benefit wildlife and their habitats as a result of decreased disturbances and reduced potential for habitat alterations.

Alternative B would implement guidance for protection of caves and mines that are used as roost sites for bats, which would help reduce threats from disturbance, habitat degradation, and potential spread of disease. Overall, Alternative B would protect bats and their habitats and promote the recovery of sensitive bat species more than Alternative A. Alternative B would also implement specific management actions to maintain and enhance pollinator habitat, which would have beneficial impacts on pollinators and other wildlife species associated with these habitat types more than under Alternative A.

Alternative C

Alternative C would prioritize management actions that promote ecosystem resiliency to large disturbances (such as, fire, drought, and rain). This could lead to short-term adverse effects on wildlife but long-term beneficial effects from the reduced risk of habitat loss due to disturbance. Land tenure adjustments under Alternative C would increase habitat connectivity for big game species more than under Alternative A but less than under Alternatives B and D.

Including fewer areas as ACECs under Alternative C would reduce protections to wildlife and their habitats as a result of increased disturbances and potential for habitat alterations to the extent that these protections are not provided through other designations.

Protections for caves and mines that are used as roost sites for bats, and protections for pollinator habitat under Alternative C would be the same as described under Alternative B.

Alternative D

Alternative D would provide a balance between wildlife management and other land uses, including treatments to prioritize ecosystem resiliency. As discussed under Alternative C, this could lead to short-term adverse effects on wildlife but long-term beneficial effects from the reduced risk of habitat loss due to disturbance. Land tenure adjustments under Alternative D would increase habitat connectivity for big game species similar to under Alternative B.

Alternative B would include more areas identified as ACECs than under Alternative A. These areas would provide increased protections in some cases that would benefit wildlife and their habitats as a result of decreased disturbances and reduced potential for habitat alterations, but to a lesser extent than under Alternative B.

Protections for caves and mines that are used as roost sites for bats, and protections for pollinator habitat under Alternative D would be the same as described under Alternative B.

3.1.6 Fish and Aquatic Species

Affected Environment

Aquatic habitats within the planning area are diverse and consist of rivers, streams, springs, seeps (generally referred to as lotic or flowing systems) and lakes, reservoirs, and ponds (generally referred to as lentic or still water systems), which provide year-round (perennial) or seasonal (intermittent) habitat for fish, aquatic invertebrate, amphibian, and reptile species.

The wide dispersal and scattered parcel distribution of BLM-administered lands in the planning area result in aquatic habitat for specific streams and rivers crossing land owned by different entities, making it difficult to describe specific habitat conditions relative to single landownership or watershed. As a result, the current conditions of aquatic resources in the planning area are presented in terms of overall habitat conditions, type (lentic or lotic), and fish species distribution and diversity. On a regional scale, the BLM is a minor landowner compared with Forest Service-administered lands and private property, owning just 3 percent of the land.

Lotic Habitat

Approximately 778 miles of streams and 1,817 acres of floodplain habitat occur on BLM-administered lands within the planning area. Of this, 523 miles have been identified as perennial fish-bearing stream and river corridors. Major inland waterways within the Klamath, Sacramento-San Joaquin, and Coast Range systems include the Eel, Mattole, Smith, Mad, Sacramento, Klamath, Pit, Scott, Shasta, and Trinity Rivers, as well as Paynes, Clear, Mill, Deer, Battle, Butte, Cow, and Cottonwood Creeks.

Lentic Habitat

Lentic habitats in the planning area consist of human-made ponds and reservoirs, natural and modified wetlands, seeps and springs, bedrock basins, stock ponds, vernal pools, and floodplain habitat adjacent to riverine systems. In the planning area, these features range in size from the 30,000-acre Lake Shasta Reservoir to unnamed stock ponds or vernal pools less than 100 square feet in size.

Within the planning area, the BLM manages, helps manage, or provides access to eight recreational fishing reservoirs. Most of these are small reservoirs occurring entirely on BLM-administered land and stocked by the BLM and/or CDFW with a few species each. In addition to these reservoirs and ponds, the BLM manages multiple seeps and springs, bedrock basins, stock ponds, modified and natural vernal pools, and wetland complexes, which provide habitat to a suite of aquatic-dependent biota. These wetland features may be perennial or seasonal and range in size from smaller than 100 square feet to larger than 60 acres.

Aquatic Species

Of the approximately 66 native freshwater, estuarine, or anadromous fish species that occur in California (Moyle 2002), approximately 45 occur within the planning area. Thirty-one species of nonnative fish occur in the planning area, totaling approximately 76 fish species occurring in the planning area (Table 2-12 in the AMS [BLM 2021a, page 2-42]). Seven of these species have identified subspecies or possess distinct ranges reproductively isolated from the population or that are considered distinct population segments (DPSs), or evolutionary significant units (ESUs).

Special Status Species and Priority Habitats

There are 13 fish and 4 aquatic invertebrates listed as threatened or endangered under the ESA known to occur in the planning area; these are listed in Table 2-14 in the AMS (BLM 2021a, page 2-46).

BLM sensitive species are species that require special management consideration to reduce the need for listing as well as all federal candidate species, proposed species, and delisted species in the 5 years following delisting. The BLM priority species or habitats are those recognized as significant for at least one factor such as density, diversity, size, public interest, remnant character, or age. There are 16 nonlisted species and three habitat types that are either priority species or habitat, or BLM sensitive species requiring special management consideration (Table 2-14 in the AMS [BLM 2021a, page 2-46]).

The BLM conserves habitat for special status species that occur on BLM-administered lands (Table 2-14 in the AMS [BLM 2021a, page 2-46]). Priority habitats (both lentic and lotic) that occur in the planning area are:

- 523 miles of anadromous habitat occur on BLM-administered lands (67 percent of stream miles on BLM-administered lands)
- 778 miles of riparian habitat occur on BLM-administered lands
- 1,817 acres of floodplain habitat occur on BLM-administered lands

Invasive, Nonnative Species

There are 44 nonnative aquatic fish and invertebrate species documented from the planning area or connected waterways; see Table 2-15 in the AMS (BLM 2021a, page 2-50).

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, fish and aquatic species would continue to be affected by surfacing-disturbing activities that alter riparian habitat, such as ROW authorizations, OHV use, and grazing activities. Areas with special designations such as ACECs, VRM Class I and II areas, and WSR corridors would continue to provide protections by limiting habitat-alternating actions.

Alternative B

Under Alternative B, fish and aquatic species would experience impacts from surface disturbing activities that alter riparian habitat, while specially designated areas would continue to provide protections by limiting habitat-alternating actions that can occur in these areas. Alternative B would decrease the acres open to ROW authorizations by 64 percent, as compared to Alternative A, which would provide an increase in protection from surface disturbing activities. There would be 73,600 acres closed to OHV travel, which would provide an increase from Alternative A of areas protected from disturbance impacts from OHV use. Additionally, Alternative B would make 232,800 acres available to livestock grazing; however, only 62,000 acres would fall within grazing allotments under Alternative B. Impacts on fish and aquatic species would be limited to those areas within active allotments. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP. Further protections from surface

disturbing activities would be afforded under Alternative B through the most acres managed as ACECs, VRM Class I and II, WSR corridors, and managed for wilderness characteristics of any of the action alternatives, including Alternative A. Alternative B would impact the fewest acres of fish and aquatic habitat out of all alternatives analyzed (similar to Alternative D).

Alternative C

Alternative C would include the highest acreages out of all alternatives, including Alternative A, of areas available where surface disturbing activities could take place that could alter riparian habitat, including areas open to ROW authorizations, open to OHV use, and available for grazing activities. Alternative C would make 271,800 acres available to livestock grazing; however, only 64,500 acres would fall within grazing allotments under Alternative C. Impacts on fish and aquatic species would be limited to those areas within active allotments. The BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP. Additionally, Alternative C would include the fewest acres out of all alternatives, including Alternative A, of areas that would provide protections from surface disturbing activities such as ACECs, VRM Class I and II areas, and WSR corridors. Overall, Alternative C would present more acres of potential impacts on fish and aquatic habitat than Alternative A, as well as the other action alternatives.

Under Alternative C, fish and aquatic species would continue to have the potential be affected by surfacing-disturbing activities that alter riparian habitat, while specially designated areas would continue to provide protections by limiting habitat-alternating actions that can occur in these areas. Based on the acres available to ROW authorization, OHV use, and grazing; acres managed as ACECs, VRM Class I and II, and WSR corridors; and acres managed for wilderness characteristics, Alternative C would have the most overall impacts on fish and aquatic habitat.

Alternative D

Impacts on fish and aquatic habitat under Alternative B would be similar to those discussed under Alternative D. This alternative would provide more protections for fish and aquatic habitat from surface disturbing activities than Alternative A, but would not be as protective as Alternative B.

3.1.7 Coastal Resources and Management

Affected Environment

Coastal resources, when present, are found within the coastal zone jurisdictional boundary of the California Coastal Commission delineated as part of the Coastal Zone Management Act of 1972. Under the California Coastal Commission, the coastal zone area generally extends inland up to 1,000 yards from the mean high tide line. In important coastal estuarine areas and areas with noteworthy coastal habitat or recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line, whichever is less (Public Resources Code [PRC] Division 20 of the California Coastal Act, Section 30103).

The NCIP coastal strip, while based on the California Coastal Commission coastal zone ecological parameters, does not include all of the California 'coastal zone' definition. In the NCIP planning area, the coastal strip is defined as "protected coastal habitats and resilient coastal systems of BLM-administered lands within 1,000 yards from the mean high tide line." It does not include the additional portion of the California Coastal Commission definition of land that extends inland to the first major ridgeline paralleling the seas or 5 miles from the mean high tide line, whichever is less. Communities along the NCIP coastal

strip include Crescent City, Trinidad, Arcata, Eureka, Westport, and Fort Bragg. In general—and compared with most of the California coast—the coast within the planning area is sparsely populated and relatively undeveloped. The Humboldt Bay area is the most populated area of the NCIP coastal strip.

Existing BLM-administered coastal resources include three areas on the Humboldt Bay North Spit and South Spit that are administered for recreation, protection and restoration of native dune habitat, protection of threatened and endangered species, and protection of prehistoric and historic cultural sites. These include Ma-le'l Dunes Cooperative Management Area (CMA), Samoa Dunes Special Recreation Management Area (SRMA), and Mike Thompson Wildlife Area, South Spit, Humboldt Bay.

Coastal resources are threatened by rising sea levels. For Humboldt Bay, where much of the coastal resources planning area lands are situated, sea level rise is compounded by tectonic subsidence. Coastal dunes, particularly those surrounding the Humboldt Bay area, provide a buffer to rising sea levels. Recent El Niño events, particularly during the winter of 2015/2016, produced extensive beach and dune erosion along the margins of Humboldt Bay. This erosion has encroached into the Samoa Dunes riding area, toppling boundary fences and making beach access difficult in places due to the steep scarping that occurred along the foredunes.

Extensive restoration efforts have occurred along the Mike Thompson Wildlife Area, South Spit, Humboldt Bay, Samoa Dunes, and Ma-le'l Dunes CMA. These efforts have focused on the restoration of the native dune mat habitat and snowy plover habitat. Ma-le'l Dunes CMA contains extremely rare dune mat habitat. In some cases, these areas are subject to special management considerations or closures. Several protected areas are designated along the coast to protect native flora and fauna.

Invasive species—primarily European beach grass (*Ammophila arenaria*) along with English ivy, ice plant, and yellow bush lupine—are common in coastal dune areas within the planning area. These species—especially European beach grass— have invaded dune niches along the north and south spits of Humboldt Bay. These species displace at least six federally listed endangered plant populations on the California coastal dunes. The BLM actively manages invasive species in the planning area to maintain and restore coastal dune mat habitat.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Alternative A would have the highest potential for impacts on coastal resources, primarily due to a lack of management direction in the current plans. For example, Alternative A would not include management actions for coastal resiliency, and it would include fewer protections for habitat, vegetation, and wildlife, and fewer restrictions for land tenure and minerals decisions than the action alternatives.

Alternative B

Alternative B would result in the lowest level of impacts on coastal resources. It would place the most protections on sensitive habitat and wildlife, and the most restrictions on OHV travel, recreation, land tenure decisions, and minerals decisions. These management actions would minimize land and habitat disturbance. Alternative B would be the most proactive in managing for coastal resiliency in the face of

rising sea levels and climate change. It would also maximize the ability of coastal resources to move and adapt to the change in sea level. A focus on land acquisitions for habitat and resiliency purposes would maximize opportunities to promote coastal resilience.

Alternative C

This alternative would prioritize recreation and human activities and would therefore allow more disturbance of coastal resources. It would result in more surface disturbing activities than Alternatives B and D from recreation, OHV travel, land tenure decisions, and minerals actions. A focus on land acquisitions for recreation purposes would limit opportunities to promote coastal resiliency. Although areas where surface disturbing activities would be allowed would be greater than under Alternatives B and C, impacts would be reduced compared with Alternative A due to protective regulations and mitigations.

Alternative D

There would be more impacts from surface disturbance under Alternative D than under Alternative B, but less than under Alternative C. This alternative would be more restrictive on recreation, OHVs, and land tenure and minerals management decisions than Alternatives A and C, but it would have fewer protections for wildlife and habitat than Alternative B.

3.1.8 Wildland Fire Management

Affected Environment

The fuels complex in the NCIP planning area consists of a wide variety of vegetation due to the area consisting of both inland and coastal vegetation types. These vegetation types exhibit a range of fire regimes and fire return intervals, from frequent to infrequent. In the absence of disturbance, current vegetation composition is prone to type conversion such as conifer expansion into oak woodlands, and substantial build up in fuels increasing wildfire hazard. Nonnative species invasions also contribute to changes in fuel type and fire regime.

Fires within the planning area include prescribed fires used as a management tool. Prescribed fire planning is based on sound risk management, considering economic feasibility, the best available science, cooperation with other agencies and Tribes, and consideration for public health and environmental quality. Not all the land within the planning area is expected to be burned in a prescribed fire, as risk management, logistics, and resource values may make prescribed fire untenable.

Naturally occurring wildfires have been widely distributed in terms of frequency and severity. The vegetation condition class is a measure of vegetation departure and indicates the degree to which current vegetation is different from estimated historical vegetation reference conditions (LANDFIRE 2021, see **Map 3-12**). Condition Class refers to the current and desired resource conditions related to fire management. Two-thirds or more of the planning area is in Condition Class 2 or 3. This means fire regimes in the planning area have been moderately or significantly altered from their historic range, due to fire suppression. From 2000-2012, lightning accounted for about one-third of the ignitions within the planning area. Human caused ignitions made up the remaining two-thirds of ignitions. The main causes are equipment and incendiary.

Wildland fire protection for these lands is provided under the California Master Cooperative Wildland Fire Management and Stafford Act Response Agreement. Under this agreement, the California

Department of Forestry and Fire Protection (CAL FIRE), the Forest Service, and the National Park Service (NPS) have agreed to assume wildfire protection responsibility for BLM-administered lands in the NCIP planning area. While wildland fire protection is covered by these multiple agencies, an estimated 95 percent of that coverage is by CAL FIRE.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Management actions designed to reduce the amount of vegetation fuels within the planning area under Alternative A would aid in fire suppression efforts. However, continued fire suppression in most areas would increase the amount of fuel within the planning area, having an impact on BLM's ability to suppress and manage wildland fires. This alternative would have the least impact on the existing fire program.

Alternative B

Alternative B would prioritize construction and maintenance of shaded fuel breaks along with low-to-moderate intensity prescribed burns. These would lead to moderated wildfire behavior when compared with Alternative A. Restoration of suppression lines to the original contour and vegetation to minimize the visual contrast would be required under this alternative. This action could hinder future wildfire suppression efforts. Treatments to remove nonnative species would also be prioritized. This would lead to moderated fire behavior and more successful post-fire restoration than under Alternative A.

Alternative C

Alternative C would maintain suppression lines, as appropriate, as long-term, strategic fire breaks. This would enhance suppression efforts for a longer duration than under Alternatives A and B. Where special designations and interface zones conflict, treatments would be prioritized to protect Interface Zones. This alternative would prioritize protection of human life and property, as opposed to special designation areas as would occur under Alternative B.

Alternative D

Alternative D would provide a more cohesive and holistic strategy for wildland fire management than under Alternatives A, B, and C. Alternative D would consider many varied factors and resource objectives. This alternative would have the greatest impact on the fire program as compared with the other alternatives.

3.1.9 Cultural Resources

Affected Environment

Cultural resources are places or objects that are formed and/or assigned value by humans (e.g., historical buildings, documents, roads, artifacts, villages, battlefields and other landscapes, hunting camps, mines, sites, or places that are tightly bundled up with a community's ongoing identity). According to BLM Manual 8100, the term cultural resource refers to archaeological, historic, or architectural sites, structures, or places with important public and scientific uses. This can also include Traditional Cultural Places and Sacred Areas, which are properties that derive their significance from traditional values associated with a particularly social or cultural group, such as an Indian Tribe or local community or enclave.

As a federal undertaking, the implementation of an integrated plan requires the BLM to comply with Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800; 54 USC 306108), which is a consultation process obligating all federal agencies to identify historic properties (i.e., those cultural resources that are listed in, or eligible for listing in, the NRHP) and consider the effects of its actions on those important cultural resources.

The types of cultural resources present on BLM-administered lands in the planning area reflect an expansive period of human interaction and transformative changes in settlement and use patterns. Pursuant to its obligation under Section 106 review, the BLM must make a "reasonable and good faith effort" to identify and inventory historic properties that may be affected by the implementation of its decisions. To date, about 15–20 percent of the BLM administered lands within the planning area (i.e., the analysis area) have been surveyed for cultural resources. Currently, only six properties in the analysis area, all located within the Redding FO boundary, are listed in the NRHP. All six properties are categorized as districts, meaning they are a collection of multiple resources that come together to form a unified entity. Four of these districts contain archaeological resources; the other two consist of historical community development associated with the built environment. These six NHRP properties are:

- Upper Klamath River Stateline Archaeological District
- Forks of Butte
- Swasey Discontinuous Archaeological District
- French Gulch Historic District
- Sulphur Creek Archaeological District
- Helena Historic District

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Management of cultural resources is governed by a number of regulations, executive and secretarial orders, and other policies. Of those, the most relevant is the NHPA, which requires federal agencies to identify historic properties, while also assessing potential effects on historic properties stemming from all federal undertakings. If adverse effects are found, these must be avoided, minimized, or mitigated through the Section 106 consultation process.

Under Alternative A, these policies and practices would continue. While current management does provide additional approaches and guidance specific to certain resources and the intersections with cultural resources, these vary in scope and direction. Reducing impacts on cultural resources would largely continue through the Section 106 consultation process, compliance with other relevant federal regulations, and other policies.

Alternative B

Under Alternative B, the BLM would implement several comprehensive cultural resource management approaches tailored to resource types and uses not addressed under Alternative A. The increased emphasis on cultural resources as part of the wholistic management strategy would provide a more

cohesive framework that the BLM would be able to apply throughout the decision area. In addition to these practices, as well as the continued requirements to address potential effects through the Section 106 consultation process and compliance with other federal regulations, Alternative B would increase special designations and other protective overlays that would reduce the amount of acreage available for potential surface-disturbing uses. Collectively, these conditions would reduce the potential for impacts on cultural resources compared with the current management practices under Alternative A.

Alternative C

Impacts under Alternative C would be similar to those described for Alternative B; this is because the BLM would implement comprehensive cultural resource management approaches tailored to other resource types and uses, in addition to required assessments of potential adverse effects on cultural resources through the Section 106 process. However, Alternative C would provide less protections and restrictions on resource uses than Alternative B. The levels of protections under Alternative C would generally be more reflective of the conditions under Alternative A; however, overall changes to management and continued project-level review would offset impacts on cultural resources compared with Alternative A.

Alternative D

Impacts under Alternative D would be similar to those described under Alternative B; this is because the BLM would implement comprehensive cultural resource management approaches tailored to other resource types and uses. As with other action alternatives, an assessment of potential adverse effects on cultural resources would also be required under Alternative D through the Section 106 consultation process.

Generally, Alternative D would provide a mixture of protective special designations and available resource uses that reflect a compromise between Alternatives B and C. The increased levels of use under Alternative D, however, would primarily be in the form of increased recreation. While increased recreation and visitation have the potential to impact cultural resources directly and indirectly, specific management practices and increased education in areas of cultural significance and high visitor use would offset some of these potential impacts. Further recreation planning and other strategies at the specific plan or project design phases would further address these potential effects on cultural resources through the Section 106 consultation process. This alternative would likely result in fewer potential impacts than Alternative A.

3.1.10 Paleontology

Affected Environment

Paleontological resources are protected by federal law which includes the Paleontological Resources Preservation Act (PRPA) of 2009 (16 USC 470 aaa-aaa-11) and regulations 43 CFR Part 49, Paleontological Resources Preservation. Although the current Arcata and Redding FO RMPs do not contain existing management for paleontological resources, the BLM policy is to manage these resources for scientific, educational, and recreational values. In addition, the BLM protects or mitigates paleontological resources from adverse impacts on lands they administer using established guidance documents (e.g., BLM 8270 Handbook [BLM 1998] and Permanent Instructional Memorandum 2022-009 [BLM 2022e]).

Paleontological data should be considered as early as possible in the decision-making process. This includes using the Potential Fossil Yield Classification (PFYC) System, which establishes a class ranking of

paleontological potential that can be assigned to geologic units and it sets management and mitigation recommendations for each class. In 2017, the Inventory of Existing Data for Paleontological Resources and Potential Fossil Yield Classification GIS Database was completed to provide information for the NCIP (Shapiro 2017). This inventory utilized museum records and published manuscripts of fossil specimens and geologic maps (at various scales and details) to assign the BLM PFYC values to geological units throughout the entire planning area. The findings show that approximately 64 percent of the NCIP surface decision area are identified as PFYC 1 and 2, which indicates very low and low (respectively) risk of fossils or paleontological resources.

Paleontological resources do occur within the decision area. There are 14 mapped geologic units designated as PFYC 3 or 4 in the decision area; 11 of these are PFYC 3 and 3 are PFYC 4. In addition, there are many geologic units assigned as PFYC U (unknown risk of occurrence and damage) within the planning area and at least 37 of these are in the decision area. Based on BLM policies, these PFYC U formations should be treated as PFYC 4 and 5 until a more provisional assignment is made (BLM 2022e).

There has been no permitted fossil research on BLM-administered lands within the planning area since previous resource management planning efforts in the early 1990s. There are occasional inquiries in the offices regarding locations where fossil hunting is permitted. Invertebrate or plant fossil collecting, which is allowed without a permit in limited quantities, occurs infrequently on the BLM-administered lands. Neither the Redding FO nor Arcata FO has conducted paleontological studies on any internal projects except on a limited basis where sedimentary beds would be exposed through ground disturbance.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

There are no current management goals, objectives, decisions, or actions for paleontological resources in any of the current management plans except for requirements under the Geothermal Amendment (2008). While management direction for paleontological resources is limited, current management practices under Alternative A would adhere to applicable laws protecting these nonrenewable resources. In general, the BLM manages fossils to promote their use in research, education, and recreation in accordance with the Paleontological Resources Preservation Act (PRPA), Subtitle D of the Omnibus Public Land Management Act of 2009 (16 USC 470aaa through 470aaa-11), and the general guidance of FLPMA and NEPA.

Alternative B

Under Alternative B, formalizing goals, objectives, and management direction would result in better protection of paleontological resources than under Alternative A. In addition, prioritizing areas with high potential for paleontological resources for retention and acquisition would maintain or increase protections in more of the planning area than under Alternative A.

Under Alternative B, less acreage would be available for some surface-disturbing activities, including mineral materials, ROW, OHV uses. Conversely, more land in SRMAs and Extensive Recreation Management Areas (ERMAs) could increase potential impacts on paleontological resources from concentrated recreation than under Alternative A. In addition, Alternative B would identify 232,800 acres of lands available for livestock grazing; however, only 62,000 acres would be managed as active grazing

allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on paleontological resources would be limited to the areas managed as active allotments under Alternative B.

More acres within designated ACECs and within suitable WSRs under Alternative B, as well as increased management for other resources including wildfire, visual resources, coastal resources, wilderness characteristics, and caves and karsts would benefit paleontological resources through regulated surface disturbance and human use.

Alternative C

Implementing management specific to paleontological resources would have the same effects as described under Alternative B. There would be slightly less acreage with paleontological resource potential that would be prioritized for land retention and acquisition under Alternative C than under Alternative B.

With a focus on resource uses, impacts on paleontological resources under this alternative may be greater than described for the other alternatives. A small increase in potential impacts is anticipated from OHV travel and livestock grazing under Alternative C. Alternative C would identify 271,800 acres of lands available for livestock grazing; however, only 64,500 acres would be managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on paleontological resources would be limited to the areas managed as active allotments under Alternative C. In addition, more land would be included in SRMAs and ERMAs with the potential for increased impacts from concentrated recreation. Under Alternative C, fewer ACECs would be designated than under any other alternatives, resulting in greater potential for impacts from surface disturbance and human use.

Alternative D

Implementing management specific to paleontological resources would have the same effects as described for Alternatives B and C. As with Alternatives B and C, areas with paleontological resource potential would be prioritized for land retention and acquisition.

Impacts on paleontological resources from ROW management would be expected to be less than under Alternative A, the same as Alternative B, and slightly less than Alternative C. Impacts from RMAs would be nearly the same as under Alternative C, and higher than under Alternatives A or B. Potential impacts from livestock grazing would be lower than under all the other alternatives. Alternative D would identify 188,600 acres of lands available for livestock grazing; however, only 59,000 acres would be managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on paleontological resources would be limited to the areas managed as active allotments under Alternative D. Protections from designated ACECs would be similar to Alternative B and more than under Alternatives A or C.

3.1.11 Visual Resources

Affected Environment

For the purposes of visual resource management, visual resources are defined as the natural and built visible features of the landscape. Scenic quality is the measure of the visual appeal of a unit of land. Visual values of the NCIP are managed through the BLM VRM system (BLM 1984).

The qualitative and quantitative indicators and measures focus on determination and disclosure of impacts on scenic quality and impacts on viewers. The Redding and Arcata FO Visual Resources Inventories (VRIs) provide baselines to support these indicators and measures. The VRI represents the scenic (visual) values for the planning area and is used, along with the underlying values of scenic quality, visual sensitivity, and distance zones, for describing the effects to visual resources and for making decisions on the management of scenic (visual) values (BLM 1986a).

Three of the VRI Classes (VRI Class II, III, and IV) are derived from an overlay of the three inventory factors scenic quality, visual sensitivity, and distance zones. The NCIP analysis area is predominantly VRI Class I and Class II, either due to administrative decisions (VRI Class I) or visual values (VRI Class II). Scenic quality in the analysis area is predominantly Class A and Class B (highest ratings). Sensitivity levels are mostly moderate to high. Distance zone visibility within the planning area is predominantly foreground to middleground.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, 16 percent of the planning area would be in VRM Classes I and II, providing preservation and minor changes to the visual environment, Alternative A would have the least amount of protections of all the alternatives.

Under Alternative A, 83 percent of the planning area would be in VRM Classes III and IV. These classes allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.

Alternative B

Under Alternative B, 36 percent of the planning area would be in VRM Classes I and II, providing preservation and minor changes to the visual environment; this alternative would offer greater protections than Alternative A.

Under Alternative B, 63 percent of the planning area would be in VRM Classes III and IV, which would allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.

Alternative C

Under Alternative C, 20 percent of the planning area would be in VRM Classes I and II, providing preservation and minor changes to the visual environment. Alternative C would offer slightly greater protections than Alternative A but fewer than Alternative B.

Under Alternative C, 79 percent of the planning area would be in VRM Classes III and IV, which would allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.

Alternative D

Under Alternative D, 27 percent of the planning area would be in VRM Classes I and II areas, providing preservation and minor changes to the visual environment. Alternative C would offer greater protections than Alternatives A and C, but fewer than Alternative B.

Under Alternative D, 73 percent of the planning area would be in VRM Classes III and IV areas, which would allow visual impacts that would change the character of the landscape and be readily apparent or dominate the view of the casual observer.

3.1.12 Cave and Karst Resources

Affected Environment

Features that are considered caves for the purposes of this document include any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge that is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Such terms include any natural pit, sinkhole, or other feature that is an extension of a cave entrance, or which is an integral part of the cave (BLM 2008c). Included in this definition are:

- Features commonly referred to as rock shelters, in which the size of the opening is larger than the interior dimensions of the feature
- Sea or littoral caves, which are formed primarily from erosion caused by waves
- Lava tubes

Karst is a landform developed in soluble rock types such as limestone or gypsum. Typical features and characteristics may include, but are not limited to, few surface streams where most of the drainage is underground, sinking streams, dolines (sinkholes), resurgences, and caves (BLM 2008c).

There are over 50 caves (almost all rock shelters) recorded within the archaeological database for the Redding FO and a handful of others for the Arcata FO area. Karst topography is a minimal part of the BLM-administered lands within the Redding FO area and absent within the Arcata FO area.

Areas of relative ecological importance, as identified by the BLM, include Sheep Rock caves and shelters (Siskiyou County), Bend ACEC shelters and caves, Deer Creek ACEC caves (Ishi country), Battle Creek shelters, karst caves in Interlakes, Pluto Cave, and Scott Mountain.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, there are no current management objectives, decisions, or actions for cave and karst resources in any of the existing planning documents. As management designed specifically to protect cave and karst resources does not exist, potential impacts to cave and karst resources may not be specifically avoided and subsequent damages would continue to occur.

General recreational use of areas where caves exist has the indirect potential to impact caves through incidental discovery of caves (whether known or unknown) by recreators. Establishment and management

of SRMAs, ERMAs, and RMZs can increase visitation within those areas and increase the potential for impacts on cave and karst resources. Approximately 49 percent of the area of the three SRMAs under Alternative A is within limestone outcrops, continuing the current trends of recreational use in those areas and the potential for impacting cave and karst resources.

Livestock grazing, OHV travel, mineral development, and timber harvest are all activities permitted under Alternative A that could impact sensitive cave and karst resources. Alternative A includes 186,900 acres of lands available for livestock grazing; however, only 62,600 acres are managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on cave and karst resources would be limited to the areas managed as active allotments under Alternative A.

Alternative B

Under Alternative B, formalizing goals, objectives, and management direction, including actions that inventory resources and those that restrict uses in areas of sensitive cave and karst resources, would result in better protection of cave and karst resources than under Alternative A.

Impacts on cave and karst resources under Alternative B are similar to Alternative A. Compared with Alternative A, more acres would be included in SRMAs and ERMAs, increasing the potential for incidental discovery and damage to unknown resources, though fewer acres would be in limestone outcrop areas. There would be potential for impacts related to the increase in acres of limestone outcrop areas available for grazing, though more measures to protect these areas would be implemented, which would reduce any impacts. Alternative B would identify 232,800 acres of lands available for livestock grazing, 62,000 acres of which are managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on cave and karst resources would be limited to the areas managed as active allotments under Alternative B, a reduction from Alternative A.

Under Alternative B, fewer acres would be open to mineral materials development, including fewer acres in limestone outcrop areas, providing more protection from this use than under Alternative A. Additionally, Alternative B would include more area of limestone outcrops that would be closed to fluid and nonenergy leasing, and mineral material development as compared to Alternative A, which would reduce potential impacts on unknown cave and karst resources.

Alternative C

The BLM would implement the same management specific to cave and karst resources as under Alternative B. Compared with Alternative A, more land would be included in SRMAs and ERMAs, increasing the potential for incidental discovery and damage to unknown resources, including in slightly more limestone outcrop area than Alternative B. The potential for increased impacts from more areas being available for livestock grazing would be the same as Alternative B, with the same measures to protect these areas offsetting the potential for impact. Alternative C would identify 271,800 acres of lands available for livestock grazing, 64,500 acres of which are managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on cave and karst resources would be limited to the areas managed as active allotments under Alternative C, an increase from Alternative A.

Under Alternative C, fewer acres would be open to mineral materials development, including fewer acres in limestone outcrop areas, providing more protection from this use than under Alternative A but less than under Alternative B.

Alternative D

The BLM would implement the same management specific to cave and karst resources as under Alternative B. Increased potential for incidental discovery and damage to unknown resources in SRMAs and ERMAs would be the same as described for Alternative C. The potential for increased impacts from more areas being available for livestock grazing would be the same as Alternatives B and C. Alternative D would identify 188,600 acres of lands available for livestock grazing, 59,000 acres of which are managed as active grazing allotments. The BLM does not anticipate substantial increase in active grazing allotment acres over the life of the RMP. As a result, any impacts on cave and karst resources would be limited to the areas managed as active allotments under Alternative D, a decrease from Alternative A.

Under Alternative D, fewer acres would be open to mineral materials development, including fewer acres in limestone outcrop areas, providing more protection from this use than under Alternative A but less than under Alternative B.

3.2 RESOURCE USES

3.2.1 Forestry

Affected Environment

They consist of many different forest types that include Sierra Nevada mixed conifer, oak woodland, riparian forests, chaparral, and coastal forests (see **Map 3-16**, Forestry Classes, in **Appendix A**). BLM-administered lands exist within a landscape matrix composed of private land and other federal and state lands administered by the Forest Service, NPS, USFWS, Bureau of Indian Affairs, and California State Parks. Neighboring private timber lands are predominately owned by Sierra Pacific Industries, Humboldt Redwood Company, Mendocino Redwood Company, Green Diamond and Landvest.

Within the forest classes, vegetation is classified according to structural groups. In the NCIP planning area, these structural groups include barrens or sparsely vegetated areas, grasslands, shrublands, and forests and woodlands. Across the planning area, forestry activities occur primarily within the forest and woodlands vegetation structural group, and all 112,000 acres of LSR in the planning area are within this vegetation structural group. Of these forested areas, conifer-dominant forests and oak woodland forests are the most commonly harvested.

Within the conifer-dominant forest, commercial forest are areas that may be able to sustain a commercial harvest (removal of trees greater than 8 inches in diameter at breast height (DBH), or 4.5 feet from the ground level on the uphill side of the tree), while the noncommercial forest may need precommercial thinning (removal of trees less than 8 inches DBH). Oak woodland and areas with non-merchantable conifer species is a common forest type in the planning area. Active management has occurred, including both commercial and non-commercial harvest. These activities include but are not limited to fuels reduction, removal of encroaching conifers, firewood cutting, and/or pruning hardwoods to dominant stem post fire. Work has occurred in conifer-dominated forests to restore some forest openings, and thinning has occurred to focus on restoration of hardwood species; however, in the oak woodland forest type that is dominant in the planning area, little has been done. While oak woodland forests are the

dominant type in the decision area, conifer-dominant forests are the type with the most potential for commercial harvest.

Trends related to declining forest health, past management, forestry projects, timer harvest, special forest products, and forestry agreements and partnerships are discussed in detail in **Section D.3.1** in **Appendix D**.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, continuing to adhere to the existing regulatory framework and BLM forest/vegetation/wildland fire management practices (for example, those contained in BLM manuals and handbooks) would have a beneficial effect on maintaining forest and ecosystem health. However, under Alternative A the health of unmanaged forests and woodlands in the planning area is expected to continue to decline due to fire, pests, pathogens and climate change.

Alternative B

Managing for and promoting a web of ecological benefits that support aquatic health, wildlife species, and botanical species, as well as managing for and promoting resource values related to fire resiliency, safety, and preparedness are integral to Alternative B. The management actions supporting these goals would be more robust and more likely to foster beneficial impacts on resource values than under Alternative A. Compared with Alternative A, Alternative B would better serve the goals and objectives set for forest and ecosystem health, water quality, and fire resiliency.

Under Alternative B, where these two themes conflict, the BLM would give more deference to the goals relating to the web of ecological benefits that support aquatic health, wildlife species, and botanical species than those related to wildland fire management under Alternatives C or D. Goals relating to fire resiliency, safety, and preparedness would still be highly prioritized. This would increase the pace and scale of forest restoration management when compared with Alternative A except in late successional areas.

Alternative C

As with Alternative B, managing for and promoting a web of ecological benefits, as well as managing for and promoting resource values related to fire resiliency, safety, and preparedness are integral to Alternative C. As with Alternative B, management actions supporting these goals are more likely to foster beneficial impacts on resource values than under Alternative A. Compared with Alternative A, Alternative C would better serve the goals and objectives set for forest and ecosystem health, water quality, and fire resiliency.

Under Alternative C, where these two themes conflict, more deference would be given to the goals relating to fire resiliency, safety, and preparedness than under Alternatives B or D. Goals relating to the web of ecological benefits that support aquatic health, wildlife species, and botanical species would still be highly prioritized. The pace and scale of forest restoration management actions would increase compared with Alternative A.

Alternative D

As with Alternatives B and C, managing for and promoting a web of ecological benefits, as well as managing for and promoting resource values related to fire resiliency, safety, and are integral to Alternative D. As with the other action alternatives, management actions supporting these goals are more likely to foster beneficial impacts on resource values than under Alternative A and better serve the goals and objectives set for forest and ecosystem health, water quality, and fire resiliency.

Under Alternative D, more of a balance would be struck that addresses resource conflicts between these two themes than under Alternatives B and C. Emphasis would be placed on management promoting late-seral forest characteristics that collectively benefit wildlife and riparian habitats, recreational needs, cultural resources, community stability, and commodity production, including commercial timber and other forest products.

3.2.2 Land Tenure

Affected Environment

Acquisition

Acquisitions through exchange, purchase, or donation make up an important component of the BLM's land tenure strategy. Within the planning area, the BLM has acquired approximately 36,050 acres of surface lands and 17,099 acres of split-estate since the previous planning documents were adopted in 1993. Lands are typically acquired in "fee simple" ownership, which offers the highest level of control of the surface estate. This is typically the desired form of ownership for most acquisition goals; however, in some cases, other forms of ownership are more appropriate.

Several forms of legal access rights may be obtained through the acquisition process. Acquisitions may either acquire full access rights, to include the right of public access, or be limited to access needed for administrative purposes (e.g., non-exclusive easements). The rights acquired depend on each particular situation and what the private party is willing to transfer.

In addition to access routes constructed on public lands, the United States has also acquired access rights from private parties. Exclusive easements convey full control of the easement to the United States for the purposes stated in the easement document. They can provide access to public lands for the BLM, its permittees and licensees, and/or the general public. Many BLM-administered parcels in the planning area lack legal public access.

Occasionally, sellers are not willing to provide exclusive access that would allow for public use of the access route. This may be because they are concerned about the potential impacts on other private lands in the vicinity, changing the pattern of public use, the resulting loss of solitude and privacy, and potential liability issues. In some cases, the BLM has acquired administrative access only (i.e., no public access), so at a minimum, BLM staff, contractors, and other designated parties can access the lands and conduct government business.

Another form of partial ownership (i.e., less than fee simple) acquired by the BLM on non-federal lands is in the form of conservation easements. Conservation easements are a tool used to preserve and protect resource values on non-federal lands by restricting certain uses and types of future development of those lands. These easements often address permitted and prohibited uses and practices of the private landowner. The Arcata FO acquired one conservation easement over the South Spit of Humboldt Bay in

2003. The Redding FO acquired two conservation easements (one agricultural and one riparian) in the Upper Sacramento Bend Area ACEC.

Exchanges

Land exchanges are a viable option when the exchange proponent holds lands identified for acquisition and has an interest in acquiring BLM-administered lands identified for disposal with approximately equivalent market value. The exchange must be in the public interest and, as such, typically only involves considerable acreage of nonfederal lands with recognized resource or public values. However, exchanges can require a large investment of time and resources, which make them a less viable option compared with other land tenure adjustments. Exchanges focused on ecologically sensitive lands tend to be facilitated by conservation organizations which are able obtain purchase options or purchase properties outright to facilitate transactions.

Major consolidation of public land in the planning area from exchanges include the Sacramento River Bend ACEC, Grass Valley Creek, Clear Creek, and the Interlakes SRMA. Land exchanges have resulted in the acquisition of over 43,000 acres and the disposal of 38,000 acres.

Disposal

Lands may be disposed of when they are identified for disposal through the land use planning process and meet criteria identified in Section 203 of FLPMA. Disposals are authorized pursuant to Section 203 of FLPMA, 43 CFR 2710, and BLM Sales Manual 2710. Sales of public lands will not be less than fair market value; they will require an appraisal to be completed that conforms to established appraisal principles and standards in place at the time of the sale. The BLM may also dispose of lands in the form of Recreation & Public Purposes (R&PP) Act patents. The regulations provide guidelines and procedures for transfer of certain public lands under the R&PP Act, as amended (43 USC 869 et seq.), to federally recognized Tribes, states or their political subdivisions, and nonprofit organizations and associations for recreational and public purposes. Under the R&PP Act, the Arcata FO has patented 1,312 acres through 16 separate transactions to address community needs. The Redding FO has patented 1,898 acres through 27 separate transactions. R&PP lease issuance within the planning area include those listed below. Lease renewals are also ongoing:

- French Gulch Transfer Site
- Two Siskiyou County Transfer sites
- Junction City Shooting Range
- Douglas City School

Withdrawals

Withdrawals are authorized in accordance with FLPMA Section 204 and 43 CFR 2300. Withdrawals can dedicate public lands for a specific purpose or can restrict the use of public land and segregates the land from the operation of some or all public land laws and/or mineral laws. This can include closing certain areas to settlement, sale, location, or entry under some or all of the general land laws. They can also be used to transfer jurisdiction of the management of public lands from one agency to another. There are four major categories for withdrawals: administrative, presidential proclamations, congressional withdrawals, and Federal Power Act or FERC withdrawals.

There are a total of 65 existing power site withdrawals in the planning area. These withdrawals are relatively small in acreage and are concentrated along the Trinity, Eel, Klamath, Battle Creek, and Shasta River systems. Additionally, the planning area includes several FLPMA/Recreation/Wilderness Act withdrawals, including:

- Trinity River and Clear Creek Acquisition Areas (344 acres)
- Trinity WSR/Indian Creek (3,123 acres)
- Forks of Butte Creek (2,070 acres)
- South Fork Eel River Wilderness (12,868 acres)
- Elkhorn Wilderness (11,001 acres)
- Yuki Wilderness (53,389 acres)
- Yolla Bolly-Middle Eel Wilderness (8,600 acres)

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

The BLM would identify 101,000 acres (26 percent of the decision area) as potentially suitable for disposal. Beneficial impacts would occur related to the manageability of lands and public access; potential adverse impacts on protected resources would be minimized through environmental review. Under Alternative A, the BLM would identify 281,400 acres (74 percent of the decision area) for retention.

The BLM would acquire lands that complement important resource values, further management objectives, and provide or maintain access to all BLM administered lands when feasible.

All existing withdrawals would be continued. New withdrawal proposals would continue to be analyzed on a case-by-case basis.

Alternative B

Under Alternative B, the BLM would identify 6,000 acres (2 percent of the decision area) as potentially suitable for disposal. The BLM would dispose of parcels adjacent to Tribal lands. Issues with survey-related unauthorized use and occupancy within the Trinity WSR would not be resolved.

Under Alternative B, the BLM would identify 376,500 acres (98 percent of the decision area) for retention. Retention would have beneficial impacts on natural resource refugia that contribute to climate change resiliency, ECCs of high biological value, important wildlife habitat, and cultural resources but may limit the BLM's ability to consolidate public lands and acquire additional resources through exchange.

Under Alternative B, acquisition criteria would result in greater beneficial impacts on climate, wildlife, vegetation, water resources and wetlands, fish and aquatic species, coastal resources, cave and karst resources, visual resources, and wilderness resources than under Alternative A.

All existing withdrawals would be continued under Alternative B. New withdrawal recommendations would have beneficial impacts on cultural resources, recreation sites, communication sites, WSRs, lands with wilderness characteristics, and certain ACECs.

Alternative C

Under Alternative C, the BLM would identify 49,400 acres (13 percent of decision area) as potentially suitable for disposal. The BLM would dispose of isolated parcels without access, lands too small to manage effectively, and BLM inholdings within or adjacent to National Forest System and NPS lands to consolidate management. This would improve manageability of BLM-administered lands in the planning area.

Additionally, the BLM would identify 333,100 acres (87 percent of the decision area) for retention under Alternative C. Designating lands for retention would result in beneficial impacts because it allows the BLM to better serve the public interest by maintaining public access and recreational opportunities and ensuring continued protection of natural resources.

Under Alternative C, acquisition criteria would result in greater beneficial impacts on recreational and visitor services, travel and transportation, and other public uses than under Alternative A.

All existing withdrawals would be continued under Alternative C. New withdrawal recommendations would have the same beneficial impacts as described under Alternative B.

Alternative D

Under Alternative D, the BLM would identify 5,900 acres (2 percent of the decision area) as potentially suitable for disposal. The BLM would dispose of parcels adjacent to Tribal lands.

The BLM would identify 376,600 acres (99 percent of the decision area) for retention under Alternative D. Retention would have beneficial impacts on natural resource refugia that contribute to climate change resiliency, ECCs of high biological value, important wildlife habitat, cultural resources, manageability of BLM and National Forest System land but may limit the BLM's ability to consolidate public lands and acquire additional resources through exchange.

Under Alternative D, acquisition criteria would have the same impacts as described under both Alternatives B and C.

All existing withdrawals would be continued under Alternative D. New withdrawal recommendations would have the same beneficial impacts as described under Alternative B.

3.2.3 Land Use Authorizations

Affected Environment

Rights-of-Way

Currently, the BLM typically issues ROWs under the authority of the FLPMA (Title V, Section 501). ROWs grant the right to construct, operate, maintain, and terminate facilities on public lands. Most of the current ROWs administered by the BLM in the planning area allow road access and utility service to adjacent private parcels typically developed with a single-family residence.

Access ROWs exist under a variety of different authorities and are held by federal, state, local, and private entities. Together, these ROWs form a road system that provides critical access needs to the public. These systems are subject to change over time, as new roads are constructed, segments are realigned, and existing roads are removed through a formal abandonment process. The presence or absence of these roads not only affects the general public's ability to access public lands, but also affects the ability of holders and applicants of access road ROWs to legally connect to public road systems.

Under Revised Statute (R.S.) 2477, Congress offered to grant ROWs to construct highways over unreserved public lands. Under this authority, many state and county highways were constructed over federal lands; for these types of ROW, no action was required by the Secretary of the Interior in regard to the processing. R.S. 2477 was repealed by FLPMA in 1976; however, thousands of miles of highway established under this authority continue to be used and maintained without any other form of authorization. In some cases, R.S. 2477 roads play an important role in providing public access to private lands and public lands within management areas, such as Iron Mountain Road and the Interlakes SRMA. Tehama, Trinity, Mendocino, and Siskiyou Counties have asserted maintenance and use of roads under R.S. 2477. The remaining counties covered by the NCIP have not asserted R.S. 2477 claims. No claim asserted by any county is known to have been adjudicated by the courts.

The Arcata FO currently administers 44 federal access ROWs, including 7 ROWs under FLPMA. The remaining 45 cases were established under Volume 44 Land Decisions, Page 513 guidance. The Redding FO administers 83 federal access ROWs, with 68 ROWs established under Volume 44 Land Decisions, Page 513. In many cases, the extents of federal access exceptions are limited due to the large areas of lands subject to patents (primarily in the form of railroad grants) prior to the formulation of policy or the recognition of a general need to reserve federal access.

Additional ROW considerations within the NCIP planning area include power lines and energy-related facilities (including renewable power generation), water facilities, communication lines, and reservations to other parties, where other federal agencies may apply for and receive a ROW under Section 507 of FLPMA.

ROW corridors can be designated in accordance with Section 503 of FLPMA. Prior planning for the Arcata FO did not designate any ROW corridors, although the Arcata FO planning area had two occupied east–west corridors and one occupied north–south corridor (Western Utility Group 1986). The Redding RMP states that "designated corridors include all existing or occupied corridors delineated in the Western Regional Corridor Studies (WRCS) of 1986" (BLM 1993). The WRCS recommended several corridors, including a main north–south route along Interstate 5, as an occupied corridor and one unoccupied corridor through the Sacramento River Bend ACEC. This WRCS-recommended route was different from the path of the Western Area Power Administration transmission line that also travels through the Sacramento River Bend ACEC.

Currently, no recommended ROW corridors, other than two Section 368 corridors, have been officially designated in the planning area.[1] The designated Section 368 corridors partially or fully within the planning area include the 101-263 Eureka to Redding corridor and the 261-262 Mount Shasta corridor. The 101-263 corridor has an identified designated use as multimodal for electric transmission and pipelines. The

[1] Personal communication between Katie Shaw, realty specialist, BLM Redding FO, and Laura DeLio, SWCA planner, January 31, 2023

261-262 corridor has an identified designated use as electric only in Redding FO's administrative boundaries.

Previous planning documents did not identify any ROW exclusion or avoidance zones. The Yolla Bolly-Middle Eel wilderness area and all eligible WSR study corridors with a preliminary classification as "scenic" or "wild" are considered exclusion areas pending the conclusive action of the U.S. Congress. In certain areas, it may be advisable to designate lands as ROW avoidance or exclusion areas to protect sensitive resources.

Communication Site Leases – Existing Communication Sites

Although administered under the ROW program, communication site uses are authorized under a "lease" document (i.e., form 2800-18 rather than form 2800-14), typically for a 20-year term. The BLM developed the communication site lease in conjunction with the Forest Service in an effort to have a unified process on federally administered sites, including rental calculation methods. Communication site leases can be issued for a variety of uses, including cellular communications, high- and low-power AM and FM radio and television broadcasting, and commercial mobile radio service. Prior planning documents for the planning area did not formally designate communication sites, despite the existence of past communication site plans.

Other Uses

Use authorizations issued pursuant to Sections 302 of the FLPMA (43 CFR 2920) are generally used for short-term (not to exceed 3 years) uses not covered under other regulations (for example, 43 CFR 2800) and those uses that cannot be authorized under Title V of the FLPMA. Uses are granted under a lease, permit, or easement.

The BLM processes a small volume of filming permits, typically two per year and short term (1-2 days), within the planning area. Additionally, the BLM currently administers four active apiary permits within the planning area. These are minimum-impact permits; they are usually for a term of 3 years and are seasonal, but they involve multiple sites. Occasionally (less than once per year), the BLM may receive a short-term permit application for soil sampling, depth-to-water testing, piezometers, or other forms of geotechnical research. This use qualifies for a minimum-impact permit.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, 58,500 acres (15 percent of the decision area) would be in ROW exclusion areas; beneficial impacts would occur on Ishi and Tunnel Ridge Wilderness Areas, the Yolla Bolly Contiguous WSA, Black Mountain, Stringtown Mountain, and all eligible WSR study corridors with a preliminary classification of "scenic" or "wild."

Under Alternative A, 11,300 acres (2 percent of the decision area) would be ROW avoidance areas; beneficial impacts would occur on designated WSRs, Butte Creek, and Sacramento River Management Area.

The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis.

Alternative B

Under Alternative B, 135,100 acres (35 percent of the decision area) would be identified as ROW exclusion areas; beneficial impacts would occur on designated wilderness areas, WSAs, LWCs, WSR "wild" designations, and ACECs and on natural resources due to reduced proliferation of ROWs across landscape. Adverse impacts would occur on minerals, renewable energy, recreation, and transportation due to limited acreage available for ROWs.

The BLM would identify 135,900 acres (36 percent of the decision area) as ROW avoidance areas under Alternative B; beneficial impacts would occur on cultural resources, soils, forests, critical habitats, WSRs with "scenic" and "recreational" designations, Coastal Strip ECCs of high biological value, and most ACECs.

Under this alternative, existing communications sites would be formally designated, resulting in a beneficial impact on visual resources, LSRs, and northern spotted owl 0.5-mile buffer zones due to exclusion of new communication uses.

The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. Adverse impacts on apiary uses would occur due to restrictions on dunes, within ECCs of high biological value, within 2.5 miles of sensitive species habitat or large populations of non-native and invasive species, or within 2.5 miles of critically imperiled vegetation.

Alternative C

Under Alternative C, 94,100 acres (25 percent of the decision area) would be identified as ROW exclusion areas, and 166,400 acres (44 percent of the decision area) would be ROW avoidance areas. Beneficial impacts would occur for the same resources described under Alternative B, except there would be more protection for SRMAs and less protection for essential connectivity corridors and certain ACECs.

Under this alternative, existing communications sites would be formally designated, resulting in less restrictions than under Alternative B. This would be beneficial for ROW applicants but adverse to visual resources, LSRs, and northern spotted owl 0.5-mile buffer zones.

Under this alternative, co-location of new ROWs and communications sites with existing sites would be encouraged but not required.

The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. Adverse impacts on apiary uses would occur due to prohibitions within areas open to OHVs, campgrounds, recreation facilities, and within 300 feet of designated trails and trailheads.

Alternative D

Under Alternative D, 108,100 acres (28 percent of the decision area) would be identified as ROW exclusion areas; beneficial impacts would occur on the same resources as described for Alternative B.

The BLM would identify 165,200 acres (43 percent of the decision area) as ROW avoidance areas under Alternative D; beneficial impacts would occur on the same resources as Alternative B as well as on SRMAs.

Impacts related to communications sites would be the same as described under Alternative B.

The BLM would continue to authorize apiary activities, filming, and geotechnical activities on a case-by-case basis. Adverse impacts on apiary uses would occur due to prohibitions within OHV open areas, campgrounds, recreation facilities, and 300 feet of designated trails and trailheads. In addition, impacts on this use would occur because active apiary permits would be terminated.

3.2.4 Renewable Energy

Affected Environment

Land use authorizations for renewable energy such as wind, solar, hydropower, and biomass are analyzed separately from land use authorizations due to the potential scale and complexity of these activities.

Biomass

The planning area has several counties with an ability to produce over 100 tons/per acre/per year of forest residues, such as unused portions of trees and other removable material left behind after carrying out silviculture operations (NREL 2014). Despite this high level of production and a local market for the product at the Wheelabrator Shasta wood-fired power plant (58-MW generating capacity) located near Anderson, California, there only has been minimal delivery of biomass from public lands for power production. There are also three idle biomass power plants located in Humboldt County (DG Fairhaven Power—Samoa, Blue Lake, and Scotia Plants). Typically, biomass is supplied from public lands as a result of forest health projects or similar activities, not through an authorization from the lands and realty program. Biomass utilization is not limited to biomass-specific sites. Other sites, such as local sawmills, could also take in biomass from forest product sales.

Solar

Lands administered by the Redding FO are almost completely mapped as areas with the potential to provide 5.5 to 6.0 kilowatt hours per square meter for photovoltaics, according to the NREL (NREL 2018). Lands administered by the Arcata FO range from 4.5 to 5.5 kilowatt hours per square meter, depending on topography and distance from the coast. Based on the 2012 Solar PEIS and ROD, all lands within the planning area are excluded with regard to variance areas; there are no lands identified as developable acreage areas in solar energy zones (BLM 2012a).

In 2018, the Redding FO received an application for a small-scale solar project in Butte County, but the application was later denied for not providing additional information. Other than the 2018 application, the FOs have received no other applications for solar-power facilities or related testing. No solar ROWs have been issued or are pending within the planning area.

Wind

No wind energy ROWs have been issued or are pending within the planning area. The BLM received one application for multiple wind power testing locations from Padoma Wind Power LLC in 2010. The application was withdrawn later that year and no testing or development was authorized. Lands within the planning area have the potential for commercial wind power development according to mapping by NREL (NREL 2017). These lands are primarily on upper elevations of north-south running ridgelines. The highest potential locations on BLM-administered lands are in Siskiyou County west of Gazelle.

Hydropower/FERC Ancillary ROWs

Most hydropower development on or adjacent to public lands is authorized through a FERC license. The FERC issues licenses for nonfederal hydropower projects over 10 MW pursuant to the Federal Power Act. FERC also has an exemption process for projects under 10 MW and can license ancillary facilities, such as power lines, tunnels, and roads, on public lands. These ancillary facilities would typically be documented through a Federal Power Act withdrawal. Over the years, some FERC-licensed ancillary facilities have been converted to FLPMA ROWs, where appropriate.

The existing planning documents contain limited guidance on hydropower development despite the high potential and the level of development of hydropower within the region. There are several areas where FERC-licensed activity has been located with a concentration of use in the Forks of Butte Area. The Arcata FO administers one FERC ancillary transmission line, and the Redding FO has six nonfederal hydropower facilities.

Geothermal

Active volcanoes in the Cascade Range, Lassen Peak, Mount Shasta, and the dozens of thermal springs within the confines of the planning area indicate the presence of geothermal resources. The ROD for the Geothermal Programmatic EIS (BLM 2008d) amended existing plans, including the 1993 Redding RMP, to facilitate geothermal leasing on federal mineral estate. The Programmatic EIS (BLM 2008d) shows commercially viable geothermal capacity for electrical generation in high potential areas. Specifically, the Arcata FO has 83,436 acres with geothermal potential and the Redding FO has 51,209 acres with geothermal potential. In the Redding FO, the Morgan Springs-Growler Springs has 50 MW projected capacity for electrical production and the Mount Shasta Area has 240 MW projected capacity.

The Mineral and Land Records System data show there are no leases or licenses for geothermal exploration or development on BLM-administered lands in the planning area, nor have any been applied for in over 20 years. There is no electricity production from any geothermal resource development within the planning area.

Wave and Offshore Energy Development

The Bureau of Ocean Energy and Management (BOEM) has jurisdiction for wave and offshore energy development and would be the responsible agency for issuance of renewable energy leases, easements, and ROWs pertaining to wave and offshore energy development projects. There are currently no activities related to wave and offshore energy development located directly offshore from the Coastal Strip and lands administered by the Arcata FO.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, there would be no impact on utility-scale solar development or geothermal leasing.

The BLM would open 312,000 acres (82 percent) of the decision area to renewable energy development with minimal siting considerations. There would be no impact to wind or solar or biomass under Alternative A. Under Alternative A, 201.7 miles of river segments would continue to be managed as

eligible, and a 0.1-mile segment would continue to be managed as suitable for inclusion in the NWSRS, making them subject to hydropower development restrictions (see **Appendix D**).

Alternative B

Under Alternative B, there would be no impacts on utility-scale solar development or geothermal leasing. Approximately 110,800 acres (29 percent) of the decision area would be open to renewable energy development with minimal siting considerations; additional wind exclusion areas would have a limited impact on wind energy development due to the limited high potential areas and low demand in the decision area.

The BLM would consider biomass permits and ROWs on a case-by-case basis; these would be prioritized in areas close to biomass plants.

Existing hydropower withdrawals or permits would be extended/renewed. Under Alternative B, 201.7 miles of river segments would be managed as suitable for inclusion in the NWSRS and would be subject to hydropower development restrictions. In areas inside and outside of the suitable WSR corridor, the BLM would consider non-FERC regulated, small-scale (less than 10 MW) hydropower applications on a case-by-case basis, provided they would not impede fish passage, wildlife access to water, or basic stream functionality that cannot be mitigated or impact the BLM's ability to manage its surface lands through inundation or other means. Therefore, Alternative B would limit opportunities for new hydropower projects compared with Alternative A.

Alternative C

Under Alternative C, there would be no impact on utility-scale solar development or geothermal leasing. Approximately 121,300 acres (32 percent) of the decision area would be open to renewable energy development with minimal siting considerations; additional wind exclusion areas would have a limited impacts on wind energy development due to the limited high potential areas and low demand in the decision area.

Impacts related to biomass would be the same as described for Alternative B. Existing hydropower withdrawals or permits would be extended/renewed.

Under Alternative C, 14.2 miles of river segments would be managed as suitable for inclusion in the NWSRS and would be subject to hydropower development restrictions. The BLM would authorize non-FERC regulated, small-scale (<10MW) hydropower applications on a case-by-case basis in accordance with laws and regulations in place at the time of application.

Alternative D

Under Alternative D, there would be no impact on utility-scale solar development or geothermal leasing. Approximately 108,900 acres (28 percent) of the decision area would be open to renewable energy development with minimal siting considerations; impacts would be similar to Alternative B.

Impacts related to biomass under Alternative D would be the same as described for Alternative B. Under Alternative D, 147.2 miles of river segments would be managed as suitable for inclusion in the NWSRS and would be subject to hydropower development restrictions.

3.2.5 Nonrenewable Energy and Minerals

Affected Environment

Leasable Minerals (Fluid and Nonenergy Minerals)

There are no leases or applications for oil and gas leasing on BLM-administered land or mineral estate in the planning area, nor have there been any applications in the last 20 years. Future development potential is low. Several identified small oil and gas fields are present within the planning area, but there are no active or idle oil or gas wells in the planning area. The Arcata FO has four oil and gas fields, while the Redding FO has 12 (see BLM 2021a, Section 2.3.4 for a list of oil and gas fields by FO). None of these oil and gas deposits have a large volume of recoverable reserves and they are unlikely to be developed during the life of the plan; however, it is conceivable that if demand for energy resources increases that some of these deposits could potentially become a target for exploration, leasing, and development. There is no ongoing or historical nonenergy leasable mineral development, and there are no known economically viable nonenergy leasable mineral deposits within the planning area (BLM 2021a).

Locatable Minerals

The Mining Law of 1872, as amended, is the major federal law governing locatable minerals. This law allows US citizens the opportunity to explore for, discover, and purchase certain valuable mineral deposits on federal lands that are open for mining claim location (open to mineral entry). Gold mining in the planning area has long-running historical importance and can be traced back to the California gold rush starting in 1848. Many of the methods used by casual use miners today are the same techniques that were used in the beginning of gold mining in the area.

Casual use is defined in 43 CFR 3809.5 as activities ordinarily resulting in no or negligible disturbance of public lands or resources. For example, casual use generally includes the collection of geochemical, rock, soil, or mineral specimens using hand tools; hand panning; or non-motorized sluicing. It may include the use of small portable suction dredges as well as metal detectors, gold spears and other battery-operated devices for sensing the presence of minerals, and hand and battery-operated dry washers. Operators may use motorized vehicles for casual use activities provided the use is consistent with the regulations governing such use (part 8340 of this title), off-road vehicle use designations contained in BLM land-use plans, and the terms of temporary closures ordered by BLM. In general, persons may engage in casual use activities without consulting, notifying, or seeking approval from the BLM. If mining activities exceed casual use and are likely to cause a non-negligible surface disturbance, then the claimant is required to first file a notice or plan of operations with BLM and provide a financial guarantee (bond) for reclamation.

The Redding FO has an active mining program with three authorized plans of operation and two pending plans of operations. The largest plan of operation is for an active underground gold mine called Washington Mine that has been operational since the gold rush. The Redding FO has recorded thousands of locatable mining claims since the mining claim recordation requirements of FLPMA were enacted in 1976; there are approximately 500 currently active mining claims (BLM 2021a).. Most claims currently do not have active operations under 43 CFR 3809. Most of the locatable gold is found in placer deposits, with some areas having hard rock gold hosted in thermal deposits. Both FOs have had historical mining for locatable minerals, but there are no longer active mines in the Arcata FO.

Mineral Materials

Mineral materials are a common variety of materials that includes sand, clay, gravel, broken rock, and building stone that are sold or disposed of under the Mineral Materials Sales Act of 1947. Mineral materials disposals include both sales and free use permits.

There have been no recent sales of mineral materials in either the Redding or Arcata FOs. However, the BLM provides mineral materials free of charge to state, county, and federal agencies for use in public projects under a FUP. Currently the Arcata FO has one authorized free use permit (FUP), and the Redding FO has seven authorized FUPs. The current authorized FUPs within the Redding FO are used by the Bureau of Reclamation for salmon habitat restoration within the Trinity River (DOI 2020). These FUPs are the only current mineral materials development within the planning area.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Leasable Minerals

While Alternative A identifies areas unavailable for mineral leasing and consider stipulations that would be applied to mineral leases in areas that are available for mineral leasing, because of low development potential and lack of reasonably foreseeable development, there would be no realized difference between the alternatives in terms of impacts on fluid or solid leasable minerals.

Locatable Minerals

Under all alternatives, locatable minerals would be managed to prevent unnecessary or undue degradation of public lands by mining operations. These mining-related activities would be managed by the BLM under 43 CFR 3809. Under 43 CFR 3809, permit applications and monitoring activities would be implemented prior to all mining operations greater than casual use. In addition, the BLM would require all mine developers within the planning area to operate in a manner that does not result in unnecessary or undue degradation, and to perform restoration efforts in accordance with approved reclamation plans. Reclamation plans would meet all criteria outline in 43 CFR 3809.420(b)(3).

Under all alternatives, the BLM would recommend that some areas be withdrawn from mineral entry; however, recommendations for withdrawal would not impact the ability of the public to stake claims, initiate operations, or conduct casual use activities in the area. Existing claims and existing or pending plans of operation would be managed consistent with law, regulation, and policy. Further, a recommendation for withdrawal is a non-binding petition to the Secretary of the Interior, the enactment of a withdrawal is a separate action requiring an implementing action by Congress or the Secretary of the Interior that may not occur, areas recommended for withdrawal would not be withdrawn until further investigation and NEPA analyses can be completed and Secretarial notice is published in the *Federal Register*. No impacts would be realized until this action occurs or if it does not occur. For these reasons, the BLM does not anticipate impacts on locatable mineral activities in the planning area.

Under Alternative A, 54,600 acres would be designated as ACECs, 65,300 acres would be managed as eligible WSR segments, and 59,200 acres would be closed to OHV use. In these areas, all operations

greater than casual use would require a plan of operations, resulting in impacts described under *Impacts Common to All Alternatives* in these areas (**Appendix D**).

Mineral Materials

Alternative A would maintain the current management stipulations closing 81,800 acres of BLM-administered lands and 800 acres of BLM subsurface mineral estate (split estate) to mineral materials disposal. Alternative A would continue to keep 300,400 acres of BLM surface and 294,300 acres of BLM subsurface mineral estate (split estate) open to mineral materials development. There would continue to be eight FUPs issued to Reclamation for river restoration efforts.

Alternative B

The nature and type of impacts associated with leasable and locatable minerals under Alternative B would be the same as discussed under Alternative A.

Under Alternative B, 88,820 acres would be designated as ACECs, 65,200 acres would be managed as suitable for inclusion in the NWSRS, and 73,600 acres would be closed to OHV use. In these areas, all operations greater than casual use would require a plan of operations, resulting in impacts described under *Impacts Common to All Alternatives* in these areas (**Appendix D**). The total acres of these areas under Alternative B would be 48,520 more than under Alternative A.

Alternative B would close 206,700 acres of BLM-administered lands and 1,300 acres of BLM subsurface mineral estate (split estate) to mineral materials development. Alternative B would allow mineral materials disposal on 175,500 acres of BLM-administered lands and 293,800 acres of BLM subsurface mineral estate (split estate). Under Alternative B, some areas closed to mineral materials development allow exceptions for mineral materials used for stream or habitat restoration purposes or consider exceptions on a case-by-case basis, see **Table B-1** in **Appendix B** for more information.

Eliminating these acres from mineral material development would have little effect as the majority of the impacts occur under the approved free use permits (FUPs). Under these FUPs consumptive uses of mineral materials reserves will occur during restoration projects.

Alternative C

The nature and type of impacts associated with leasable and locatable minerals under Alternative C would be the same as discussed under Alternative A.

Under Alternative C, 42,430 acres would be designated as ACECs, 18,600 acres would be managed as suitable for inclusion in the NWSRS, and 58,800 acres would be closed to OHV use. In these areas all operations greater than casual use would require a plan of operations, resulting in the impacts described above under *Impacts Common to All Alternatives* in these areas. The total acres of these areas under Alternative C would be 59,270 acres less than under Alternative A.

Alternative C would close 167,800 acres of BLM-administered lands and 1,600 acres of BLM subsurface mineral estate (split estate) to mineral materials development. Alternative C would allow mineral materials disposal on 214,400 acres of BLM-administered lands and 293,500 acres of BLM subsurface mineral estate (split estate). Under Alternative C, some areas allow exceptions for mineral materials used for stream or

habitat restoration purposes or consider exceptions on a case-by-case basis, see **Table B-1** in **Appendix B** for more information.

Eliminating these acres from mineral material development would have little effect as the majority of the impacts occur under the approved FUPs. Under these FUPs consumptive uses of mineral materials reserves will occur during restoration projects.

Alternative D

The nature and type of impacts associated with leasable and locatable minerals under Alternative D would be the same as discussed under Alternative A.

Under Alternative D, 87,890 acres would be designated as ACECs, 51,800 acres would be managed as suitable for inclusion in the NWSRS, and 61,500 acres would be closed to OHV use. In these areas all operations greater than casual use would require a plan of operations, resulting in the impacts described above under *Impacts Common to All Alternatives* in these areas. The total acres of these areas under Alternative D would be 22,090 acres more than under Alternative A.

Alternative D would close 209,600 acres of BLM-administered lands and 5,600 acres of BLM subsurface mineral estate (split estate) to mineral materials development. Alternative D would allow mineral materials disposal on 172,600 acres of BLM-administered lands and 289,500 acres of BLM subsurface mineral estate (split estate). Under Alternative D, some areas closed for mineral materials development allow exceptions for mineral materials used for stream or habitat restoration purposes, or consider exceptions on a case-by-case basis, see **Table B-1** in **Appendix B** for more information.

Eliminating these acres from mineral material development would have little effect as the majority of the impacts occur under the approved FUPs. Under these FUPs consumptive uses of mineral materials reserves will occur during restoration projects.

3.2.6 Recreation and Visitor Services

Affected Environment

Recreation in the decision area includes hiking, backpacking, mountain biking, horseback riding, rock climbing, riding OHVs, hunting, fishing, panning for gold, whitewater rafting, kayaking, rowing, surfing, hang-gliding, camping, sightseeing, photography, wildlife viewing, and historic site visitation. Current management strategies for the decision area focus on these activities. Recreation is managed through established recreation management areas (RMAs) and by the issuance of special recreation permits (SRPs), individual special recreation permits, and recreational use permits (RUPs). The variability of recreation use rates within the decision area depends on the location and seasonality.

There are multiple special designations that overlap with recreation user experiences in the decision area. Existing ACECs, WSRs, lands with wilderness characteristics, and RMAs are identified to protect important natural, cultural, historical, and scenic values which can enhance recreation experiences. Conversely, these designations may also hinder recreation opportunities when protections limit access or certain uses. Additionally, resource uses such as land tenure and wildland fire management also overlap with recreation user experiences. Land acquisitions may improve recreation opportunities by increasing the acreage of BLM-administered lands for the public to enjoy, whereas land disposals may have the opposite effect if the disposal is not leveled out by an exchange for lands with higher recreation value.

Wildfire and fuels treatment activities affect recreation and visitor services in the decision area. Since the adoption of the Arcata and Redding RMPs, the frequency and severity of wildfires have increased substantially in the planning area.

Further discussion on the baseline conditions for recreation and visitor services can be found in **Section D.3.6** of **Appendix D**.

Recreation Management Areas

The BLM designates SRMAs and ERMAs to effectively manage recreation and visitor services in accordance with BLM Handbook H-8320-1, Planning for Recreation and Visitor Services (BLM 2014). SRMAs are areas identified in land use plans to direct recreation funding and personnel to fulfill commitments made to provide specific "structured" recreation opportunities based on outcome-focused management. Three SRMAs are in the decision area: the Samoa Peninsula SRMA, the Interlakes SRMA, and the Forks of Butte Creek SRMA; these total 40,190 acres (11 percent of the decision area).

ERMAs are administrative units that require specific management consideration to address recreation use, demand, or recreation and visitor services program investments. An ERMA may be subdivided into recreation management zones (RMZs) to ensure recreation and visitor services are managed commensurate with the management of other resources and resource uses. There are no designated ERMAs under the current RMPs.

Recreation Activity and Use

Recreation use in the decision area is identified by the type of use and visitation numbers. For the past 30 years, recreation use in the decision area has increased, and the types of use have changed. Recreation use on BLM-administered lands around populated areas has increased dramatically, while use in more remote areas has remained constant or increased slightly. The BLM anticipates that increasing recreation use and changes in use patterns will continue.

The BLM uses the Recreation Management Information System to track and report the types of recreation the public participates in and the visitation numbers of the numerous recreation areas throughout the decision area. The system enables BLM employees to record estimates of recreation use for 65 types of recreational activities. BLM employees also periodically take vehicle counts of visitors at entrance locations and at specific recreations sites.

Travel Management

The BLM anticipates that recreation use and changes in use patterns will continue to increase in the coming decades. One example is the expanding use of electric bicycles, or e-bikes. As OHV use has continued to increase, new vehicle types and technologies have been introduced that have made it easier for a broader range of recreationists to participate. In August 2019, Secretarial Order 3376 was issued for the purpose of increasing recreational opportunities through the use of e-bikes. The order specifically directed the BLM to revise its OHV regulations at 43 CFR 8340. The final e-bike rule, published in December 2020, amends 43 CFR 8340.0-5 to define e-bikes, which are limited to Class 1 (motorized when pedaling, ceases assistance at 20 mph), 2 (motor that does not require pedaling to activate, ceases assistance at 20 mph), and 3 e-bikes (motor does not require pedaling to activate, ceases assistance at 28 mph). The new rule will ultimately provide BLM managers with the ability to exclude e-bikes that meet certain criteria from the definition of an OHV at 43 CFR 8340.0-5(a), allowing use on non-motorized routes that are open to

non-motorized bicycles. However, the rule did not immediately open non-motorized routes to e-bikes and still requires the issuance of new land use planning or implementation-level decision making that complies with NEPA (BLM 2023b).

There are currently two established OHV recreation areas within the decision area: the Chappie-Shasta OHV Area and the Samoa Dunes Recreation Area. These areas are specifically managed primarily to provide high-quality OHV recreation opportunities among other recreational activities.

Special Recreation Permits

The BLM issues SRPs for commercial uses, competitive and noncompetitive events, and organized groups. Commercial SRPs are issued, for example, to guides, vendors, recreation clubs, and event organizers. Commercial operations, competitive events, and organized groups under SRP provide recreation opportunities or services not requiring installation of permanent facilities on public lands. Over the years, the Redding FO has issued over 100 SRPs annually, and there was a high demand for more permits.

Recreational use permits are issued primarily at day-use areas with amenities, and at campgrounds in accordance with Federal Lands Recreation Enhancement Act. The revenue from these permits goes toward providing the amenities and services one may not have unless visiting a specific developed recreation area, and goes toward services such as trash removal, infrastructure maintenance and visitor service materials. Most often, the BLM uses RUPs to authorize individual and group use of recreational facilities, also known as fee sites. The Redding FO has five RUP fee sites: the Douglas City Campground, the Steelbridge Campground, the Junction City Campground, the Shasta Campground, and the Reading Island Group Campground. Two additional fee sites are currently proposed in a business planning process, Ohl Olson Group Campground and Stiener Flat Campground. The Arcata FO decision area does not have any fee sites or other areas and activities that require an RUP.

Firearm Use

The BLM allows the use of firearms on BLM-administered lands, as provided for in California state law. Target shooting is generally allowed on BLM-administered lands, as long as it is done in a safe manner without causing damage to natural resources or improvements. Shooting is strictly prohibited in developed recreation sites and other areas where posted. Unless specifically stated otherwise, firearm use for hunting on BLM-administered lands is generally allowed, under CDFW hunting regulations. A California hunting license is required to hunt within the state (BLM 2023a).

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, the broad range of recreational opportunities available in the decision area would continue. The Interlakes SRMA, Samoa Dunes SRMA, and Forks of Butte Creek SRMA would continue to be managed as they were designated. There would continue to be 40,190 acres of designated SRMAs within the decision area. There would continue to be no ERMAs designated in the decision area. The management direction for most RMAs would continue to be outdated and unable to account for increases in visitor use and changes in recreation technology and activities, such as e-bikes.

Management of recreation use, such as camping and shooting, would continue to be outdated generally. OHV recreation would continue to be based on technology present when the current RMPs were adopted. OHV users would continue to have access to existing OHV open and designated routes. However, e-bike users would continue to lack specified management guidelines and would be limited to motorized trails, which would close certain non-motorized trails to e-bikes that would likely be appropriate.

Under Alternative A, there would continue to be outdated management guidelines for lands with wilderness characteristics, ACECs, and WSRs, which would continue to limit recreation opportunity that would be supported by special designations and protections, such as hiking, camping, and wildlife viewing. However, for other forms of recreation, such as OHV use and mountain biking, current management would allow a wide range of access and opportunities that would not occur with updated protections.

Special recreation permits would continue to be managed under current guidelines. The BLM would continue to be unable to meet the demand for greater numbers of SRPs and the specific current conditions that require updated SRP guidance. Lack of updated wildfire management actions would continue to threaten locations of high recreation quality, which may continue to not be treated for fire danger. As a result, in the case of a potentially avoidable wildfire, visitor safety and recreation opportunities, experiences, or access may be degraded.

Alternative B

Under Alternative B, only the Chappie-Shasta OHV Area (23,800 acres) would be designated as an SRMA. Additionally, five areas would be designated as ERMAs (21,790 acres total). There would be 45,590 acres of recreation management areas (RMAs) designated under Alternative B. Though less area would be designated as SRMAs, overall recreation opportunities would be provided through expanded ERMAs. Overall, there would be updated management guidance for multiple recreation uses, including camping, shooting, OHV, e-bikes, and trail management.

Management under Alternative B would have greater restrictions on camping compared with under Alternative A. Recreational target shooting under Alternative B would provide more specific restrictions on the types of targets and ammunition permissible. Under Alternative B, the BLM would manage e-bikes similar to OHVs. On natural surface routes in OHV limited areas, e-bike travel would be analyzed and approved on a case-by-case basis. OHV use would be more restricted under Alternative B compared with Alternative A. Special designations and protections for lands with wilderness characteristics, ACECs, and WSRs would improve natural quality and scenery important to more primitive forms of recreation.

Under Alternative B, SRPs would be issued as a discretionary action for activities that are consistent with resource and program objectives, are within budget constraints, and would not cause public health and safety issues or create user conflicts. The BLM would collaborate with applicable agencies and SRP holders in the SRP application process as necessary to address potential resource limitations and recreational conflicts. Multiple RMAs would have specific SRP guidelines depending on the site-specific needs. More specific guidance for SRP issuance and monitoring would help BLM staff better manage SRP applications and priorities, compared with Alternative A.

Fire management would be more proactive, and treatments have the potential to conflict with recreation use due to smoke or noise. However, in the long term, landscapes would be better protected from fire damage, which would maintain scenic quality and recreation safety.

Alternative C

Under Alternative C, the BLM would designate four SRMAs totaling 41,790 acres, and nine ERMAs totaling 46,480. Combined, there would be 88,270 RMAs designated under Alternative C. Compared with Alternative A, there would more acres managed for recreation, including both SRMAs and ERMAs. Alternative C would have the greatest expansion in recreation opportunity and updated management guidelines similar to Alternative B.

The BLM would manage SRPs the same as under Alternative B with the exception of issuing SRPs for the Iron Mountain Target Shooting SRMA. Management of camping would be the same as under Alternative B.

Under Alternative C, the Iron Mountain Target Shooting SRMA would be designated, which would provide opportunities for recreational target shooting. All other management for firearm use would be the same as under Alternative B.

There would be more acreage open to OHV use under Alternative C compared with Alternative A. E-bikes would be managed similar to under Alternative A; however, in OHV limited areas Class I e-bikes would be allowed on natural surface non-motorized routes.

Under Alternative C, there would be fewer designated ACECs compared with Alternative A. There would also be negligible changes in lands with wilderness characteristics. As a result, there would be expanded recreation opportunities in previously designated areas.

Impacts on recreation use due to fire management under Alternative C would be similar to described under Alternative B, with minimal visual differences due to suppression zone maintenance and the location of fuels treatments.

Alternative D

Under Alternative D, SRMA designations would be the same as under Alternative C. Under Alternative D, there would be eight areas designated as ERMAs, totaling 45,880 acres. Compared with Alternative A, more acres would be managed for recreation. Impacts would be the same as described for Alternative C.

The BLM would manage SRPs and e-bike use the same as under Alternative C. Camping would be managed similar to Alternative C. OHV travel would be managed the same as under Alternative B.

Management under Alternative D would have an increased number of special designations, such as ACECs and lands with wilderness characteristics compared with Alternative A. Impacts on recreation would be the same as described under Alternative B. Impacts on recreation from WSR management would be the same as under Alternative C.

Impacts on recreation use due to fire management under Alternative D would be the same as under Alternative C.

3.2.7 Travel and Transportation Management

Affected Environment

Travel management pertains to the infrastructure and legal requirement to provide the public with the opportunity to access and use BLM-administered lands within the planning area. BLM Manual 1626, Travel and Transportation Management (BLM 2016d), requires the establishment of a long-term, sustainable, multimodal transportation system of open areas, roads, primitive roads, and trails that addresses public and administrative access needs to and across BLM-administered lands and related waters.

The transportation network in the planning area consists of federal and state highways, paved and unpaved county roads, paved and unpaved BLM roads built to facilitate industrial development, unpaved two-track roads, single-track trails for OHVs, and single-track trails for hiking, biking, and equestrian use. There is an extensive network of BLM roads, which consists of graded gravel roads with associated stormwater ditches that are regularly maintained, and user-created routes that rarely receive maintenance. Nonmotorized transportation networks include trails for pedestrian, equestrian, and cycling activities.

OHV Recreation Areas

Two established OHV recreation areas are within the planning area. The Redding FO manages the Chappie-Shasta OHV Area, and the Arcata FO manages the Samoa Dunes Recreation Area. These areas are specifically managed to provide high-quality OHV recreation opportunities while offering a variety of other recreation opportunities, such as biking, hiking, wildlife viewing, and fishing. Both of these areas are highly popular OHV recreation destinations and provide the majority of OHV recreation use within the planning area.

Travel Management Areas

BLM FOs can, where appropriate, delineate travel management areas (TMAs) that meet the RMP objectives. While no designated TMAs exist within the planning area, the current management plans have addressed travel management on a case-by-case basis through land use plans, activity-level plans, and specific closures. It should be noted that motorized travel in WSAs is limited to the ways and trails that existed as of the FLPMA's passage. Otherwise, WSAs are closed to motorized OHV use.

OHV Area Designations

While there is no comprehensive travel management plan for the planning area, several site-specific designations have occurred through various land use plans or Federal Register notices (BLM 2021a). There are approximately 1295 miles of routes on BLM-administered lands in the planning area; however, the BLM has not completed a comprehensive route inventory. Therefore, there may be additional routes not documented in the BLM's Ground Transportation Linear Feature data set (BLM 2021a).

Key Features and Areas of High Potential for Use

Major roads crossing public lands within the planning area include Highway 299, Highway 101, and Interstate 5. An extensive network of state, county, city, utility ROW, and BLM-maintained roads provide access throughout the planning area. Primitive routes and two-track and single-track trails provide access to remote areas, usually by means of four-wheel drive vehicles or OHVs. Nonmotorized routes of travel include equestrian, mountain bike, and pedestrian trail systems at Swasey Recreation Area, the Sacramento River Rail Trail System, Clear Creek Greenway, Mule Mountain, Cloverdale, Sacramento River Bend Area, Trinity Management Area, and Lacks Creek Management Area.

Further discussion on the baseline conditions for travel and transportation management can be found in **Appendix D**.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Impacts Common to All Alternatives

Under all alternatives, the miles of motorized and nonmotorized trails would be determined under future travel and transportation management implementation-level planning.

Alternative A (No Action Alternative)

Under Alternative A, the acreage closed for OHV travel and OHV travel limited to existing and designated routes would be similar to Alternative C but less than under Alternatives B and D. While impacts restricting travel and transportation by acreage would be less pronounced under this alternative, in an analysis of miles of observed motorized use in OHV closed areas, these preliminary miles would be similar to the other alternatives and so the impacts would be similar.

Unlike under the action alternatives, the BLM would not manage SRMAs and ERMAs beyond what is listed as OHV use limited to existing and designated routes. This would have impacts on travel and transportation compared with the action alternatives.

The BLM would continue to have a gap in the management of e-bike trails because there would be no management action for e-bike trails. The resulting lack of specific direction would adversely impact travel and transportation management by restricting trail access for e-bike users to motorized trails.

Under Alternative A, the BLM would identify fewer acres of land for retention and more acres of lands for disposal compared with the action alternatives. The retention or acquisition of lands could increase access to the transportation network within BLM-administered surface lands, and disposal could result in the elimination of lands that could eventually provide connection between trail networks or isolated parcels of BLM-administered lands. As a consequence, Alternative A would have the greatest degree of adverse impact on travel and transportation with respect to lands for retention or disposal. It is important to note that disposal of inaccessible or isolated parcels to acquire land around popular recreation sites has been a part of disposal decisions under Alternative A to improve public access. As a result, generally, impacts on travel and transportation management would be greater than they would be under the action alternatives; this is because the No Action alternative would continue to enable the reduction in the BLM's ability to expand the transportation network.

Alternative B

Under Alternative B, the acreage closed for OHV travel would be the greatest compared with the other alternatives. While the acreage restricting OHV travel would be the greatest under Alternative B, in an analysis of miles of observed motorized use in OHV closed areas, the impacts to travel and transportation management regarding OHV closed areas would be similar to the other alternatives.

Temporary crossings of riparian management areas with equipment or motor vehicles would only be allowed if they do not retard the attainment of Aquatic Conservation Strategy objectives. While this may

restrict some existing crossings, the BLM would identify appropriate stream crossing locations for new temporary routes so the effect would be similar to Alternative A.

Under Alternative B, the BLM would not allow e-bikes unless they are analyzed and approved on a case-by-case basis at the implementation level. If approved, e-bikes would be allowed on natural surface, non-motorized routes in areas where OHV travel is limited to existing and designated routes. Compared with the other action alternatives, this could potentially lead to a greater impact on travel and transportation management by limiting access to existing trails for e-bike users; however, Alternative B would enable e-bikes on more trails than Alternative A.

Alternative C

Under Alternative C, the acreage for OHV designations would be about the same as Alternative A, and impacts restricting travel and transportation would be the similar to Alternative A.

The effect on travel and transportation management from the management of temporary crossings of riparian management areas would be the same as Alternative B.

Under Alternatives C and D, Class 1 e-bikes would be limited to where biking is allowed; therefore, when compared with the other alternatives, Alternative C would have the smallest impact on travel and transportation by allowing access to existing trails by e-bike users.

Alternative D

Acreage closed for OHV travel would be 61,500 acres, which would restrict OHV travel over a greater acreage compared to the no action alternative. However, in an analysis of miles of observed motorized use in OHV closed areas, the impacts to travel and transportation management regarding OHV closed areas would be similar to the other alternatives.

Under Alternative D, there would be the greatest restrictions on travel and transportation management with respect to minimizing roads and landing locations in riparian management areas compared with all other alternatives.

Under Alternatives C and D, Class 1 e-bikes would be limited to where biking is allowed. Compared with the other alternatives, Alternative D would have the smallest impact on travel and transportation by allowing e-bike users access to existing trails.

3.2.8 Livestock Grazing

Affected Environment

The BLM is currently managing 24 active livestock grazing allotments within the planning area, as well as 34 vacant allotments with no current permit or lease associated with them. Additionally, five of the vacant grazing allotments have pending applications. Regardless, all livestock grazing use must meet the standards set forth in Rangeland Health Standards and Guidelines for California and Northwestern Nevada Final EIS (BLM 1998b) to ensure that range condition and productivity are stable.

All grazing leases include standard BLM terms and conditions. Additional general or allotment-specific terms and conditions are also included, such as requirements to comply with the Standards and Guidelines of Rangeland Health for California and Northwestern Nevada. Additionally, a grazing lease may include

terms and conditions compliance with an AMP. An AMP is a plan that deals with site-specific grazing management practices that allow for some flexibility in management within the grazing schedule. Currently, four allotments have a completed AMP. In general, most grazing leases in the planning area are not year-round.

Forage allocations within allotments are based on animal unit months (AUMs). AUMs permitted within each allotment are generally defined by the BLM specific to the allotment. Additionally, the BLM conducts rangeland health assessments at least once every 10 years, and more frequently in areas where additional monitoring is required to ensure that range health standards as described in the Rangeland Health and Standards Guidelines for California and Northwestern Nevada (BLM 1998) are being met and that productivity and land health is stable and in good condition.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, there would continue to be 195,300 acres unavailable for grazing, and 186,900 acres available for livestock grazing which is the smallest amount of land available for livestock grazing under all alternatives. Of these acres, approximately 105,400 acres (56 percent of the land available for grazing) contains suitable vegetation (this includes areas characterized by CalVeg as shrubland, herbaceous cover, and hardwood forest/woodland). There are 67,898 acres of named grazing allotments in the decision area (see **Table D-80**); under Alternative A, 62,600 acres (92 percent) are in areas identified as available for grazing. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas.

Alternative B

Under Alternative B, there would be 232,800 acres (61 percent of the decision area) available for grazing, which would be an increase over Alternative A, and 149,400 acres unavailable for grazing, which would be a decrease compared with Alternative A. Even though Alternative B would allocate fewer acres as unavailable for grazing than Alternative A, this would not automatically mean that there would be an increase in the amount of grazing that would occur. The likelihood of the BLM receiving applications for new areas to graze is low, as is the likelihood of the BLM allocating new AUMs. Of the acres available for grazing, approximately 123,600 acres (53 percent) would have suitable grazing vegetation present, as characterized by CalVeg. There are 67,898 acres of named grazing allotments in the decision area (see **Table D-80**); under Alternative B, 62,000 acres (91 percent) are in areas identified as available for grazing, which is a slight decrease from Alternative A. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas.

Alternative C

Under Alternative C, there would be 271,800 acres (71 percent of the decision area) available for grazing, and 110,400 acres unavailable for grazing, which equates to more acres available and fewer acres unavailable for grazing as compared with Alternative A. Alternative C would make the highest number of acres available for grazing across all alternatives. Even though Alternative C would allocate fewer acres as unavailable for grazing than Alternative A, this would not automatically mean that there would be an increase in the amount of grazing that would occur. The likelihood of the BLM receiving applications for

new areas to graze is low, as is the likelihood of the BLM allocating new AUMs. Of the acres available for grazing, approximately 138,500 acres (51 percent) would have suitable grazing vegetation present, as characterized by CalVeg. There are 67,898 acres of named grazing allotments in the decision area (see **Table D-80**); under Alternative C, 64,500 acres (95 percent) are in areas identified as available for grazing, which is an increase from Alternative A. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas.

Alternative D

Under Alternative D, there would be 188,600 acres (49 percent of the decision area) available for grazing, and 193,600 acres unavailable for grazing, which equates to slightly more acres available and fewer acres unavailable for grazing as compared with Alternative A. Even though Alternative D would allocate fewer acres as unavailable for grazing than Alternative A, this would not automatically mean that there would be an increase in the amount of grazing that would occur. The likelihood of the BLM receiving applications for new areas to graze is low, as is the likelihood of the BLM allocating new AUMs. Of the acres available for grazing, approximately 108,400 acres (57 percent) would have suitable grazing vegetation present, as characterized by CalVeg. There are 67,898 acres of named grazing allotments in the decision area (see **Table D-80**); under Alternative D, 59,000 acres (87 percent) are in areas identified as available for grazing, which is a decrease from Alternative A. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts would be limited to those areas. The reason for this reduction is the proposed closing of allotments that are not currently being utilized due to unsuitable vegetation for grazing, and closing allotments that overlap with ACECs. Under Alternative D, 49 percent of BLM-administered lands would be available for grazing.

3.3 SPECIAL DESIGNATIONS

3.3.1 Areas of Critical Environmental Concern

Affected Environment

BLM regulations for implementing the ACEC provisions of FLPMA are found in 43 CFR 1610.7-2(b). An ACEC possesses significant cultural, historic, or scenic values; fish or wildlife resources (including habitat, communities, or species); natural processes or systems; or natural hazards. In addition, the significance of these values and resources must meet at least one of the relevance criteria and one (or more) of the importance criteria.

The planning area currently contains 16 ACECs designated to protect a variety of resources and values (see **Table D-90** in **Appendix D**). **Appendix G** contains BLM's evaluations for existing and proposed ACECs.

Environmental Consequences

The potential impacts on the ACEC relevant and important values from management allocations in the range of alternatives can result in a wide array of outcomes that range from beneficial to adverse. The level of protection typically corresponds with the extent of constraints outlined in the management plan. Areas with identified relevant and important values not proposed for ACEC designation may lack protection against potential effects unless other resource-specific measures are put in place.

Common management allocations within ACECs, such as ROW avoidance or exclusion, mineral leasing status, Visual Resource Management (VRM) classification, Off-Highway Vehicle (OHV) access limitations,

and availability of areas for livestock grazing, contribute to the overall potential effects of R&I values. Impacts associated with these actions include increased human presence and vehicle traffic, machinery, noise, loss of or injury to plants and soils due to excavation or trampling, surface disturbance from mineral extraction and infrastructure, and increased exposure to dust and other contaminants associated with mineral development and access road construction. Most ACECs have management prescriptions to either close the area or prevent surface occupancy for mineral development. These closures or limits would provide some protection to the relevant and important values. Because these closures or limits would be in place due to the ACEC designation, areas with relevant and important values that are not proposed for ACEC designation among the alternatives would be more at risk to these types of impacts.

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, there are currently 16 designated ACECs covering a total of 54,600 acres of the decision area. These ACECs were designated to protect a variety of relevant and important values (such as rare vegetation and wildlife habitats, late successional and old-growth forests, fisheries, and scenic and cultural resources). These ACECs are:

- Baker Cypress ACEC
- Butte Creek ACEC
- Deer Creek ACEC
- Elder Creek ACEC
- Forks of Butte Creek ACEC
- Gilham Butte ACEC
- Hawes Corner ACEC
- Iaqua Buttes ACEC
- Lacks Creek ACEC
- Manila Dunes ACEC
- Red Mountain ACEC
- Sacramento Island ACEC
- Sacramento River Bend ACEC
- Shasta and Klamath Rivers Canyon ACEC
- South Fork Eel River ACEC
- Swasey Drive ACEC

There would be no change in ACEC designations under Alternative A. These existing ACECs would continue to protect the relevant and important values for which they were initially designated.

Alternative B

Under Alternative B, the BLM would designate 25 ACECs comprised of existing and internally and externally nominated areas. The ACECs would cover a total of 88,820 acres of the decision area to protect the relevant and important values for each respective ACEC. These ACECs would include:

- Beegum Creek Gorge ACEC
- Black Mountain ACEC
- Butte Creek ACEC
- Corning Vernal Pools ACEC
- Deer Creek ACEC
- Eden Valley ACEC
- Forks of Butte Creek ACEC
- Gilham Butte ACEC
- Grass Valley Creek ACEC
- Hawes Corner ACEC
- Iaqua Butte ACEC
- Lacks Creek ACEC
- Ma-le'l Dunes ACEC
- North Fork Eel ACEC
- North Table Mountain ACEC
- Sacramento Island ACEC
- Sacramento River Bend ACEC
- Shasta and Klamath River Canyon ACEC
- Sheep Rock ACEC
- South Spit ACEC
- Swasey Drive Clear Creek Greenway ACEC
- Upper Burney Dry Lake and Baker Cypress ACEC
- Upper Klamath Bench ACEC
- Upper Mattole ACEC
- Willis Ridge ACEC

More ACECs would be designated under Alternative B compared to Alternative A, which would minimize some impacts to natural and cultural resources within designated ACECs. ACEC designation includes management that would close or limit some activities to protect relevant and important values, such as closure or limitations on surface-disturbing activities. The additional ACEC designations under Alternative B would increase protection of relevant and important values compared to Alternative A.

Alternative C

Under Alternative C, seven ACECs comprised of existing and internally and externally nominated areas would be designated; these would cover a total of 42,430 acres of the decision area to protect the relevant and important values for each respective ACEC:

- Eden Creek ACEC
- Forks of Butte Creek ACEC
- Gilham Butte ACEC

- Grass Valley Creek ACEC
- Ma-le'l Dunes ACEC
- Sacramento River Bend ACEC
- Swasey Drive ACEC

Alternative C would designate fewer ACECs compared with Alternative A, and therefore, fewer relevant and important values would be protected by these designations. ACEC designation includes management that would close or limit some activities to protect relevant and important values, such as closures or limits on surface-disturbing activities. Alternative C would designate the fewest ACECs (and acreage) and therefore, would provide the least protection to relevant and important values compared to other alternatives.

Alternative D

Under Alternative D, 26 ACECs comprised of existing and internally and externally nominated areas would be designated; these would cover a total of 87,890 acres of the decision area to protect the relevant and important values for each respective ACEC:

- Beegum Creek Gorge ACEC
- Black Mountain ACEC
- Butte Creek ACEC
- Corning Vernal Pools ACEC
- Deer Creek ACEC
- Eden Valley ACEC
- Forks of Butte Creek ACEC
- Gilham Butte ACEC
- Grass Valley Creek ACEC
- Hawes Corner ACEC
- Iaqua Butte ACEC
- Lacks Creek ACEC
- Ma-le'l Dunes ACEC
- North Fork Eel ACEC
- North Table Mountain ACEC
- Sacramento Island ACEC
- Sacramento River Bend ACEC
- Shasta and Klamath River Canyon ACEC
- Sheep Rock ACEC
- South Spit ACEC
- Swasey Drive ACEC
- Upper and Lower Clear Creek ACEC
- Upper Burney Dry Lake and Baker Cypress ACEC

- Upper Klamath Bench ACEC
- Upper Mattole ACEC
- Willis Ridge ACEC

Impacts are anticipated to be similar to those described for Alternative B, with more relevant and important values identified and protected compared to Alternative A. Closures or limitations on some activities would reduce the potential for impacts on natural and cultural resources within these areas.

3.3.2 National Scenic and Historic Trails

Affected Environment

The National Trails System Act of 1968, as amended in 2009, established a national system of recreational, scenic, and historic trails "to provide for the ever-increasing outdoor recreation needs of an expanding population and in order to promote the preservation of public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation" (16 USC 1241 Sec. 2(a)). The National Trails System Act allowed Congress to designate national recreation trails, national scenic trails, and NHTs, depending on the proposed trail's national significance. NHTs are "extended trails which follow as closely as possible and practicable the original trails or routes of travel of national historic significance" (16 USC 1242 (a)(3)). The designation of a national trail requires an act of Congress; the designation is based off a federally mandated feasibility study. If the feasibility study recommends the trail as suitable, Congress may designate the trail. Land use planning guidance requires special management for congressional designations.

Existing Trail Segments

In the Redding FO's administrative boundaries, there is an approximately 1.5-mile-long section of the federally designated Nobles Trail, which is part of the California NHT, and one potential NHT segment, the Yreka Trail segment of the California NHT (1.7 miles), which is currently under a feasibility study. There are no designated NHTs or NHT segments under a feasibility study in the Arcata FO's administrative boundaries.

Because the Yreka Trail has not yet been officially designated—but it is under a feasibility study—the segments on BLM-administered land must be managed in accordance with FLPMA. Segments of the Nobles Trail, Lassen Trail, and Beckwourth Trail sections of the California NHT have been designated as NHTs that are administered by the NPS. These trails all cross the Redding FO's boundary. The BLM manages segments of the Nobles Trail for natural, scenic, cultural, and historic values according to BLM policy and the 1998 Comprehensive Management and Use Plan for the California National Historic Trail (USDI NPS 1998).

The California NHT, including the sections of the Nobles Trail and Yreka Trail located on BLM-administered lands, follows the routes westward-bound that immigrants traveled from Missouri to the California gold fields or Oregon Territory. The NHT has a current authorized length of 5,665 miles (covering multiple alternative routes). The BLM is the trail manager for three segments of the California NHT, totaling approximately 140 miles of trail on BLM-administered land in California; however, most of these trail lands are outside the Redding and Arcata FOs' boundaries.

The Nobles Trail is a segment of the California NHT that starts in Black Rock Springs in western Nevada and ends in the town of Shasta, California, approximately 10 miles west of Redding. The Yreka Trail is an

approximately 73-mile-long segment of the California NHT connecting Lower Klamath Lake to Yreka and its associated gold fields. The Beckwourth Trail crosses the Sierra Nevada into the gold rush town of Oroville, California.

Of the original trails, approximately 1.5 miles of the Nobles Trail and 1.7 miles of the Yreka Trail are on BLM-administered land in the Redding FO's boundary. The BLM is responsible for managing these portions of the trail in association with the NPS as the national trail administrator for the entire California NHT. As the Yreka Trail is currently under a feasibility study, the BLM will continue to manage the portions of the trail on BLM-administered land for the trail's values, characteristics, and settings in accordance with the FLPMA. If Congress designates the trail, the NPS, as the national trail administrator, may add the Yreka Trail to the existing California NHT comprehensive management plan as a revision or addendum. The BLM will work with the NPS to implement that plan when and if it is developed. The BLM will continue to work with the NPS to manage the Nobles Trail in accordance with the comprehensive management plan for the California NHT.

Potential Trails and Existing Scenic Byways

A section of a newly discovered emigrant trail is in Tehama County near Battle Creek and Spring Branch Road; it is unofficially designated the Forgotten Emigrant Trail that, with further study, could be added to the National Trail system. The Trinity Scenic Byway crosses small sections of BLM-administered land between the towns of Shasta and Blue Lake, California.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Management for national scenic and historic trails does not vary by alternative. There is no existing management for national scenic and historic trails included in the current RMPs. A 150-foot-wide trail corridor would be established for the 1.5 miles of the Nobles Trail route of the California NHT and for 1.7 miles of the Yreka trail route of the California NHT on BLM-administered lands. Trail corridor infrastructure would not be allowed to detract from the heritage values, except where features are already in place. Future changes to existing infrastructure in the trail corridors would not be allowed to detract from the trail values.

3.3.3 Wild and Scenic Rivers

Affected Environment

The WSR Act (October 2, 1968; Public Law 90-542) established the National Wild and Scenic River System (NWSRS), which is intended to preserve free-flowing rivers with outstandingly remarkable values (ORVs) in their natural condition for the benefit of present and future generations, balancing the nation's water resource development policies with river conservation and recreation goals.

The WSR Act states, "In all planning for the use and development of water and related land resources, consideration shall be given by all federal agencies involved to potential national wild, scenic and recreational river areas…" (Section 5(d) (1)). Federal agencies consider potential rivers by evaluating a river's eligibility, tentative classification, and suitability for designation under the WSR Act. This study process is part of the resource management planning effort for the Redding and Arcata FOs.

Potential classifications are to be determined based on the eligibility and suitability studies during this RMP process. Eligibility and tentative classification are determined by an inventory of existing conditions. Eligibility involves an evaluation of whether a river or river segment is free flowing and possesses one or more ORVs. If found eligible, a river is analyzed as to its current level of development (for example, water resources projects, shoreline development, and accessibility), and segmented accordingly. Each river segment is given one of three tentative classifications—wild, scenic, or recreational—based on the degree of development. The final procedural step, suitability, provides the basis for determining whether to recommend a river as part of the NWSRS. **Table D-102** in **Appendix D** provides information on river segments within the Arcata and Redding FOs' boundaries that have been determined eligible and suitable for inclusion in the NWSRS.

The Redding FO manages 24.4 miles of WSRs within its FO boundary. The Arcata FO manages 30 miles of WSRs within its FO boundary. The vast majority of projects and activities adjacent to or within the bed or banks of these rivers occur on private property. To protect and enhance WSR values, Congress included Section 7 of the WSR Act, which is a key provision that directs federal agencies to protect the values of designated WSRs, even when projects and activities are not on federal lands.

Within the planning area, the most commonly identified ORV is anadromous fisheries. The BLM must ensure activities on its federal lands meet the protection and enhancement standard set forth in the WSR Act. This may include actions outside the established river corridor that have the potential to affect the ORV(s).

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, the BLM would manage 117 eligible segments (totaling 201.7 miles) as eligible to protect their free-flowing condition, identified tentative classification, and preservation of ORVs until a suitability determination can be made. A 0.1-mile river segment would also continue to be managed as suitable for inclusion in the NWSRS.

Alternative B

Under Alternative B, the BLM would manage all 117 newly identified river segments (totaling 201.7 miles) of eligible portions of river segments and determine them as suitable for inclusion in the Wild and Scenic River Eligibility Report [USDI BLM 2023] (NWSRS). Under this alternative the BLM would apply interim protections until congressional action formally designates these areas as WSRs or releases them from the interim protections.

Existing designated WSRs (the Trinity River WSR, Klamath River WSR, and Eel River WSR would be retained (totaling 52 miles). If a designated WSR does not have an identified management corridor, then the management corridor would be 0.25-miles on each side of the river until an implementation-level WSR management plan is completed.

Under Alternative B, the BLM would manage all suitable WSR segments to protect and enhance the free-flowing condition and identified river values in coordination with the tentative classifications. Individual projects within the WSR corridors would be analyzed at the site-specific implementation level as needed.

Alternative C

Under Alternative C, the BLM would manage 3 newly identified river segments (totaling 14.2 miles) of eligible portions of river segments (listed in the Wild and Scenic River Eligibility Report [USDI BLM 2023]) as suitable for inclusion in the NWSRS. Under this alternative, the BLM would apply interim protections until congressional action formally designates these areas as WSRs or releases them from the interim protections.

Impacts for existing designated WSRs would be the same as those described under Alternative B. All suitable WSR segments would be managed as described under Alternative B.

Alternative D

Under Alternative D, the BLM would manage 62 newly identified river segments (totaling 147.2 miles) of eligible portions of river segments (listed in the Wild and Scenic River Eligibility Report [USDI BLM 2023]) as suitable for inclusion in the NWSRS. Under this alternative the BLM would apply interim protections until congressional action formally designates these areas as WSRs or releases them from the interim protections.

Impacts for existing designated WSRs would be the same as those described under Alternative B. All suitable WSR segments would be managed as described under Alternative B.

3.3.4 Wilderness, Wilderness Study Areas, and Lands with Wilderness Characteristics

Affected Environment

Wilderness

Under FLPMA, wilderness preservation is part of the BLM's multiple-use mandate, and the wilderness resource is recognized as part of a spectrum of resource values to be considered during land use planning. The five qualities that comprise wilderness character are: untrammeled, natural, undeveloped, outstanding opportunities for solitude or a primitive and unconfined type of recreation and supplemental values.

The planning area contains 19 areas designated by Congress as wilderness, totaling 1,427,700 acres. Five of these areas are managed by the BLM: Elkhorn Ridge Wilderness, Yuki Wilderness, South Fork Eel River Wilderness, Yolla Bolly-Middle Eel Wilderness, and Ishi Wilderness, which make up 50,040 acres (4 percent of the designated wilderness in the planning area).

Wilderness Study Areas (FLPMA Section 603 and Section 202)

Section 603 of FLPMA first required the BLM to inventory all public lands with roadless areas of 5,000 acres or more and to identify those areas that possess wilderness characteristics as enumerated by Congress in Section 2(c) of the Wilderness Act of 1964. The BLM's inventory, conducted during the inventory process required by Section 201 of FLPMA, focused on roadless areas of 5,000 acres or more, but also identified those roadless areas of less than 5,000 acres that had wilderness characteristics in association with contiguous roadless areas managed by another federal agency or that could be managed to keep those characteristics in an unimpaired condition. The BLM completed this inventory between

1978 and 1980. The BLM documented those areas identified as having wilderness characteristics and designated them as Wilderness Study Areas (WSAs).

After completing the reports to Congress required under Section 603 of FLPMA, BLM retains discretion under FLPMA's multiple-use mandate to designate WSAs under the authority of Sections 202 and 302 of FLPMA (known as a Section 202 WSA) and to manage such areas of land to protect wilderness resources, including under a non-impairment standard. The BLM administers all WSAs (both those designated by Congress under Section 603 and those administratively designated under Section 202) under the management policies for WSAs (BLM Manual 6330 – Management of Wilderness Study Areas [BLM 2012c]) to avoid impairing the suitability of such areas for preservation as wilderness. BLM must manage Section 603 WSAs under a non-impairment standard unless or until Congress acts, whereas BLM retains the discretion to change Section 202 WSAs (not reported to Congress in 1993) designated as part of a land use planning process through a subsequent land use planning process.

The decision area contains nine areas designated as wilderness or WSAs for a total of 58,490 acres, of which four are Section 603 WSAs for a total of 8,450 acres on BLM-administered lands, and of which five are designated wilderness areas for a total of 50,040 acres on BLM-administered lands.

Lands with Wilderness Characteristics

Consistent with FLPMA's, multiple-use mandate, the BLM is also evaluating whether to manage for the protection of wilderness characteristics as part of a spectrum of resource values to be considered during land use planning.

In 2015, the BLM began a lands with wilderness characteristics inventory for the planning area and identified 10 areas that have the an area or portion of the area that have wilderness characteristics (see **Table D-106** in **Appendix D**). The inventory does not represent a formal land use allocation or a final agency decision. The BLM's policy in managing lands with wilderness characteristics directs the BLM to consider options for managing lands with wilderness characteristics focusing on several outcomes that may include or be a combination of: (1) allowing for other multiple uses in an area while not protecting wilderness characteristics; (2) minimizing impacts on wilderness characteristics via management restrictions while emphasizing multiple uses; or (3) protecting wilderness characteristics while providing for compatible uses. Distinct from managing Section 202 WSAs, the BLM's policy provides management options for lands with wilderness characteristics of something less than the non-impairment standard. If the BLM concludes through the land use planning process that protection of wilderness characteristics is appropriate, the BLM would manage consistent with protection of those wilderness characteristics.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Wilderness

The five designated wilderness areas administered by the BLM (50,040 acres) would continue to be managed as VRM Class I, ROW exclusion, closed to OHV travel, closed to fluid mineral and mineral material development, and withdrawn from locatable mineral entry to preserve the existing natural character of the landscape. Under this alternative, 11,200 acres of wilderness would continue to be

available to livestock grazing; however, only 10,900 acres of wilderness would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on wilderness would be limited to those areas of overlap with active allotments. New range improvements are only allowed to protect the naturalness aspect of wilderness character. Fencing could limit unconfined recreation. Maintenance of range improvements could result in short-term impacts on solitude and naturalness. Solitude on areas with wilderness character would also be affected by the allowable motorized use for livestock grazing operations and construction of any new facilities necessary to manage and utilize AUMs.

Wilderness Study Areas

Four areas would continue to be managed as Section 603 WSAs (8,450 acres) under Alternative A. Existing Section 603 WSAs would continue to be managed according to the non-impairment standard under all alternatives. If Congress were to release a Section 603 WSA, the BLM would continue to manage the lands to emphasize primitive recreation opportunities. No Section 202 WSAs are designated under Alternative A.

Under this alternative, 1,600 acres of Section 603 WSAs would continue to be available to livestock grazing; however, only 1,400 acres of the WSAs would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited to those areas of overlap with active allotments.

Locatable mineral development would also impact Section 603 WSAs under this alternative. Mineral development can cause surface disturbances that affect the naturalness of the Section 603 WSAs. Management actions for travel, minerals, vegetation, wildlife, and fuels would work to preserve the wilderness characteristics.

Lands with Wilderness Characteristics

Under Alternative A, areas identified as having wilderness characteristics would remain under current management; however, these areas would not be given priority over other resources or resource uses; the areas are not currently managed for wilderness characteristics. Therefore, the area or a portion of the area containing wilderness characteristics may be altered to the point that the wilderness characteristics are lost. Within areas with wilderness characteristics, 12,700 acres would continue to be available to livestock grazing under this alternative. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on areas with wilderness characteristics from livestock grazing would be limited to those areas with active grazing allotments.

Wilderness, Wilderness Study Areas, and Lands with Wilderness Characteristics - Vegetation, Forestry, and Fuels Management

Vegetation management, including forestry and fuels management treatments would affect the appearance of naturalness in wilderness, WSAs, and areas with wilderness characteristics. However, the objectives of treatments would be to promote the health of native vegetation communities, ultimately leading to no impact on the appearance of naturalness. These treatments sometimes necessitate the creation of temporary roads or trails, which could temporarily impact wilderness qualities until the temporary roads revegetate to a more natural state. BMPs and other techniques to minimize impacts on the naturalness of the areas with wilderness qualities could be used under Alternative A to further limit impacts (**Appendix**

F); however, those techniques are not given priority for lands with wilderness characteristics under Alternative A.

Alternative B

Wilderness

The five designated wilderness areas administered by the BLM (50,040 acres) would continue to be managed as described under Alternative A.

Under Alternative B, the types of impacts from livestock grazing on wilderness would be the same as under Alternative A. Livestock grazing would be available on 11,300 acres of wilderness; however, only 10,900 acres of wilderness would overlap with three active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on wilderness would be limited to those areas of overlap with active allotments, which would be the same as under Alternative A. Management actions for travel, minerals, and wildlife would work to preserve the wilderness character.

Under Alternative B, vegetation, fuels treatments, and restoration would be implemented based on analysis using the Minimum Requirements Decision Guide. Vegetation and wildlife management may include techniques to minimize impacts on naturalness from activities such as construction of suppression lines and vegetation clearing, and to restore native vegetation communities. Temporary impacts on naturalness may occur with the use of vegetation and fuels treatments; over time, however, these treatments aim to restore the naturalness of the area. Compared with Alternative A, there would be more beneficial impacts caused by the restoration of the naturalness of the wilderness areas and Section 603 and Section 202 WSAs under this alternative.

Wilderness Study Areas

The BLM would continue to manage four Section 603 WSAs and would elect to manage 12,090 acres of lands with wilderness characteristics as six Section 202 WSAs.

Under Alternative B, 1,300 acres of Section 603 and Section 202 WSAs would be available to livestock grazing; however, only 900 acres of the WSAs would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited to those areas of overlap with active allotments, which would be a decrease from Alternative A. Compared with Alternative A, Alternative B would provide more protection to WSAs as there would be fewer acres where WSA could be impacted by livestock grazing on active allotments. Management actions for travel, minerals, and wildlife would work to preserve the wilderness character. The impacts from vegetation, fuels treatments, and restoration would be the same as those described above under Wilderness.

Lands with Wilderness Characteristics

Under Alternative B, the BLM would manage 21,970 acres (6 percent of the decision area and 41 percent of the inventoried lands with wilderness characteristics) as lands with wilderness characteristics to protect wilderness characteristics as a priority over other multiple uses (see **Table 2-1**). Under this alternative, there would be 21,970 more acres (6 percent of the decision area) of lands with wilderness characteristics managed as a priority than under Alternative A. As a result, more lands with wilderness characteristics

would be protected as a priority over other multiple uses. This would preserve more areas with natural conditions and outstanding opportunities for solitude or primitive and unconfined recreation.

Under Alternative B, livestock grazing would be available on 7,900 acres of lands with wilderness characteristics (6,900 acres would be managed to protect as a priority over other multiple uses). However, there would only be 3,100 acres of lands with wilderness characteristics to protect wilderness characteristics as a priority that overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on lands with wilderness characteristics would be limited to these areas of overlap with active allotments. Compared with Alternative A, this would provide more protection to lands with wilderness characteristics as there would be 4,800 fewer acres available to livestock grazing under Alternative B. There would be fewer impacts from surface disturbances created by mineral development compared with Alternative A. Alternative B would close the most acreage to OHV travel as compared to the other alternatives, which would reduce impacts on overlapping or nearby lands with wilderness characteristics. Lands with wilderness characteristics would be more protected from ROW development than under Alternative A because of the ROW exclusion areas. There would be more protections under this alternative compared to Alternative A for visual resources management because there would be more areas managed as a VRM Class II.

Vegetation management, including forestry and fuels management treatments, may include techniques to minimize impacts on the naturalness of the lands with wilderness characteristics from activities such as construction of temporary suppression lines for forest and fuel treatment projects and vegetation clearing to restore native vegetation communities. Any fire suppression lines utilizing heavy equipment or post fire vegetation projects utilizing heavy equipment would only be done after appropriate approvals are obtained for equipment use in BLM wilderness areas. These projects would only be permitted if they do not impact wilderness characteristics. Temporary impacts on naturalness may occur with the use of vegetation and fuels treatments. Over time, however, these treatments would aim to restore the naturalness of the area. Additionally, treatments that would be specifically designed to provide for resource benefits, such as threatened and endangered species habitat protection, would be considered in these areas. Compared with Alternative A, there would be more beneficial impacts caused by the restoration of the naturalness from vegetation and forestry management on the lands with wilderness characteristics under this alternative because these areas would be given priority unlike under Alternative A.

Alternative C

Wilderness

The five designated wilderness areas administered by the BLM (50,040 acres) would be managed as described under Alternative A. Impacts from livestock grazing on wilderness under Alternative C would be the same as Alternative A.

Under Alternative C, the types of impacts from vegetation and forestry, and fuels management on wilderness would be the same as described under Alternative B.

Wilderness Study Areas

Under Alternative C, the BLM would manage four Section 603 WSAs identified under Alternative A; no areas would be identified as Section 202 WSAs.

Under Alternative C, 2,400 acres of Section 603 WSAs would be available to livestock grazing; however, only 1,400 acres of the WSAs would overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited to those areas of overlap with active allotments, which would be the same as under Alternative A.

Under Alternative C, the types of impacts from vegetation and forestry, and fuels management on WSAs would be the similar as those described under Alternative B. However, under this alternative they would be implemented on 8,450 acres of Section 603 WSAs, which would be fewer acres than under Alternative B.

Lands with Wilderness Characteristics

Under Alternative C, 5,840 acres (2 percent of the decision area and 11 percent of the inventoried lands with wilderness characteristics) of land with wilderness characteristics would be managed to protect wilderness characteristics as a priority over other multiple uses and the remaining acres would be managed to minimize impacts on wilderness characteristics while emphasizing other uses, 28,220 acres (9 percent of the decision area and 53 percent of the inventoried lands with wilderness characteristics) (see **Table 2-1**). Under this alternative, compared with Alternative A, there are 5,840 more acres (2 percent of the decision area) of lands with wilderness characteristics managed as a priority over other multiple uses. This would preserve more areas with natural conditions and outstanding opportunities for solitude or primitive and unconfined recreation. Depending on management, activities on lands with wilderness characteristics where the BLM would minimize impacts on wilderness characteristics while emphasizing other multiple uses could degrade the values and qualities of wilderness. This could result, for example, from the development of infrastructure in these areas. Management would consider wilderness characteristics before allowing activities in these areas.

Under Alternative C, livestock grazing would be available on 3,500 acres of lands with wilderness characteristics that would be managed to protect as a priority over other multiple uses. The likelihood of new grazing occurring on these lands is low. Livestock grazing would also be available on 12,700 acres of lands with wilderness characteristics that would be managed to minimize impacts while emphasizing multiple uses. The nature and type of impacts from livestock grazing on lands with wilderness characteristics would be the same as described under Alternative A. However, there would only be 4,000 acres of lands with wilderness characteristics managed to minimize impacts on wilderness characteristics while emphasizing other uses that overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on lands with wilderness characteristics would be limited to these areas of overlap with active allotments. There would be less impacts from surface disturbances created by mineral development compared with Alternative A. Impacts from OHV use would be similar to impacts under Alternative A. Lands with wilderness characteristics would be more protected from ROW development than under Alternative A because of the ROW exclusion and avoidance areas. There would be more protections under this alternative compared to Alternative A for visual resources management because there would be more areas managed as a VRM Class II.

Under Alternative C, the impacts from vegetation and forestry management on lands with wilderness characteristics managed as a priority over multiple uses would be similar to those described under Alternative B. When compared with Alternative A, there would be more beneficial impacts caused by the

restoration of the naturalness through vegetation and forestry management on the 5,840 acres of lands with wilderness characteristics managed as a priority over multiple uses under this alternative because this management priority does not exist under Alternative A.

Alternative D

Wilderness

The five designated wilderness areas administered by the BLM (50,040 acres) would continue to be managed as described under Alternative A.

Under Alternative D, livestock grazing would be available on 9,400 acres of wilderness; however, only 9,100 acres of wilderness would overlap with three active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on wilderness would be limited to those areas of overlap with active allotments, which would be a decrease from Alternative A.

Under Alternative D, the types of impacts from vegetation and wildlife management on wilderness would be the same as described under Alternative B.

Wilderness Study Areas

The BLM would continue to manage four Section 603 WSAs and would also elect to manage 540 acres of lands with wilderness characteristics as two Section 202 WSAs. Both types of would be managed under a non-impairment standard consistent with BLM Manual 6330 – Management of BLM Wilderness Study Areas in order to maintain the area's suitability for preservation as wilderness.

Under Alternative D, 100 acres of Section 603 WSAs would be available to livestock grazing; those 100 acres of WSAs would also overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on WSAs would be limited to those areas of overlap with active allotments, which would be a decrease from Alternative A.

The impacts on Section 603 WSAs would be similar those described above for Alternative B. However, under Alternative D there would be no overlap with Section 202 WSAs and lands available for livestock grazing under Alternative D. Management actions for travel, minerals, and wildlife would work to preserve the wilderness character.

Lands with Wilderness Characteristics

Under Alternative D, the BLM would manage the 11,570 acres (3 percent of the decision area and 22 percent of the inventoried lands with wilderness characteristics) of lands with wilderness characteristics to protect wilderness characteristics as a priority over other multiple uses. The remaining acres (21,950 acres, or 8 percent of the decision area and 41 percent of the inventoried lands with wilderness characteristics) would be managed to minimize impacts on wilderness characteristics while emphasizing other uses (see **Table 2-1**). The lands with wilderness characteristics not proposed as Section 202 WSAs under Alternative D (see above) may require more flexibility in their management, such as areas with identified needs for long term forest restoration due to past forestry practices and exclusion of fire, which is generally not consistent with the non-impairment standard.

Under Alternative D, livestock grazing would be available on 6,700 acres of lands with wilderness characteristics that would be managed to minimize impacts. However, there would only be 3,000 acres of lands with wilderness characteristics managed to minimize impacts on wilderness characteristics that overlap with active grazing allotments. Because the BLM does not anticipate a substantial increase in grazing allotment acreage over the life of the RMP, impacts on lands with wilderness characteristics would be limited to these areas of overlap with active allotments. These impacts would be similar to Alternative B, except there would be 1,200 fewer acres of lands with wilderness characteristics available to grazing. There would be less impacts from surface disturbances created by mineral development compared with Alternative A. Alternative D would close slightly more acreage to OHV travel than under Alternative A; impacts between the two alternatives would be similar. Lands with wilderness characteristics would be more protected from ROW development than under Alternative A because of the ROW exclusion and avoidance areas. There would be more protections under this alternative compared to Alternative A for visual resources management because there would be more areas managed as a VRM Class II.

Under Alternative D, the impacts from vegetation and forestry management on lands with wilderness characteristics would be similar as those described under Alternative B. However, under this alternative vegetation and forestry management projects would only be permitted on the 11,570 acres being managed as a priority over multiple uses and if they will not impact wilderness characteristics. Compared with Alternative A, there would be more beneficial impacts caused by the restoration of the naturalness from vegetation and forestry management on the lands with wilderness characteristics under this alternative because these areas are given priority unlike Alternative A.

3.4 SOCIAL AND ECONOMIC

3.4.1 Social and Economic Conditions

Affected Environment

The discussion of the social and economic conditions includes the following counties: Butte County, Del Norte County, Humboldt County, Mendocino County, Shasta County, Siskiyou County, Tehama County, and Trinity County.

Population Trends and Forecast

The population density of the counties in the planning area (with a range of 4 to 134 people per square mile) relative to California (239 people per square mile) indicates the rural nature of the planning area (US Census Bureau 2018; Headwaters Economics Profile System 2019; BLM 2021a). Between 2010 and 2019, total population increased in Butte, Shasta, Humboldt, and Tehama Counties, while the other counties in the planning area experienced a population decrease. Population projections from the California Department of Finance show that Butte, Shasta, and Tehama Counties will continue to see an increase in population growth through 2040, while the remaining counties in the planning area will experience a decrease.

Housing

The availability of housing units can be an indirect indicator of economic and social stability. The amount of overall availability and vacant rooms can also be an indicator of how well a community is responding to changes in resources and natural disasters, such as wildfires. An increase in post fire out-migration particularly from WUIs, where most housing losses from wildfires occur, has exacerbated preexisting supply deficits in the planning area in more developed areas where population growth is occurring. The

median monthly mortgage for counties in the planning area was lower than the California median in all counties.

Jobs and Income

According to 2018 employment data, service-related jobs were the predominant employment industry in the planning area. Within the service-related sector, health care and social assistance made up the highest percentage of jobs that had an average higher than the state average, followed by retail trade, for which all the counties had a higher percentage than the state average. As discussed in more detail in the Socioeconomic Baseline Report (BLM 2021e, pp 2-19 and 2-20) the cannabis industry in the "Emerald Triangle" of Mendocino, Humboldt, and Trinity Counties is a large contributor to local economy.

Per capita income and average earnings per job in the planning area counties are below the California averages ($76,347 and $88,670, respectively). Non-labor income in the planning area accounted for a higher percentage of total income in the planning area than in California. Particularly, age- and hardship-related transfer payments were greater than in California in all the planning area counties. An aging population, a more mobile population, and an increasing homeless population are some of the reasons behind the increase in non-labor income.

Unemployment

Unemployment rates for each county in the planning area were, in general, slightly higher—or very close to—the state unemployment rate average between 2000 and 2020. Humboldt and Mendocino Counties had the lowest unemployment rates in the planning area after 2010, and Siskiyou, Tehama, and Del Norte Counties had the highest unemployment rates. All counties had a large increase in unemployment in 2020 due to the COVID-19 pandemic. All counties in the planning area relied on service-related jobs and government jobs, both of which were affected by the pandemic. Siskiyou County had the highest unemployment rate at 11.2 percent in 2020.

BLM-Administered Lands and Resource Use and Revenue

The BLM provides value to surrounding communities and economies through the uses and resources it supplies and the services it supports. BLM resources contribute to the local and regional economies by providing direct financial contributions, employment, and increased economic output, or non-market values, through services like increased water quality and reduced wildfire damage.

The amount of federal land in the planning area varies by county, with 13.3 percent in Mendocino County and 75.8 percent in Trinity County. Overall, about 42 percent of the land throughout the planning area is federal land. Only 3.4 percent of the federal land in the planning area is managed by the BLM, which is lower than the state average of 14.9 percent of federal land. Most of the federal lands within the planning area are managed by the Forest Service (Headwaters Economics Profile System 2019).

Local governments are not able to receive property tax revenue from lands owned by federal agencies, so the government implemented payments in lieu of taxes (PILT), which are federal payments to local governments, to offset this loss in property tax revenue. Payments in lieu of taxes are calculated based on the amount of federal land that is located in the county. In 2020, the planning area counties received about $8.1 million in PILT for over 6.9 million acres of federal lands. Only 8.4 percent of those lands were BLM-administered lands, largely due to the low percentage of BLM-administered lands in the planning area.

Livestock Grazing

The BLM allows local farmers and ranchers to use the land for livestock grazing in exchange for a fee. There are approximately 22,000 acres of land in the Arcata FO and over 24,000 acres in the Redding FO that are currently being used for grazing allotments. There are currently 24 active livestock grazing allotments within the planning area. The majority of active allotments are in the Redding FO. The active allotments range from 5 to 9,100 acres, and their grazing allocations range from 10 to 1,330 AUMs (the amount of forage needed to sustain one cow and her calf, five sheep, or five goats for one month). Total BLM-administered AUMs for the planning area equal 4,978 AUMs, with 963 AUMs in the Arcata FO and 4,015 AUMs in the Redding FO (BLM 2021a). Only 0.1 percent of the total AUMs in the planning area are administered by the BLM.

Grazing receipts that the BLM receives for use of the land are distributed to the state and the BLM's range improvement fund as required by federal law and BLM regulations for Taylor Grazing Act Section 15. According to BLM Rangeland Administration System data, with a billed usage of 4,978 AUMs and a $1.35 per AUM federal grazing fee, total contribution of grazing to each of the counties in the planning area ranged from $840 to $3,360.

Minerals

There have been neither leases nor applications for oil and gas leases on BLM-administered lands or federal mineral estate in the planning area, nor have any been applied for in over 20 years (BLM 2021e). As a result, there are no social and economic contributions from leasable minerals on BLM-administered lands.

Most of the locatable mineral development within the planning area consists of casual use in the form of gold panning or metal detecting (as defined in 43 CFR 3809). There have been no recent sales of mineral materials in either the Redding or Arcata FOs. Mineral materials include sand, gravel, clays, fill material, broken rock, and building stone. The BLM provides mineral materials free of charge to state, county, and federal agencies for use in public projects under an FUP. There is currently one FUP in the Arcata FO and seven FUPs within the Redding FO. These FUPs are the only current mineral materials development within the planning area.

Forest Products and Ecological Restoration

The BLM's contributions to the forest products industry are minimal. The average annual amount of timber harvested from county, municipal, and BLM-administered lands in the planning area over the past 5 years was approximately 1,058 MBF per year, representing an average of 0.1 percent of the overall timber harvest in the planning area (UMBBER 2023). The majority of contributions to the state come from private entities or the Forest Service (BBER 2016).

Special forest products (SFPs), which include non-timber vegetative material such as mushrooms, seeds, berries, greenery, and fuelwood, are harvested on BLM-administered lands for recreation, personal use, and income. In the Arcata FO, there were a total of 35 permits for SFPs in 2020, resulting in $870 received. In the Redding FO there were 27 permits, which resulted in $13,295 received in 2020.

Ecological restoration projects occur periodically on BLM-administered lands in the planning area. Ecological restoration in general has become an important industry generating $10 billion annually in U.S. output and 126,000 jobs (BenDor et al. 2015). Case studies in the northwest have shown that forest and

watershed restoration support approximately 16 jobs per million dollars of investment (Nielsen-Pincus and Moseley 2013).

Recreation

Employment and economic output from the recreation-related and tourism industries help support local area economies, and many of those recreation-related activities occur on the roughly 396,000 acres of BLM-administered lands within the planning area. In 2015, more than 1,049,000 people used lands managed by the Arcata and Redding FOs for nonmotorized recreation, contributing $41.2 million to the local economy (The Pew Charitable Trusts 2017).

Some of the areas within the Arcata FO that have seen high and increasing numbers of visitors are the Samoa Peninsula SRMA (about 200,000 visits annually), Lacks Creek Management Area (about 6,500 visits annually), and Red Mountain Management Area (about 20,000 visits annually). In the Redding FO, the Trinity Management Area receives about 100,000 visits annually (BLM 2021e). National Visitor Use Monitoring Program data from 2019 indicates that area visitors spent an average of $1,026 per party per trip to Forest Service lands in the Pacific Southwest Region (Forest Service 2019). Spending includes lodging, transportation, food, and supplies, and recreational spending supports jobs and income in local industries including but not limited to accommodations and food service, as well as the arts, entertainment, and recreation industries.

Non-Market Contributions

The values of many goods and services that BLM-administered lands provide can be measured through market mechanisms, such as the fees that the BLM charges for its uses and services. There are some goods and services, however, that provide value to society but are not accounted for through markets; these are often called non-market values. Non-market values include use and non-use values. Across the planning area, the key non-market values that BLM-administered lands provide are hazardous fuels management, recreation, and land and resource protection and conservation for future generations. Other non-market values identified by stakeholders include education and research, wilderness, and the spiritual benefits associated with enjoying nature (BLM 2021e).

Active and passive forms of fuels management on BLM-administered lands, which move forests towards historical wildland fire regimes, can assist with minimizing the risk of uncharacteristic wildfires for local communities. Uncharacteristic wildfire (that is, high-intensity, large wildfires) can affect non-market values through impacts on forest ecosystems, safety of the residents in the surrounding areas, potential for property damage, health impacts from smoke, impacts on scenery and quality of life, potential damage to unique and sensitive cultural resources, and decreased outdoor recreational opportunities on public lands.

Recreation provides a variety of non-market benefits to the community, including but not limited to improved health, reduced potential health costs, stress reduction. The activities with the highest consumer surplus are nonmotorized boating, biking, and hiking.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Under Alternative A, land uses, such as grazing, timber harvest, and recreation, would continue to contribute to the local economy. A regional economic modeling analysis indicates livestock grazing would support about two total jobs, $53,400 in total labor income, and $194,000 in total output in the Arcata FO's administrative boundaries. Livestock grazing would support six jobs, $205,000 in total labor income, and $745,400 in total output in the Redding FO's administrative boundaries.

Timber harvest would result in minor contributions of $10,700 total output from timber harvest in the Arcata FO analysis area and $5.5 million in total output in the Redding FO analysis area under Alternative A and all action alternatives.

Recreation would continue to support the largest level of economic contributions including 705 and 598 total jobs and over $100 million and $80 million in total output in the Arcata FO and the Redding FO analysis areas, respectively.

Mineral leasing would result in minimal economic contributions under Alternative A and all action alternatives.

Under Alternative A, the areas identified for disposal would continue to be 101,00 acres, which would decrease BLM-administered lands by about 18 percent. When these acres are removed from federal lands, the amount of payment in lieu of taxes (PILT) the counties receive would decrease from the current amount of PILT that the counties in the planning area receive ($8,122,551). The actual amount of changes to PILT would depend on the acres disposed, which historically has been substantially less than the total identified acres for disposal.

Under Alternative A, areas managed for protection of resources (i.e., 54,600 acres designated as ACECs and 253.8 miles of eligible WSR corridors) would continue to provide non-market values such as benefits from viewing and recreating in nature and values from conserving areas for future generations. In addition, developed recreation in ACECs and ERMAs would continue to support quality of life for area residents, including but not limited to recreation benefits of improved mental and physical health.

Alternative B

Under Alternative B, the economic contributions associated with livestock grazing could increase compared with Alternative A; this is due to an increase in acreage available for grazing of about 25 percent more land. Actual impacts would depend on the level of AUM reductions.

There would be an increase in contributions from recreation for all types, except for OHVs and e-bikes. This is due to the 12 percent increase in SRMA and ERMA lands. In addition, the increase in lands with wilderness characteristics and ACECs would enhance recreational experiences for visitors interested in preserving wildlife. Opportunities could potentially decrease for OHV recreationists, under Alternative B; this is because there would be an increase in OHV-closed areas by 14,400 acres compared with Alternative A.

In the short-term, fire management and riparian management area management could limit recreational opportunities under Alternative B. However, in the long term, fire management and riparian management

area management could increase recreation and recreation's economic contribution by improving the scenic views, habitat quality, and recreation safety.

Under Alternative B, the BLM would identify roughly 94 percent fewer areas for disposal compared with Alternative A. Compared with Alternative A, this could result in a higher level of retained lands and PILT contributions over the planning period. The actual level of changes to PILT would depend on the acres disposed.

Under Alternative B, the land managed for wilderness characteristics and the land designated as ACECs would be almost six times greater and 63 percent greater than under Alternative A, respectively. This suggests the non-market values to society from conserved land would be greater than under Alternative A. Contributions to quality of life from recreation activities would be maintained or increased due to increased acres in SRMAs and ERMAs.

Alternative C

Under Alternative C, the economic contributions associated with livestock grazing could increase compared with Alternative A. This is due to an increase in acreage available for grazing of about 45 percent more land. Actual impacts would depend on the level of AUM reductions.

There would be an increase in contributions from recreation, particularly for those interested in developed recreational experiences. This is due to the increase in SRMAs and ERMAs of about 2.18 times the land (in total) under Alternative A. However, there would be a decrease in the number of total areas designated as ACECs and managed with lands with wilderness characteristics, which could decrease the recreational opportunities associated with quiet, un-developed recreational experiences compared with Alternative A.

Under Alternative C, 400 acres would be moved from OHV closed to OHV limited; therefore, there would be a greater amount of acreage available to OHV travel compared with under Alternative A. This could increase the opportunities and economic contributions associated with motorized recreational experiences.

Under Alternative C, the areas identified for disposal would be about 51 percent less than under Alternative A. Compared with Alternative A, this could result in the retention of more lands and PILT over the planning period. The actual level of changes to PILT would depend on the acres disposed.

Under Alternative C, the total land managed for wilderness characteristics and designated for ACECs would be about 22 percent less than under Alternative A. This suggests the non-market values to society associated with conserved land would be less under Alternative C, than under Alternative A. Contributions to quality of life from recreation activities would be maintained or increased due to increased acres in SRMAs and ERMAs.

Alternative D

Under Alternative D, the impacts on economic contributions from livestock grazing may increase compared to Alternative A, due to an increase in acreage available to grazing of about 1 percent more land. Actual impacts would depend on the level of AUM reductions, which would be impacted from the lower number of suitable acres.

Under Alternative D, there would be an increase in contributions from recreation, particularly for those interested in developed recreational experiences. This is due to the increase in SRMAs and ERMAs of about 1.2 times the land (in total) under Alternative A. Impacts from ACECs, land tenure, and riparian management area management would be the same as under Alternative B. Compared with Alternative A, this management could result in increased recreation and economic contributions from recreation focused on quiet recreational experiences compared to Alternative A.

The impacts of limiting OHVs would be similar as to those under Alternative B and would reduce access to recreation opportunities for OHV users, because there would be an increase in OHV-closed areas by 2,300 acres compared with Alternative A.

Under Alternative D, the areas identified for disposal would be about 94 percent less land than under Alternative A. Compared with Alternative A, this could result in the retention of more land and PILT over the planning period. The actual level of changes to PILT would depend on the acres disposed.

Under Alternative D, the land managed for wilderness characteristics and the land designated as ACECs would be about one and a half times greater and 61 percent greater than under Alternative A, respectively. This suggests that the non-market values to society from conserved land would be greater than under Alternative A. Contributions to quality of life from recreation activities would be maintained or increased due to increased acres in SRMAs and ERMAs.

3.4.2 Environmental Justice

Affected Environment

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 *Federal Register* 7629), requires federal agencies to identify and address any disproportionately high and adverse human health, environmental, economic, and social effects of their actions, programs, and policies on minority and low-income populations (**Map 3-19**, Low-income Populations, in **Appendix A**). Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All, was enacted on April 21, 2023 to complement Executive Order 12989. Until further guidance is issued on how to implement Executive Order 14096 the BLM continues to implement Executive Order 12898.

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. It focuses on environmental hazards and human health to avoid disproportionately high and adverse human health or environmental effects on environmental justice populations. Within the planning area, communities of environmental justice concern include low-income populations—including homeless populations and those displaced by recent wildfires—minority populations, and members of Native American Tribal communities.

To identify environmental justice populations, minority and low-income population percentages in each census tract were screened in comparison with a reference area to identify low-income or minority populations that meet the determination criteria and would receive further consideration regarding environmental justice concerns. A reference area may be the state or respective county within which the census tract is located. For this analysis, respective counties were used as reference populations. California has a large overall minority population (64.2 percent); using the meaningfully greater percentage for

California (70.7 percent) would exclude all but three census tracts (of 207 census tracts) as having a minority population that would qualify them as environmental justice populations (US Census Bureau 2021a, 2021b). Using nearby counties as reference areas allows for identification of environmental justice populations at a finer scale and reveals populations that would not have been identified otherwise. Overall, 123 of the 207 census tracts in the planning area met at least one environmental justice criterion. Of the census tracts in each county, 50 percent or more qualified for further environmental justice consideration (US Census Bureau 2021a, 2021b).

Homelessness

Homelessness is a shared characteristic of a section of the low-income population that is of particular significance in this area and therefore is being considered specifically. Homeless or displaced populations may rely on public lands for subsistence use, as well as areas that are designated for day use or camping. All planning area counties except Mendocino County saw a considerable increase in overall homelessness between 2015 and 2019. The homeless populations in Butte, Del Norte, Shasta, Siskiyou, and Tehama Counties more than doubled (US Department of Housing and Urban Development 2019). Homeless persons experience high rates of health problems including, but not limited to, diabetes, heart disease, and human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). Air quality can be a risk to those with additional health issues, and those without access to a home are more at risk for impacts from breathing heavily smoky air. These impacts will continue to grow with the higher intensity and likelihood of wildfires.

Indigenous Population

Federally-recognized Tribes are considered environmental justice populations; when possible, they are included in the analysis. Tribes and Tribal communities maintain a general concern for the protection of and access to areas of traditional and religious importance, as well as the welfare of plants, animals, air, landforms, and water on reservations and public lands. In addition to these general concerns, individual Tribes have specific treaty rights or Tribal concerns that may vary within the planning area. Thirty-one federally recognized Tribes and 14 Tribes (currently not listed per Public Law 103-454) have identified traditional use of resources in the planning area.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

The existing RMPs for the Arcata and Redding FOs do not identify specific management with respect to environmental justice populations beyond the existing EOs or secretarial orders, laws and regulatory requirements. Any disproportionate economic and health impacts on environmental justice populations arising from climate change and wildfires would continue at current levels.

Under Alternative A, historically underserved or disadvantaged communities would continue to experience disproportionate adverse impacts with respect to accessibility and inclusivity of recreational opportunities.

The BLM would continue to make a reasonable and good faith effort to identify Native American concerns. Existing protective measures that would prioritize hazardous material cleanup near historic and prehistoric

cultural resources and Traditional Tribal economic resources would be implemented to minimize impacts. Also, measures within existing special designation areas protecting Native American resources would continue at their current rate.

Alternative A would result in the lowest amount of OHV access limitations, compared with all other alternatives, providing continued support for those with mobility impairments, including Tribal members, who may rely on motorized routes to access remote natural and cultural resources with cultural significance.

Alternative B

Alternative B would prioritize landscape resiliency against climate change impact (including from severe wildfires). This would indirectly benefit environmental justice populations by minimizing the risks from housing and property loss or health impacts from wildfire smoke.

Alternative B would result in more acres closed to OHV travel than under Alternative A, and fewer acres designated as OHV limited than under Alternative A. However, under Alternative B, the BLM would increase and prioritize development of recreational opportunities for underserved and disadvantaged communities, such as offering low expense disability-inclusive facilities and culturally adaptive experiences for a diverse population. This would result in beneficial impacts on environmental justice communities.

An increase in the number and area of special designations and protected areas from Alternative A, would result in beneficial impacts on Tribal communities with potential natural and cultural resources within the protected areas. The BLM would also improve facilitation of use of federal lands and resources used for cultural and spiritual purposes, which would result in beneficial impacts on Tribal communities.

Alternative C

Impacts from BLM management under Alternative C would generally be the same as those described under Alternative B. Alternative C would emphasize fire resiliency in forested areas which would reduce the adverse impacts of severe wildfires on environmental justice populations compared with all other alternatives.

Compared with Alternatives A and B, a reduction in the area and number of special designation areas specifically ACECs and miles of eligible WSRs, could result in the removal of some protection for resources with Tribal importance. Protection for natural and cultural resources would, however, be maintained based on existing federal laws and BLM regulations, including but not limited to NHPA, Antiquities Act of 1906, ARPA, and NAGPRA. The BLM would continue to work with Tribes to ensure access, management, and use of important areas (see Appendix D, Section D.5.2 for additional details).

Alternative D

Impacts from BLM management would generally be the same as those described under Alternative B. Under Alternative D, an increase in ACEC designations compared with Alternative A would increase protection of potential Tribal resources and benefit Tribal communities. Miles of wild and scenic rivers would be decreased compared with Alternative A. As noted in Alternative C, this could result in the site-specific removal of some protection for resources with Tribal importance. Protection for natural and cultural resources would, however, be maintained based on existing federal laws and BLM regulations.

3.4.3 Tribal Interests

Affected Environment

There are 31 federally recognized Tribes and Tribal entities that claim traditional use and resources within the planning area (see **Table D-102** in **Appendix D**). Of these, 15 federally recognized Tribes claim such uses within the Redding FO area while 10 federally recognized Tribes claim the same within the Arcata FO area. Four federally recognized Tribes/Tribal entities claim traditional use of the resources in both FO areas. Each Tribe and/or Tribal entity maintains a general concern for the protection of and access to areas within the analysis area of traditional and religious importance, as well as burial, residential, economic, sacred, and religious use locations. This also includes the health and condition of plants, wildlife, air, landforms, and water sources on both reservation and BLM-administered lands, as well as the protection of cultural and archaeological resources. In addition to these general interests in these resources, individual Tribes and/or Tribal groups also hold specific treaty rights or unique concerns that may vary within the analysis area.

In addition to those federally recognized Tribes/Tribal organizations, at least 10 Native American Tribal groups have ties to the planning area. While not formally federally recognized, these are important groups within the community that have valid interests in the management of resources and ensured access for continued use and cultural practices to BLM-administered lands within the planning area.

In accordance with federal regulations, policies, and treaties, the BLM is required to engage in meaningful consultation and coordination with Native American Tribes and Tribal entities, particularly with regards to treaty rights and ongoing preservation. While there are no known congressionally approved treaties in place within the boundaries of the Redding and Arcata Fos, the general rights to access natural, medicinal, and sacred resources and spaces are guaranteed to federally recognized Tribes.

A number of modern cemeteries used or visited by local Tribes are on BLM-administered lands within the planning area, as are other historic-era cemeteries of concern to Tribal groups. These cemeteries could need additional protection if disturbance is identified or proposed. The BLM is committed to continue to facilitate access to these burial places and to provide protection from disturbance, as needed.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

The existing RMPs for the Arcata and Redding FOs do not identify any specific management approaches for Tribal interests beyond the existing regulatory and executive frameworks that require consultation with Native American Tribes and Tribal entities. This is often addressed in more specific planning efforts, as well as during project-level reviews of all federal undertakings, as required under Section 106, executive and secretarial orders, and other relevant federal regulations. Engagement and management regarding resources of Tribal interest would continue in this capacity. This could include variations between the Redding FO and Arcata FO practices and efforts due to the lack of central, regional management guidance beyond larger regulations and policies. The review of federal undertakings and addressing the potential for adverse effects on resources of Tribal interest would continue under Alternative A.

Alternative B

The BLM would implement a variety of new management approaches specific to each resource type that would specifically include policies and goals that would increase engagement and cooperation with Native American Tribes and Tribal entities. This would build upon the existing consultation processes associated with the regulatory and executive frameworks and strive to foster increased relationships to better manage a variety of resource types. This would also call for increased relationships that may include opportunities for co-stewardship, collaboration, and sharing of information to better manage resources, while also protecting resources of Tribal interest for continued use. Protections would also be expanded through increased special designations and limitations on potentially damaging uses throughout the BLM analysis area, However, certain designations, specifically related to wilderness characteristics, may inadvertently present new access and use challenges to areas and resources of Tribal interest. Despite some of these challenges, the new management policies and added protections would result in less potential for impacts than Alternative A.

Alternative C

Impacts would be similar to those described for Alternative B. This is because the management approaches specific to each resource type would be implemented under all action alternatives. Alternative C primarily differs in the use allocations, which are typically more open to increased development and activities that have the potential to cause surface disturbance, as well as altering the broader landscape and cultural setting. However, despite this increased potential for some resource uses, clearly defined management approaches and continued consultation through the regulatory and executive frameworks would continue to result in less potential impacts on Tribal resources than under Alternative A.

Alternative D

Impacts would be similar to those described for Alternative B. This is because the BLM would implement management approaches specific to each resource type under all action alternatives, which would foster increased cooperation, collaboration, and co-stewardship. Generally, impacts would be similar to those under both Alternatives B and C, as Alternative D presents a middle ground between increased protection with limited usage for select resources, with increased use for other resources. Specifically, use allocations under Alternative D demonstrate a balance between increased protections and limitations on uses that have the potential to be particularly damaging to resources of Tribal interests. Alternative D also calls for increased recreation potential. However, this increased use would be offset through specific recreation management approaches that take into consideration the potential for important resources of Tribal interests. While the level of recreation would also be increased from Alternative A, the combination of comprehensive management approaches, increased emphasis on co-stewardship, and continuation of meaningful consultation would result in less potential impacts on resources of Tribal interest than under Alternative A.

3.4.4 Public Health and Safety

Affected Environment

The BLM is charged with sustaining public lands for the use and enjoyment of present and future generations which includes efforts to minimize and reduce impacts from releases of hazardous materials on the health, diversity, and productivity of those lands and on the health and safety of the individuals who utilize public lands. Hazardous materials management within the planning area includes cleaning up illicit

drug lab dumps, abandoned used oil, chemicals at abandoned mine sites, and various hazardous materials on occupancy trespass sites.

Public health and safety concerns in the planning area include illegal trespass; marijuana growing operations and unauthorized water diversions; hazardous substances generation; homeless camps and trash at long-term camping sites; trash and human waste at various locations; OHV use; general misuse of BLM-administered lands; abandoned mine land sites; use of firearms; and hazardous materials/waste generation. The potential for wildfire also creates public health and safety issues with respect to firefighter access and public escape from wildfires. In addition, recent wildfire events have resulted in steep areas that lack protective vegetation cover, which thereby create a greater likelihood of soil slumping and landslides.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

Public health and safety issues related to land use and conditions and hazardous materials are not addressed in the current RMPs. Public health and safety issues related to land use and conditions, hazardous materials, and wildfire risk would be expected to continue.

Management of lands identified for disposal (101,000 acres) would help keep the potential for impacts on public health and safety low because much of those lands are isolated tracts with identified hazards, such as illegal marijuana growing operations, hazardous materials spills and releases, solid waste accumulations, and unauthorized camps.

Management actions to maintain the three SRMAs for a total of 40,190 acres would result in maintaining the current level of impacts on public health and safety from competing consumptive and non-consumptive resource users.

As the population of foothills communities continues to increase so does the WUI and actions to address the buildup of hazardous vegetation and improve forestland health and wildfire resiliency as well as infrastructure improvements to support fire response capabilities are essential to mitigate impacts on public health and safety from wildfires. Currently, 382,200 acres are classified as non-WUI, with no acreages identified for the Intermix, Interface, and Influence Zones.

Alternative B

Under Alternative B, the large reduction in lands identified for disposal to 6,000 acres would increase the potential for impacts on public health and safety; this is because those isolated tracts with identified hazards would be retained and benefits from disposing of isolated tracts described in Alternative A would not occur.

Management actions to remove the three existing SRMAs (for a total of 40,190 acres) and the addition of 1 new SRMA for a total of 23,800 acres, 4 new ERMAs for a total of 21,290 acres, and 4 new RMZs for a total of 9,930 acres would reduce public health and safety risks overall. This is because of the development and enforcement of area-use guidelines and regulations which would help to prevent antagonistic and accidental interactions between consumptive and non-consumptive resource users.

Under Alternative B, 28,000 acres would be identified as WUI (including the Intermix Zone and the Influence Zone), with 16,600 acres would be identified as WUI in essential connectivity corridors, which are habitat connectivity corridors that are ranked according to the greatest ease of wildlife movement (for a total WUI of 44,600 acres). The Interface Zone would be broken out separately from WUI lands because different management actions may be needed to address wildfire response, suppression and resiliency in this zone. Vegetation treatments to reduce hazardous fuels and undesirable vegetation would improve wildland health and fire resiliency and reduce the risk of wildland fire. In conjunction with infrastructure management actions to close/block off unused roadways to prevent unauthorized entry, improve roadways to provide access to and travel from foothills communities, improve roadways and bridges to accommodate fire trucks and heavy equipment, and require ROW lease holders to clear hazard trees would greatly reduce impacts on public health and safety from wildfires.

Alternative C

The reduction in lands identified for disposal to 49,400 acres would result in a moderate increase in the potential for impacts on public health and safety; this is because some of those isolated tracts with identified hazards would be retained. Management of lands identified for retention (333,100 acres) would only help to increase impacts on public health and safety due to their use and condition.

Management actions to remove 2 SRMAs for a total of 40,000 acres; the continuance of 1 SRMA of 190 acres; the addition of 3 new SRMAs for 41,600 acres and 9 new ERMAs for 46,480 acres would greatly reduce impacts on public health and safety overall. This is because of the development and enforcement of area use guidelines and regulations that would help to prevent antagonistic and accidental interactions between consumptive and non-consumptive resource users.

Under Alternative C, the WUI would consist of 44,600 acres which includes lands in the Intermix Zone, the Influence Zone, and WUI lands in the essential connectivity corridor. The remainder of the planning area (321,500 acres) would be identified as non-WUI lands. The types of impacts would be similar to those discussed under Alternative B.

Vegetation treatments to reduce hazardous fuels and undesirable vegetation would improve wildland health and fire resiliency and reduce the risk of wildland fire. In conjunction with infrastructure management actions to close/block off unused roadways to prevent unauthorized entry, improve roadways to provide access to and travel from foothills communities, improve roadways and bridges to accommodate fire trucks and heavy equipment, and require ROW lease holders to clear hazard trees would greatly reduce impacts on public health and safety from wildfires.

Alternative D

Under Alternative D, there would be 5,900 acres of land identified for disposal, similar to Alternative B. This would result in a substantial increase in the potential for impacts on public health and safety; this is because some of those isolated tracts with identified hazards would be retained. Management of lands identified for retention (376,600 acres) would only help to greatly increase impacts on public health and safety due to the lands use and condition.

Management actions to remove two SRMAs for a total of 40,000 acres, the continuance of one SRMA for 190 acres, and the addition of 3 new SRMAs for 41,600 acres and 8 new ERMAs for 45,880 acres, would reduce impacts on public health and safety overall. This is because of the development and enforcement

of area use guidelines and regulations that would help to prevent antagonistic and accidental interactions between consumptive and non-consumptive resource users.

Under Alternative D, WUI lands (44,600 acres), Interface Zone lands (16,100 acres), and non-WUI lands (321,500 acres) would be the same as under Alternative C, and risks to public health and safety would be the same as described under Alternative C.

Vegetation treatments to reduce hazardous fuels and undesirable vegetation would improve wildland health and fire resiliency and reduce the risk of wildland fire. In conjunction with infrastructure management actions to close/block off unused roadways to prevent unauthorized entry, improve roadways to provide access to and travel from foothills communities, improve roadways and bridges to accommodate fire trucks and heavy equipment, and require ROW lease holders to clear hazard trees would greatly reduce impacts on public health and safety from wildfires.

3.5 SUPPORT

3.5.1 Interpretation and Environmental Education

Affected Environment

Interpretation and environmental education promote a connection between visitors and the natural, cultural, and recreational resources within the NCIP planning area. Along with interpretation, environmental education serves as an additional mechanism through which the BLM enhances public appreciation of its resources and promotes scientific learning through hands-on experiences. Education and interpretation are important tools in addressing user conflicts resulting from overuse amid multiple user groups, including hikers, equestrian users, mountain bikers, hunters, and motorized vehicle users.

Current interpretive programming in the planning area includes a focus on high-profile and multiuse recreational areas that are frequented by many local and nonlocal user groups. Such services are designed to benefit all visitors to the planning area, including residents, tourists, researchers, students, and other groups. This is especially true where listed species, sensitive cultural resources, and sensitive environmental habitat also occur. These programs are offered publicly in coordination with relevant interest groups, partners, agencies, and community members. Signage is part of interpretive programming intended to connect visitors to public lands through informational kiosks, wayside exhibits, and other types of signs (directional signs, road markers, historical signs, and phenological signs). Currently, the Arcata and Redding FOs have interpretation signage in several high-use management areas, but not all.

Environmental education programming includes Hands on the Land (HOL) field classrooms that connect students, teachers, families, and volunteers to public lands. The Arcata FO has one HOL field classroom while the Redding FO has two HOL field classrooms. Both FOs utilize other field sites for developed educational programs and placed-based curriculum in specific management areas.

At present, the Arcata and Redding FOs work with federal, state, county, and other agencies; nongovernmental organizations; colleges and universities; museums; other educational institutions; and individual researchers on a wide variety of research projects supporting the use of public lands for scientific study as well as social and recreation-based actions. The planning area also contains 10 designated Research Natural Areas (RNAs) that serve as important locations where scientific and research use is high.

Environmental Consequences

For a full summary of the environmental consequences, refer to **Appendix D**. Analysis indicators and assumptions are included in **Appendix C**.

Alternative A (No Action Alternative)

The existing RMPs for the Arcata and Redding FOs do not identify any specific management framework for interpretive and educational programming; these efforts would continue to be administered independently as part of individual resource management programs There would be no comprehensive management of interpretation and environmental education programming or research endeavors in the planning area. Development of interpretive and education programs would continue, as would current research and scientific study.

Alternative B

The BLM would develop a comprehensive interpretive plan under Alternative B, which would follow BLM guidelines and define the agency's overall interpretation and education vision, goals, themes, strategies, and opportunities. The plan would include a long-range implementation strategy that includes partnership development, staffing needs, and program costs. Identification of important cultural sites for scientific study and interpretative opportunities would be prioritized. An interpretive/educational center would be developed for the newly combined Swasey Drive Clear Creek Greenway ACEC. Research opportunities within ACECs, SRMAs, ERMAs, and RMZs would be expanded compared to Alternative A.

Alternative C

Impacts would be similar to those described under Alternative B; this is because as the comprehensive interpretive plan would be developed under Alternative C as well. Sites identified for education and interpretation to support heritage tourism would have a strategy to "harden the site." The BLM would also work with interpretive staff and Tribal partners to enhance and develop opportunities at these sites. The interpretive/educational center would still be developed, but it would be for the existing Swasey Drive ACEC.

Research opportunities would be reduced by 12,170 acres within designated ACECs, compared with Alternative A; however, they would be expanded within SRMAs, ERMAs, and RMZs.

Alternative D

Impacts would be similar to those described for Alternative B. This is because the BLM would develop the comprehensive interpretive plan under Alternative D as well. Effects on interpretation and education for cultural resources would be the same as under Alternative C except the BLM would include a greater number of cultural sites that experience heavy visitation. The interpretive/educational center would still be developed for the existing Swasey Drive ACEC.

Alternative D would expand research opportunities within ACECs, SRMAs, ERMAs, and RMZs to the greatest extent.

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Chapter 4. Consultation and Coordination

4.1 Introduction

This chapter describes the public outreach and participation opportunities associated with developing this RMP/EIS. As part of the process, the BLM consulted and coordinated with Tribes, government agencies, and other stakeholders.

The BLM conducts land use planning in accordance with statutory requirements, regulations, and DOI and BLM policies and procedures. NEPA and the associated laws, regulations, and policies require the BLM to seek public involvement early in and throughout the planning process. This is to develop a reasonable range of alternatives to the proposed actions and to prepare environmental documents that disclose the potential impacts of proposed actions and alternatives.

The BLM involved the public and other agencies by way of *Federal Register* notices, public and informal meetings, individual contacts, letters, emails, postcards, media releases, and the NCIP ePlanning website.[1]

4.2 Consultation and Coordination

Federal laws require the BLM to consult with certain entities and Native American Tribes during the NEPA decision-making process. The BLM is also directed to integrate NEPA requirements with other environmental review and consultation requirements to reduce excessive paperwork and delays (40 CFR 1500.4-5). The BLM has implemented a collaborative outreach and public involvement process that has included public scoping (see **Section 4.3**, below), conducting a socioeconomic workshop, and coordinating directly with Tribes and cooperating agencies. The BLM will continue to meet with interested agencies and organizations throughout the planning process, as appropriate, and will continue coordinating closely with cooperating agencies and Tribes.

4.2.1 Cooperating Agencies

Cooperating agencies are those federal, state, and local agencies and Tribes that have jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative (40 CFR1051.8).

In January and February 2021, the BLM sent letters to 68 local, state, federal, and Tribal representatives, inviting them to participate as cooperating agencies. An agency or Tribe has the option of signing on as a cooperator at any time during the RMP revision process. The following 25 entities agreed to participate as a cooperating agency:

1. Blue Lake Rancheria
2. Butte County
3. Bureau of Reclamation
4. CAL FIRE
5. California Department of Conservation – California Geologic Energy Management Division
6. CDFW
7. City of Arcata
8. City of Redding

[1] https://eplanning.blm.gov/eplanning-ui/project/2012803/510

9. Crescent City
10. Del Norte County
11. Enterprise Rancheria
12. Hoopa Valley Tribe
13. Mooretown Rancheria
14. NPS – Lassen Volcanic National Park
15. NPS – Whiskeytown National Recreation Area
16. North Coast Regional Water Quality Control Board
17. Redding Rancheria
18. Shasta County Air Quality Management District
19. Shasta Valley Resource Conservation District
20. Siskiyou County Department of Agriculture
21. Tehama County
22. Trinity County
23. US EPA
24. USFWS
25. Wiyot Tribe

Cooperating agency meetings were held at project milestones, as needed. The purpose of these meetings was to inform and receive input from cooperating agencies respective to their jurisdiction, special expertise, or interests. The BLM held a cooperating agency update meeting on July 7, 2021, to provide an overview of the NCIP planning process and engagement opportunities. On October 24, 2022, cooperating agencies were also invited to participate in a question-and-answer session that focused on the draft alternatives. The resource issues or concerns related to the NCIP that were brought up during these meetings are addressed in this RMP/EIS. The BLM coordinated with cooperating agencies throughout the NEPA process and will continue through development of the ROD.

4.2.2 Tribal Consultation and Coordination

Coordination and consultation with Tribes are conducted during the NEPA process. EO 13175 requires federal agencies to coordinate and consult on a government-to-government basis with sovereign Native American Tribal governments whose interests may be directly and substantially affected by activities on government-administered lands. BLM coordination or consultation with Tribes, as they pertain to treaty rights and trust responsibility, is conducted in accordance with FLPMA; NEPA; BLM Handbook H-17880-1, Improving and Sustaining BLM-Tribal Relations; EO 13084, Consultation and Coordination with Indian Tribal Governments (May 13, 1998); and EO 13175, Consultation and Coordination with Indian Tribal Governments (May 6, 2000).

In early 2021, the BLM sent letters to all 31 federally recognized Tribes within the NCIP planning area inviting them to participate in government-to-government consultation. This invitation was extended to the following Tribes:

- Alturas Indian Rancheria, California
- Bear River Band of Rohnerville Rancheria
- Berry Creek Rancheria
- Big Lagoon Rancheria
- Blue Lake Rancheria
- Cachil Indian Community-Colusa Rancheria
- Cahto Tribe of Laytonville Rancheria
- Cher-Ae Heights Indian Community-Trinidad Rancheria

- Confederated Tribes of Grand Ronde
- Confederated Tribes of Siletz
- Elk Valley Rancheria
- Greenville Rancheria
- Grindstone Rancheria of Wintun-Wailaki
- Hoopa Valley Tribe
- Karuk Tribe of California
- Klamath Tribes
- Mechoopda Indian Tribe/Chico Rancheria
- Modoc Nation
- Mooretown Rancheria
- Paskenta Band of Nomlaki Indians
- Pit River Tribe
- Quartz Valley Indian Rancheria
- Redding Rancheria
- Resighini Rancheria
- Round Valley Tribal Council
- Sherwood Valley Band of Pomo Indians
- Susanville Indian Rancheria
- Tolowa Dee-ni' Nation
- Wiyot Tribe
- Yurok Tribe

The Blue Lake Rancheria, Hoopa Valley Tribe, Mooretown Rancheria, Redding Rancheria, and Wiyot Tribe have memoranda of understanding in place as cooperating agencies. These five Tribes were specifically invited to participate in cooperating agency meetings related to RMP development, as noted in **Section 4.2.1**. In June 2023, cooperating agencies, including the Tribes noted above, were provided the opportunity to participate in an early review of the Draft RMP/EIS. Government-to-government consultation will continue throughout the RMP development process.

4.2.3 California SHPO Consultation

The Draft RMP/EIS was provided to the SHPO concurrently with the draft's release to the public in support of Section 106 consultation under the National Historic Preservation Act. Additionally, the SHPO was consulted during review of the preliminary Proposed RMP/Final EIS, from April 1 to April 12, 2024.

4.2.4 NMFS and USFWS Consultation

The ESA requires all federal agencies to ensure their actions do not jeopardize the continued existence of listed species or destroy or adversely modify their critical habitat. The BLM obtained a list of species that may be present in the NCIP planning area and that are listed under the ESA from the USFWS's Information for Planning and Consultation website. Threatened and endangered species that could be

present within the NCIP planning area are discussed in brief in **Section 3.2.5**, Wildlife, **Section 3.2.6**, Fish and Aquatic Species, and in detail in **Appendix D**.

To comply with ESA Section 7(c), the BLM consulted with the USFWS and NMFS to identify ESA issues within the planning area. The BLM has prepared a biological assessment for NMFS and a biological assessment for the USFWS, which were formally submitted to each agency on April 12, 2024. Copies of the biological assessments and Biological Opinions from USFWS and NMFS will be provided with the Approved RMP/Record of Decision.

4.2.5 Resource Advisory Council Collaboration

A resource advisory council (RAC) is a committee of local citizens appointed by the Secretary of the Interior to provide advice or recommendations to the BLM on management of public lands. The Northern California resource advisory council includes representation from various interest and user groups across the NCIP planning area. The BLM presented informal updates on the NCIP to RAC members at four meetings. These meetings occurred on May 24, 2023; October 26, 2023; February 1, 2024; and June 6, 2024.

4.3 Public Collaboration and Outreach

Public involvement is a vital component of both the RMP and EIS processes. Public involvement vests the public in the decision-making process and provides full environmental disclosure. Guidance for implementing public involvement for RMPs is provided under the BLM planning regulations at 43 CFR 1610.

The public scoping phase has been completed and is described below; the public outreach and collaboration phases are ongoing throughout the RMP/EIS process. The public can obtain information on the RMP/EIS from the BLM's ePlanning website.

4.3.1 Public Scoping

As noted in **Section 1.4**, the BLM held four public comment periods between 2016 and 2022 to gather stakeholder input prior to the release of the Draft RMP/EIS. The most recent public scoping process for the NCIP began with the publication of the NOI in the *Federal Register* on April 29, 2022. The results of the four public comment periods are summarized in separate reports that are available on the BLM's NCIP ePlanning website: https://eplanning.blm.gov/eplanning-ui/project/2012803/510. The BLM has incorporated the information gathered during these comment periods in this planning effort.

Media Advertisements

The BLM advertised the public scoping period (April 29 to June 28, 2022) in nine newspapers across the planning area. The advertisement was also published in some of the newspapers' online editions. The BLM also distributed public notices via the project's ePlanning website (https://eplanning.blm.gov/eplanning-ui/project/2012803/510) and a press release. Additionally, through letters, postcards, and emails, the BLM distributed the public notices to a project mailing list of over 300 interested parties.

Online Resources

The BLM is maintaining the project's ePlanning website (https://eplanning.blm.gov/eplanning-ui/project/2012803/510) with information related to the development of the NCIP. The BLM included the ePlanning website location in the scoping press release; it also made background documents, maps, project

updates, and contact information available during the scoping period. The ePlanning website will continue to be updated as the BLM moves through the planning process.

Scoping Meetings

The BLM hosted two in-person meetings and four virtual meetings during the scoping period. Meetings were held in person in the communities of Redding and Arcata and were held in an open house format. The meetings were intended to provide the public with an opportunity to participate in the scoping process by learning about the NCIP planning process, posing questions to BLM staff, and providing verbal public comment. Additionally, a virtual open house website was available to the public for the entire duration of the scoping period; this website provided project information and allowed input through a web-based portal where viewers were able to view information about the planning process, pose questions, view answers, and submit comments to the BLM. **Table 4-1** provides a summary of the public scoping meetings that were held in 2022.

Table 4-1
Public Scoping Meeting Summary

Meeting Date	Location	Meeting Time*	Number of Public Attendees
In-Person Public Scoping Meetings			
June 6, 2022	Redding	5:00 p.m. to 7:00 p.m.	22
June 8, 2022	Arcata	5:00 p.m. to 7:00 p.m.	15
Virtual Public Scoping Meetings			
June 9, 2022	Online	9:00 a.m. to 11:00 a.m.	33
June 14, 2022	Online	9:00 a.m. to 11:00 a.m.	19
June 15, 2022	Online	4:00 p.m. to 6:00 p.m.	9
June 16, 2022	Online	5:00 p.m. to 7:00 p.m.	24

*All times are in Pacific standard time.

The BLM received a total of 194 unique submissions during public scoping.[2] These submissions contained 2,653 separate substantive comments. Detailed information about the comments received and about the public outreach process can be found in the NCIP Scoping Report (BLM 2022b). This report and the reports for the three previous public comment periods are available on the BLM's NCIP ePlanning website: https://eplanning.blm.gov/eplanning-ui/project/2012803/510.

4.3.2 Draft RMP/EIS Public Comment Process

A notice of availability announcing the release of the Draft RMP/EIS was published in the Federal Register on September 29, 2023 (88 *Federal Register* 67344), initiating a 90-day public comment period ending on December 28, 2023. Both Federal Register notices can be found at the following websites: https://www.federalregister.gov/documents/2023/09/29/2023-21435/environmental-impact-statements-notice-of-availability and https://www.federalregister.gov/documents/2023/09/29/2023-21331/notice-of-availability-of-the-draft-resource-management-plan-and-environmental-impact-statement. The BLM also issued a news release on September 28, 2023, announcing the release of the Draft RMP/EIS. The BLM provided information about upcoming public meetings and instructions for submitting comments on the project eplanning website at https://eplanning.blm.gov/eplanning-ui/project/2012803/570. During the

[2] A unique comment submission is a personalized email, letter, or verbal comment that is not part of a form letter or petition campaign.

public comment period, the BLM held two in-person public meetings for the Draft RMP/EIS on October 30 and November 2, 2023, in Loleta and Redding, respectively. In addition, the BLM hosted two virtual public meetings on October 23 and December 13, 2023. BLM managers, resource specialists, and other representatives of the BLM were present during the public meetings to discuss the Draft RMP/EIS and answer questions.

During the 90-day public comment period, BLM received a total of 854 comment letter submissions; 111 of these were considered unique submissions and 743 were part of form letter campaigns. These documents resulted in 533 unique substantive comments received on the Draft RMP/EIS. Consistent with 40 CFR 1503.4, substantive comments from individual submissions, as well as summaries of and the BLM's responses to those substantive comments, are in **Appendix K**, Public Comments and BLM Response. **Section K.1** of **Appendix K** (Comment Analysis Process) summarizes the public comment process, provides a detailed description of the comments received during the public comment period, and explains the comment analysis methodology used. As appropriate, BLM revised management direction and impact analysis based on substantive comments received.

4.3.3 Socioeconomic Workshop

In January and February 2021, the BLM conducted a series of interviews with key interest groups within the NCIP planning area. The goal of the interviews was to gather comprehensive baseline information on social and economic concerns in the planning area. Participants were asked to provide any insight or recommendations that would help to formulate a more complete picture of socioeconomic conditions and interests in the planning area, with a particular emphasis on changes over the last 5 years.

The BLM contacted over 75 interested parties in the planning area and gave them the opportunity to provide input. Groups contacted included Tribal representatives; industry representatives; county representatives, including boards of supervisors; contacts from Chico State University and Humboldt State University; and representatives from local nonprofits associated with environmental and social concerns. The BLM conducted 12 interviews. The results of the interviews were presented in a Socioeconomic Baseline Report that helped the BLM identify key issues driving the social and economic analysis and formalize the analysis approach for the RMP/EIS. The Socioeconomic Baseline Report is available on the BLM's NCIP ePlanning website: https://eplanning.blm.gov/eplanning-ui/project/2012803/510.

4.3.4 Wild and Scenic Rivers Public Input Process

Public involvement for the NCIP WSR evaluation process began as part of the public scoping process that was held from April 29 to June 28, 2022, as discussed in **Section 4.3.1**. Comments related to WSR eligibility were identified during this public outreach period. Based on these comments, the BLM decided to open a separate 30-day public scoping comment period from July 19 to August 18, 2022, that focused on the WSR eligibility process, including the review of a WSR eligibility report that was developed under the initial NCIP planning effort.

The BLM received a total of 255 comment submissions during the WSR scoping comment period; of these submissions, 220 submissions were identified as form letters. From the 35 unique submissions received, the BLM identified a total of 128 individual substantive comments. All rivers with the potential for WSR designation were identified and evaluated.

The BLM has completed the suitability phase for the eligible stream segments as part of the NCIP development process. In the Draft RMP/EIS, each eligible river segment was evaluated for suitability or non-suitability to assess whether it is a potential candidate for inclusion in the NWSRS. Public input related to WSR designation were received during the Draft RMP/EIS public comment period (see **Appendix K**) and were taken into consideration when developing final suitability determinations. The Proposed RMP/Final EIS includes final suitability determinations on the eligible rivers (see **Appendix I**). Congressional legislative action is required for actual designation and final classification of suitable river segments.

4.4 LIST OF PREPARERS

The Proposed RMP/Final EIS was prepared by an interdisciplinary team of staff from the BLM and AECOM, with their supporting subcontractor, SWCA. **Table 4-2** lists the people that prepared or contributed to the development of the NCIP.

Table 4-2
NCIP Preparers

Name	Role	Qualifications
BLM Management Core Team		
Dereck Wilson	Northern California District Manager	Dereck holds a bachelor of science in rangeland resources from Oregon State University. He has 20 years of experience working as a specialist in the fields of range management, ecology, and management.
Jennifer Mata	Field Manager (Redding)	Jennifer holds a bachelor of science in agriculture from California State University, Chico. She has 25 years of experience working as a specialist in the fields of range management, fire ecology, ecology, and management.
Collin Ewing	Field Manager (Arcata)	Collin holds a bachelor of science in rangeland ecology from Colorado State University. He has 22 years of experience in the management of public lands as a specialist in the fields of rangeland management, fish and wildlife biology, planning/NEPA, and management.
Chad Endicott	Project Manager (Redding)	Chad holds a bachelor of science in city and regional planning from California Polytechnic State University, San Luis Obispo, and a master's degree in environmental policy from the University of Colorado Boulder. They have over a decade of experience working in project management and environmental and land use planning.
Tory Callahan	Project Manager (Arcata)	Tory holds a bachelor's degree in planning, public policy, and management from the University of Oregon and a graduate certificate in landscape architecture. She has 4 years of project planning experience.

Name	Role	Qualifications
Alden Neel	Assistant Field Manager (Redding); ACECs	Alden holds a bachelor's degree in anthropology from Chico State University and a master of arts in cultural resource management from Sonoma State University. They have 15 years of experience working with public lands.
Jennifer Wheeler	Assistant Field Manager (Arcata)	Prior to becoming Assistant Field Manager in 2020 and overseeing recreation, realty, and interpretation and education programs, Jennifer worked for the BLM since 1991 first as a natural resource specialist, then as a botanist managing native plants, invasive weeds, and livestock grazing programs. Jennifer received a bachelor's degree in rangeland resource science from Humboldt State University.
Laura Brodhead	Assistant Field Manager (Redding)	Laura holds a bachelor of science in environmental science from Duke University. She has 10 years of experience working in forestry, ecology, and management of public lands.
Dan Wooden	Assistant Field Manager (Arcata)	Dan holds a bachelor's degree in natural resource management from Humboldt State University. Dan has worked for both the Forest Service and BLM in fire management, prescribed fire, and forestry prior to becoming an Assistant Field Manager.
Natasha Braziel	Planning and Environmental Specialist (Redding)	Natasha holds a bachelor of science in environmental science and management: policy and planning from Humboldt State University. She has 3 years of experience working with NEPA and conservation planning.
Andy Suppiger	GIS (Redding)	Andy holds a bachelor of science from Texas State University and a certificate in GIS from Shasta College. He has worked for the DOI since 1997 and has been a GIS specialist for over 20 years.
Paul Fritze	GIS (Arcata)	Paul holds a bachelor of science in geography and a certificate in GIS from the University of Utah. He has worked for the DOI since 1999 and has been a GIS specialist for over 20 years.
BLM Interdisciplinary Team		
Lauren Alvares	Fish and Aquatic Species; Water Resources	Lauren holds a bachelor of science in dairy science with minors in agribusiness and water science/watershed management from California Polytechnic State University, San Luis Obispo. She has 2 years of experience in fisheries monitoring and management.
David Anthon	Wildlife and Special Status Species	David holds a bachelor's degree in wildlife biology from Colorado State University. He has 32 years of experience working on public lands specializing in wildlife resources, including planning.

Name	Role	Qualifications
Sara Balmuth	Cultural Resources	Sara holds a bachelor's degree in anthropological archaeology from the University of California-San Diego and a master's degree in archaeological materials sciences from the Universidade de Evora in Portugal. She has 8 years of professional experience in cultural resources management.
Lily Camara	GIS	Lily holds a bachelor's degree in sociocultural anthropology and bioarchaeology from Humboldt State University and is working on a master's degree in GIS at Johns Hopkins University. She has 6 years of interdisciplinary experience working with geospatial resources and data, including project planning.
Mike Doll	Public Health and Safety	Mike holds a bachelor's degree in health science from Chico State University. He has 15 years of experience working with public safety planning on public lands and protection of resources.
Tobias Felbeck	Cave and Karst Resources; Fish and Aquatic Species	Tobias holds a bachelor's degree in fisheries and wildlife sciences from Oregon State University. They have 3 years of experience working with public lands management and issues related to wildlife and wildlife habitat
Sam Flanagan	Air Quality, Climate, and Greenhouse Gases; Coastal Resource Management; Water Resources; Minerals; Paleontology	Sam holds a master's degree in geology from California State Polytechnic University, Humboldt. He has 27 years of experience working with natural resources issues, primarily focused on hydrology, erosional processes, and watershed restoration.
Samantha Gillette	Cave and Karst Resources	Samantha holds a master's degree in biology from Portland State University. She has 8 years of experience monitoring nesting birds.
Casey Hague	Wild and Scenic Rivers; Wilderness Areas; Visual Resources; Recreation and Visitor Services	Casey holds a bachelor of science in natural resource planning and interpretation with a focus on recreation from Humboldt State University. They have 15 years of recreation management experience.
David Hammons	Forestry	David holds a bachelor of science in forest conservation from Humboldt State University. He has 8 years of experience working with forest resource management, fuels reduction, and postfire forest restoration.
Sharyl Kinnear-Ferris	Cultural Resources; Tribal Interests	Sharyl holds a master of arts with a liberal studies/anthropology emphasis from Regis University, Colorado. She has 25 years of experience in cultural resources management, working for private cultural resource management firms as well as public land agencies.

Name	Role	Qualifications
Steve Laymon	Wildlife and Special Status Species; Fish and Special Status Species	Steve holds a PhD in wildlife ecology (wildland resource science) from the University of California, Berkeley. They have 45 years of experience working with planning for wildlife and resource management issues with state and federal agencies.
Jess Paoli	Forestry	Jess holds a bachelor's degree in forest management and ecology from the University of Nevada, Reno. They have 7 years of experience working with forest resources and management.
Leisyka Parrott	Education and Interpretation	Leisyka holds a bachelor of science in natural resource planning and interpretation from California State Polytechnic University, Humboldt. They have 20 years of experience working with natural resource planning and interpretation.
Devonie Plummer	Livestock Grazing	Devonie holds a bachelor of science in land resource management from California State University, Chico. She has 4.5 years of experience working with rangeland management and other natural resources.
Eric Ritter	Cultural Resources; Socioeconomics; National Historic Trails; Cave and Karst Resources; Tribal Interests	Eric holds a bachelor's degree in anthropology from the University of Arizona and a master of arts and PhD in anthropology from the University of California, Davis specializing in archaeology. He has over 50 years of experience working with heritage resource and other disciplines' planning and management.
Heidi Rogers	Forestry	Heidi holds a bachelor's degree in forest management from Oregon State University. She has over 25 years of experience working in forest resources management, fire suppression, and postfire forest management.
Zane Ruddy	Fish and Aquatic Species; Wild and Scenic Rivers	Zane holds a bachelor's degree in biology from Midwestern State University and a master's degree in biology from Texas A&M University-Corpus Christi. They have 14 years of experience in fisheries monitoring and project planning.
Clara Sander-McDonald	Lands and Realty	Clara holds a bachelor of arts from Cal State Monterey Bay in integrated studies of botany and global studies. She has over 12 years of experience working in lands and realty with the BLM.
Katie Shaw	Lands and Realty; Renewable Energy	Katie holds a bachelor of science in business administration from University of California, Chico. She has 11 years of experience working in public lands realty.
Kody Shellhouse	Air Quality, Climate, and Greenhouse Gases; Water Resources; Minerals; Paleontology	Kody holds a bachelor of science in geology from Auburn University and a master of science in geology from the University of Louisiana at Lafayette. He has worked as a geologist for the BLM since 2017.

Name	Role	Qualifications
Brooke Thompson	Vegetation (including wetlands and riparian areas; nonnative, invasive species; special status species; and vegetation products)	Brooke holds a bachelor of science in biology with a concentration in ecology and evolution from James Madison University and a master of forestry from Virginia Tech. She has 3.5 years of experience working in natural resources for the federal government.
Lowell Thomas	Cultural Resources; Socioeconomics; National Historic Trails; Cave and Karst Resources; Tribal Interests	Lowell holds a master of arts in anthropology, focused in archaeology, from California State University, Chico. He has 13 years of experience working in cultural resource management on public lands.
Jessica Tyra	Recreation and Visitor Services	Jessica holds a bachelor of science in psychology from Northern Arizona University. She has 8 years of experience providing visitor services and recreation planning on public lands.
Marissa Vossmer	Forestry	Marissa holds a bachelor of science in environmental science: ecological restoration from Humboldt State University and a master of science in forestry from California Polytechnic State University, San Luis Obispo. She has 10 years of experience in forestry.
Crystal Welch	Livestock Grazing; Vegetation (including wetlands and riparian areas; nonnative, invasive species; special status species; and vegetation products)	Crystal holds a bachelor of science in rangeland resource science: wildland soil science, with a minor in watershed management from Humboldt State University. She has 9 years of experience working on vegetation management, soil science, and rangeland health monitoring.
Rob Winkler	Air Quality, Climate, and Greenhouse Gases; Wildland Fire Management	Rob holds a bachelor of science certificate in ecology and ecosystem management from the University of Nevada, Las Vegas. He has 23 years of wildfire management and hazard fuels reduction experience in Northern California.
Sky Zaffarano	Comprehensive Trail and Travel Management; Visual Resources; Recreation and Visitor Services	Sky holds a bachelor of science in parks and natural resource management from the University of California, Chico. He has 24 years of experience working in recreation management on public lands.
AECOM		
Amy Lewis	Project Manager	Amy has a master of science in environmental science from Alaska Pacific University. She has 20 years of experience managing RMPs and large-scale NEPA projects in the western US.
Josh Schnabel	Assistant Project Manager, Travel and Transportation Management Lead	Josh has a master of science in natural resource management and environmental planning from San Francisco State University. He has more than 15 years of experience as a NEPA planner.
Megan Hillgartner	Project Assistant	Megan has a master of arts degree in international environmental policy from the Middlebury Institute of International Studies. She has over 5 years of experience as a land use planner.

Name	Role	Qualifications
Lindsay Chipman, PhD	Wildlife and Special Status Species	Lindsay has a PhD in oceanography from Florida State University. She has more than 10 years of experience as a biologist and NEPA planner.
Sean Cottle	Special Designations	Sean has a bachelor of science in ecohydrology from the University of Nevada, Reno. He has more than 8 years of experience as a NEPA planner.
Francis Craig	Minerals (including fluid, solid, locatable, and mineral materials)	Francis has a master of science degree in environmental remote sensing and GIS from Boston University. He has more than 5 years of experience as a NEPA planner.
Zoe Ghali	Social and Economic Conditions; Environmental Justice	Zoe has a master of science in environmental physiology and a certificate in environmental policy from the University of Colorado Boulder. She has more than 12 years of experience as a NEPA planner leading socioeconomic analyses for BLM projects.
Derek Holmgren	Visual Resources; Recreation and Visitor Services; Lands with Wilderness Characteristics, Wilderness, and WSAs	Derek has a master of public affairs in environmental policy and natural resources management and a master of science in environmental science from Indiana University. He has more than 20 years of experience as a NEPA planner.
Rob Lavie	GIS	Rob has a master of science in applied geography and geospatial science from the University of Colorado, Denver. He has more than 3 years of experience as a GIS specialist.
Meredith Linhoff	Vegetation (including wetlands and riparian areas; nonnative, invasive species; special status species; and vegetation products)	Meredith has a bachelor of science in biology and environmental science from SUNY Binghamton and a master of arts in biology from Boston University. She has more than 15 years of experience as a biologist and NEPA planner.
Perry Lown	Forestry	Perry has a bachelor of arts in anthropology from the University of New Mexico. He has over 8 years of experience as a resource specialist.
Bronson Pace	Special Designations	Bronson has a JD in natural resources and environmental law from University of Idaho, and a PhD in water resources: law, management, and policy from the University of Idaho. He has 5 years of experience as an environmental planner.
Marcia Rickey, GISP	GIS; Alternatives Development	Marcia holds a master of science in biology from Illinois State University. She has more than 20 years of experience working as a GIS specialist.
Shine Roshan	Social and Economic Conditions; Environmental Justice	Shine has a master of science in physics from San Francisco State University. She has over 4 years of experience as an environmental planner and resource specialist.

Name	Role	Qualifications
Val Stanson	Travel and Transportation Management	Val holds a master's degree in public health with an environmental health concentration from the University of Albany School of Public Health. She has 5 years of experience working in regulatory and environmental government programs.
Morgan Trieger	Vegetation (including wetlands and riparian areas; nonnative, invasive species; special status species; and vegetation products)	Morgan has a bachelor of science in conservation and resource studies with a minor in forestry from the University of California, Berkeley. He has over 15 years of experience as an environmental planner.
Alli Yamnitsky	Project Assistant, Public Involvement Lead, Special Designations	Alli has a bachelor of science in physical geography from Western Oregon University. She has over 3 years of experience as an environmental planner and resource specialist.
Cindy Schad	Formatting and 508 Compliance	Cindy has a bachelor of fine arts in creative writing from Emerson College. She has over 20 years of experience as a word processor for environmental consulting firms.
Kim Murdock	Technical Editing Lead	Kim has a bachelor of science in marketing and entrepreneurship from the University of Colorado Boulder and a master of business administration from the University of Denver. She has almost 20 years of editing experience.
SWCA		
Vicky Amato	Wildland Fire Management	Vicky holds a master of science in natural resource management from the University of Edinburgh, and a master of science in Forestry and Fire Ecology from Colorado State University. She has 16 years of experience working in wildland fire management.
Mandy Bengtson	Soil Resources	Mandy holds a PhD in geoscience (soils) from the University of Nevada, Las Vegas. She has 17 years of soil resources, restoration, research, and environmental planning experience.
Michael Bever	Cultural Resources; Tribal Interests	Michael holds a PhD in anthropology with a specialty in archaeology from Southern Methodist University. He has 30 years of experience in cultural resources management, focused on California.
Chris Bockey	Visual Resources	Chris holds a bachelor of science in landscape architecture from Arizona State University. He has 14 years of experience working with visual resources.
Juliet Bolding	Coastal Resources and Management	Juliet holds a bachelor of arts in zoology from the University of California, Davis. She has 17 years of experience working in environmental planning.
Robert Carr	Visual Resources	Robert holds a bachelor of science in landscape architecture from California Polytechnic State University, San Luis Obispo. He has 33 years of experience working with visual resources.

Name	Role	Qualifications
Jim Dawson	Public Health and Safety	Jim holds a master of science degree in geology (hydrogeology emphasis) from Virginia Polytechnic Institute and State University (Virginia Tech). He has 53 years of experience working in environmental planning and NEPA documents.
Laura DeLio	Lands and Realty; Renewable Energy	Laura holds a bachelor of science degree in environmental studies from Gettysburg College. She has 13 years of experience as a NEPA technical writer.
Andrew Gerwitz	Paleontology	Andrew holds a master of science in geological sciences from Kent State University. He has 13 years of experience working with paleontological resources.
Jill Grams	Interpretation and Education	Jill holds a master of landscape architecture from Utah State University. She has 24 years of experience working in recreation planning and visual resources.
Jessie Henderson-McBean	Livestock Grazing and Management	Jessie holds a bachelor of science in wildlife, fish, and conservation biology from the University of California Davis. She has 11 years of experience working with natural resources and wildlife management.
Dan Herrick	Cultural Resources; Tribal Interests	Dan holds a MHC from the University of Southern California. He has 10 years of experience working in historic preservation and cultural resource management.
Bryan Klyse	Alternatives Development Assistant; Compensatory Mitigation	Bryan holds a master in environmental science and management degree from the University of California, Santa Barbara. He has 21 years of experience working with land use planning and NEPA compliance.
Georgia Knauss	Paleontology	Georgia holds a master of science in geosciences from the University of Iowa. She has 23 years of experience working with paleontological resources.
Annie Lutes	Interpretation and Environmental Education	Annie holds a bachelor of arts in classics from the University of Michigan, a master of arts in near eastern studies from the University of Arizona, and a master of science from Northern Arizona University in geography. She has 16 years of experience working in environmental planning and cultural resources.
Cory Nielson	Fish and Special Status Species	Cory holds a bachelor of science degree in biological sciences from the University of Alaska Fairbanks. He has 15 years of experiences with aquatic biological resources, with an emphasis on ichthyology.
Phil Pearce	Cave and Karst Resources	Phil holds a bachelor of science in geology from Trinity University. He has 31 years of experience working with cave and karst geology and hydrogeology.

Name	Role	Qualifications
Matt Petersen	Alternatives Lead Development	Matt holds a master of science degree in aquatic ecology. He has been a NEPA practitioner for 30 years and has provided alternatives development facilitation and NEPA oversite on 15 RMP/EISs for the BLM.
Jayden Peterson	Wildland Fire Management	Jayden holds a bachelor of science in forestry from the University of Montana. He has 6 years of experience working in forestry and wildfire planning.
Brad Sohm	Air Quality and Climate	Brad holds a bachelor of science degree in chemical engineering from the University of Arizona. He has 19 years of experience working in air quality and climate change NEPA planning.
Lia Webb	Water Resources; Soil Resources	Lia holds a bachelor of science degree in environmental science with a minor in soil science from Humboldt State University (now CalPoly Humboldt). She has 20 years of experience working in the areas of soil science, water quality, wetlands, and related environmental resources.
Erin Wielenga	Air Quality, Climate, and Greenhouse Gases	Erin holds a bachelor of science in biology from the University of California, Chico. She has 12 years of experience working in air quality and climate change NEPA planning.

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CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

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Glossary

30x30 Conservation Area—Land and coastal water areas within California that are durably protected and managed to sustain functional ecosystems, both intact and restored, and the diversity of life that they support (California Natural Resources Agency 2022), regardless of surface ownership.

303(d)-list— A state's list of impaired and threatened waters (such as stream or river segments and lakes). States are required to submit their list for EPA approval every 2 years. For each water on the list, the state identifies the pollutant causing the impairment, when known.

Acquisition—The activity of obtaining land or interest in land through purchase, exchange, donation, or condemnation (BLM 2002).

Acre (ac)—A standard unit of measure representing 43,560 square feet.

America the Beautiful Initiative—A federal initiative, as described in Executive Order 14008, to conserve 30 percent of America's lands and waters by 2030 by supporting conservation and restoration efforts across all lands and waters, not solely on public lands, including by incentivizing voluntary stewardship efforts on private lands and by supporting the efforts and visions of State and Tribal Nations. (USDOI et al. 2021).

Analysis of the Management Situation (AMS)—A document that provides the basis for formulating reasonable alternatives, including the types of resources for development or protection. The analysis of the management situation helps to determine the ability of the planning area to respond to identified issues and opportunities (43 CFR 1610.4-4).

Apiary—A place where bees are kept.

Area of Critical Environmental Concern (ACEC)— An area within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards (43 CFR 1601.0-5(a)).

Avoidance Area—An area identified through resource management planning to be avoided; however, it may be available for right-of-way location with special stipulations.

Best management practices (BMPs)—A suite of techniques that guide or may be applied to management actions to aide in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a planning decision unless the plans specify that they are mandatory.

Biomass—Plant materials used as a source of renewable combustible fuel. Also includes woody material ground up into fiber and used in secondary wood products.

Board foot (BF)—A unit of measure of forest products related to wood volume. One BF equals a piece of wood that is 12 inches x 12 inches x 1 inch. It is often projected as MBF (thousand board feet) and MMBF (million board feet).

Bureau of Land Management (BLM)—A federal agency within the US Department of the Interior that is responsible for administering 261 million surface acres of federally owned lands in accordance with all applicable laws to sustain the health, diversity, and productivity of those lands. Most of the acreage is in Alaska and the western states.

BLM Sensitive Species—Species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the Endangered Species Act.

BLM Special Status Species—Collectively, species listed or proposed for listing under the Endangered Species Act, and BLM sensitive species, which include both federal ESA candidate species and delisted species within 5 years of delisting

California 30x30 Initiative (California 30x30) —California's state goal of conserving 30 percent of California's lands and coastal waters by 2030, through voluntary, collaborative action with partners across the state. (California Natural Resources Agency 2022).

Carbon sequestration—The process of capturing carbon dioxide from the atmosphere, measured as a rate of carbon uptake per year.

Casual collecting—The collecting of a reasonable amount of common invertebrate and plant paleontological resources for noncommercial personal use, either by surface collection or the use of unpowered hand tools, resulting in only negligible disturbance to the earth's surface and other resources.

Casual use (locatable minerals mining)—Activities ordinarily resulting in no or negligible disturbance of the public lands or resources. For example:

(1) Casual use generally includes the collection of geochemical, rock, soil, or mineral specimens using hand tools, hand panning, or nonmotorized sluicing. It may include use of small, portable suction dredges. It also generally includes use of metal detectors, gold spears, and other battery-operated devices for sensing the presence of minerals, and hand and battery-operated dry washers. Operators may use motorized vehicles for casual use activities provided the use is consistent with the regulations governing such use (43 CFR Section 8340), off-road vehicle use designations contained in BLM land use plans, and the terms of temporary closures ordered by the BLM.

(2) Casual use does not include use of mechanized earthmoving equipment; truck-mounted drilling equipment; motorized vehicles in areas designated as closed to off-road vehicles, as defined in 43 CFR Section8340.0-5; chemicals; or explosives. It also does not include "occupancy" as defined in 43 CFR Section 3715.0-5 or operations in areas where the cumulative effects of the activities result in more than negligible disturbance (49 CFR 3809.5).

Cave—Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, and which is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Caves include

any natural pit, sinkhole, or other feature that is an extension of a cave entrance or that is an integral part of the cave (USDI BLM 2008).

Commercial forest land—An area that is (1) at least 10 percent stocked by commercial forest trees, (2) is capable of yielding at least 20 cubic feet (240 board feet) of wood per acre per year, and (3) is not currently developed for non-timber use.

Conservation easement—A right that prohibits landowners from doing things that otherwise would be lawful upon their estates to protect the natural resources of the property.

Conserved area—Lands and coastal waters dedicated to habitat protection (California Natural Resources Agency 2022).

Corridor—The area encompassing the length and breadth of the historic remains of the trail or the projected length and breadth of the historic alignment of the trail.

Cultural landscape—A geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural and aesthetic values (NPS 2023).

Cultural resource—Material remains of past human life or activities that are of significant cultural interest (36 CFR 1.4(a)).

Day use only—An area where camping is prohibited and the area is closed from dusk until dawn unless otherwise authorized by the BLM. This designation does not apply to designated campgrounds or campsites that are managed by the BLM.

Decomposed granite—A kind of granite rock that is weathered to the point that the parent material readily fractures into smaller pieces of weaker rock.

Designated leasing area—A parcel of land with specific boundaries identified by the BLM land use planning process as being a preferred location for solar or wind energy development that may be offered competitively.

Designated right-of-way (ROW) corridor—A parcel of land with specific boundaries identified by law, a secretarial order, the land use planning process, or other management decision as being the preferred location for existing and future linear ROWs and facilities. The corridor may be suitable to accommodate more than one type of ROW use or facility, provided that they are compatible with one another and the corridor designation (also see Table B-1 in Appendix B, Row 169 and Appendix D, *ROW Corridors* section).

Diameter at breast height—The diameter of a tree measured at 4.5 feet above the ground on the uphill side of the tree.

Disposal—Transfer of public land out of federal ownership to another party through sale, exchange, the Recreation and Public Purposes Act of 1926, or other land laws.

Distance zones—In visual resource management, landscapes are divided into three distance zones based on the relative visibility from travel routes or observation points. The three zones are foreground-middleground, background, and seldom seen.

E-bike—A bicycle with a small electric motor of not more than 750 watts (one horsepower) that assists in the operation of the bicycle and reduces the physical exertion demands on the rider (BLM 2023b).

Easement—An interest in land entitling the owner or holder thereof, as a matter of right and not merely by way of a permissive license that can be revoked at any time, to enter upon land in the possession of another person (usually an owner or tenant) for a particular purpose in the form of a prescribed use to be made of the land.

Ecoregion—A large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions.

Endemic species—A species that is unique to a defined geographic location or habitat type.

Environmental justice—Following Executive Order 12898, the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of federal environmental laws, regulations, and policies.

Essential connectivity corridor (ECC)—Important area for maintaining connectivity between large blocks of habitat. The idea is derived from the California Essential Habitat Connectivity Project, which is a planning tool commissioned in part by the California Department of Fish and Game and Caltrans to facilitate the conservation of connected blocks of habitat.

Even-aged management: A planned sequence of treatments designed to create or maintain a stand with predominantly one age class. The range of tree ages for an even aged forest is generally assumed to be 20 percent or less of the rotation age.

Exchange—The conveyance of federal lands or interest in lands in exchange for the acquisition of nonfederal lands or interests in lands.

Exclusion area—An area identified through an RMP for which ROW authorizations are to be excluded (BLM, n.d.).

Extensive Recreation Management Area (ERMA)—A BLM-managed land unit identified in land use plans and containing all acreage not identified as an SRMA. Recreation management actions win an ERMA are limited to only those of a custodial nature.

Fair Market Value: Fair market value is determined by an appraisal performed by a Federal or independent appraiser, as determined by the Authorized Officer, using the principles contained in the Uniform Appraisal Standards for Federal Land Acquisitions

Federal undertakings—Activities carried out with federal financial assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency (36 CFR 800.16).

Federally-recognized Tribe—Status granted to Native American Tribes by the US government where the Tribe is considered a domestic dependent nation with an established government-to-government relationship.

Fee-simple—The fullest degree of ownership in land.

Formation—The primary unit in stratigraphy consisting of a succession of strata useful for mapping or description. Most formations possess certain lithologic features that may indicate genetic relationships.

Fossils—Any remains, traces, or imprints of prehistoric nonhuman organisms preserved in or on the earth's crust that provide information about the history of life on earth.

Geothermal energy—Electrical energy created when steam or heat from subsurface resources is used to turn a turbine.

Geothermal leasing—Areas of BLM-administered land that can be leased to prospective permittees for geothermal exploitation.

Geothermal resource potential—A statistical and mapped outlook of geothermal resources in a given area.

Geothermal resources—Underground reservoirs of hot water or steam or hot, dry rock beneath the surface of the earth.

Hazardous materials—Generally defined as petroleum products, hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions (see 49 CFR 173.2, 49 CFR 171.8).

Historic property—A Defined in the National Historic Preservation Act (54 U.S.C. Section 300308) as any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource."

Influence zone—Lands with wildfire-susceptible vegetation up to 1.5 miles from the interface zone or the intermix zone.

Interface zone—Lands that contain at least one housing unit per 40 acres in which vegetation occupies less than 50 percent of the area.

Intermittent streams—Intermittent streams are defined as any nonpermanent flowing drainage feature having a definable channel and evidence of annual scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two physical criteria.

Intermix zone—Lands that contain at least one housing unit per 40 acres in which vegetation occupies more than 50 percent of the area; a heavily vegetated intermix zone is as an area in which vegetation occupies over 75 percent of the area.

Invasive, nonnative plant—Includes noxious weeds and other plants that are not native to the US. An invasive species is defined as "a species that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental health or harm to human health" (US National Invasive Species Council 2008).

Invertebrate species—Any animal without a backbone or spinal column.

Karst—A landform developed in soluble rock types such as limestone or gypsum. Typical features and characteristics may include, but are not limited to, few surface streams where most of the drainage is underground, sinking streams, dolines (sinkholes), resurgences, and caves (USDI BLM 2008).

Kilowatt hours per square kilometer (kWh/km^2)—A unit of measure for the amount of energy produced in a certain surface area for a given application or technology.

Land and Water Conservation Fund of 1965—Provides funding to the BLM, the National Park Service, the US Fish and Wildlife Service, the US Forest Service, and state and local governments for the acquisition of land, and interest in land, for the benefit of public lands and waters for all present and future generations.

Land Use Plan (LUP)—see Resource Management Plan (RMP).

Late-successional Reserve—Land set aside in the Northwest Forest Plan to protect current late-successional forests and wildlife habitat, as well as to develop future late-successional habitat.

Leasable minerals—Include oil, gas, geothermal, helium, coal, phosphate, sodium, potassium, sulfur, and gilsonite.

Legacy Rehost 2000 (LR2000)—BLM's database that tracks applications and authorizations for oil, gas, and geothermal leasing; ROWs; coal and other mineral development; land and mineral titles; mining claims; withdrawals; classifications; and more on federal lands or on federal mineral estate.

Lentic—Still water; examples include wetlands, ponds and reservoirs, seeps and springs, bedrock basins, stock ponds, and vernal pools.

Locatable minerals—Include most metallic mineral deposits (for example, gold, silver, and copper) and certain nonmetallic and industrial minerals (for example, uranium). Under the Mining Law of 1872, any US citizen can prospect and stake a claim for these minerals.

Lotic—Flowing water; examples include rivers and streams.

Management of Land Boundary (MLB) Plans—A high level boundary evidence risk assessment for a special management area, generally focused on high-risk boundaries of high valued lands or resources; used in outyear budget and workforce planning documents.

Mineral materials—Includes varieties of sand, gravel, rock, fill dirt, and common borrow materials that are sold by sales contract or a free-use permit from the federal government, under the Materials Act of 1947.

National Historic Trail (NHT)—Extended trails that follow as closely as possible and practicable the original trails or routes of travel of national historic significance. Designation of such trails or routes should be continuous, but the established or developed trail, and the acquisition thereof, need not be continuous on-site. National historic trails should have as their purpose the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment.

National Wild and Scenic Rivers System (NWSRS)—A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geological, fish and wildlife, historical, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams: (1) recreation, which are rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundments or diversion in the past; (2) scenic, which are rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads; and (3) wild, which are rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shorelines essentially primitive and waters unpolluted.

Nonenergy leasable minerals—Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. Nonenergy minerals include resources such as phosphate, sodium, potassium, and sulfur.

Noxious weed—In the broadest sense, any plant growing where it is not wanted. Weeds can be native or nonnative, invasive or noninvasive, and noxious or not noxious. Legally, a noxious weed is any plant designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property.

Off-highway vehicle (OHV)—For legislative purposes, "any motorized vehicle capable of or designated for, travel on or immediately over land, water, or other terrain" (per the OHV definition in 42 CFR 8340.0-5).

Outstandingly Remarkable Values—River values identified in Section 1(b) of the Wild and Scenic Rivers Act of 1968 include: "scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values...." Other similar values that may be considered include ecological, biological, or botanical. The Wild and Scenic Rivers Act does not further define outstandingly remarkable values. Agency resource professionals have developed interpretive criteria for evaluating river values (unique, rare, or exemplary) based on professional judgment on a regional, physiographic, or geographic comparative basis.

Paleontological resources—Any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust that are of paleontological interest and that provide information about the history of life on earth.

Paleontology—The scientific study of prehistoric life based on the fossil record.

Petrified wood—Fossilization of wood through introduction or replacement by silica (silicified wood) in such a manner that the original form and structure of the wood is preserved.

Phenology—The scientific study of cyclical biological events, such as flowering, breeding, and migration, in relation to climatic conditions.

Placer gold—Gold mixed with gravel in streambeds or former streambeds. Over millions of years, gold eroded out of hard rock deposits, was carried downstream, and was deposited along with other sedimentary materials in streambeds and alluvial deposits.

Planning area—The overall geographical area the BLM must consider during the land use planning effort, regardless of ownership.

Potential Fossil Yield Classifications System (PFYC)—Establishes a class ranking of paleontological potential that can be assigned to geologic units and it sets management and mitigation recommendations for each class. The PFYC system classifies geologic units based on relative abundance of vertebrate fossils or uncommon invertebrate or plant fossils and their sensitivity to adverse impacts.

- PFYC 1 has a very low risk of fossil resource occurrence (e.g., geological units are igneous, metamorphic, or they are Precambrian in age).
- PFYC 2 has a low risk to contain fossils or paleontological resources (e.g., geological units are <10,000 years before present).
- PFYC 3 fossils vary in significance, abundance, and predicable occurrence (e.g., paleontological resources may occur intermittently, but with low abundance, fossils may be significant, but they are widely scattered).
- PFYC 4 has a high risk of occurrence with a lower risk of damage (often due to vegetation or soil cover).
- PFYC 5 has a high risk of occurrence and damage with increased management concerns.
- PFYC U has an unknown risk of occurrence and damage due to deposits that are understudied, and they are typically assessed as PFYC 4 and 5.
- PFYC W includes surface area mapped as water (including shorelines that could contain uncovered or transported resources (BLM 2022e).

Precommercial thinning—The practice of reducing the density of trees within a stand by manual cutting, girdling, or herbicides to maintain or promote growth increases of desirable tree species. The trees killed are generally not merchantable and not removed from the treated area.

Public Land Survey System Dataset (PLSSDS)—This dataset is part of the Cadastral National Spatial Data Infrastructure dataset for rectangular and non-rectangular PLSS data; this dataset represents the GIS version of the PLSS; not for boundary determination.

Rangeland health assessment—In the grazing program, an interdisciplinary approach to assessing the impacts of livestock grazing on land health to evaluate whether rangeland conditions are achieving fallback standards and guidelines, or region-specific standards and guidelines approved by the Secretary of the Interior, as well as land use plan objectives. Standards consider soils, wetlands and riparian areas, steam function, and native species' health.

Recreation and Public Purposes Act of 1926 (as amended)—The Act allows the BLM to sell or lease public lands identified in its resource management plans to state and local governments or qualified non-profit organizations, for recreational use or other public purposes. More information can be found at the following website: https://www.blm.gov/recreation-public-purposes-act.

Recreation Management Zone (RMZ)—SRMAs and ERMAs may be subdivided into RMZs to further delineate specific recreation opportunities and recreation setting characteristics.

Refugia—An area in which a population of organisms can survive through a period of unfavorable conditions.

Resource Management Plan (RMP)— A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA of 1976, as amended (P.L. 94-579, 90 Stat. 2743); a document containing an assimilation of planning decisions developed through the planning process outlined in 43 CFR Part 1600, regardless of the scale at which the decisions were developed. Synonyms include land use plans and management framework plans.

Right-of-way (ROW)—A BLM authorization to use, occupy, or maintain BLM-administered lands for a particular use for a particular duration.

Road—A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continued use.

Routes—Multiple roads, trails, and primitive roads; a group or set of roads, trails, and primitive roads that represents less than 100 percent of the BLM transportation system. Generically, components of the transportation system.

Scenic quality—In visual resource management, a measure of the visual appeal of a tract of land.

Sensitivity level—In visual resource management, a measure of public concern for scenic quality.

Serotinous species—Species characterized by the possession of an aerial seed bank. Seeds on the ground have a limited life span and are vulnerable to bush fires, whereas in the air the seeds can remain viable for several years and are protected from fires.

Serpentine soils—An uncommon soil type produced by weathered ultramafic rock, such as peridotite, and its metamorphic derivatives, such as serpentinite.

Silviculture—The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis.

Site potential tree height—A site-potential tree height is the average maximum height of the tallest dominant trees (200 years or older) for a given site class.

Special forest product(s)—A term used to describe non-timber vegetation material, such as mushrooms, seeds, berries, greenery, and fuelwood.

Special Recreation Management Area (SRMA)—A public land unit identified in land use plans. Its purpose is to direct recreation funding and personnel to fulfill commitments made to provide specific, structured recreation opportunities. Both land use plan decisions and subsequent implementing actions for recreation in each SRMA are geared to a strategically identified primary market—destination, community, or undeveloped.

Speleothem—Any natural, secondary mineral formation or deposit occurring in a cave, including, but not limited to, any stalactite, stalagmite, helictite, cave flower, flowstone, concretion, drapery, rimstone, or formation of clay or mud (USDI BLM 2008).

Standards for boundary evidence (SBE)—Standards for secondary sources of boundary evidence; these sources are (1) land description review, (2) chain of surveys, and (3) physical inspection of the boundary evidence (boundary CIP). Execution of SBE process is intended to identify defects in the boundary evidence; give guidance to managers to manage risks associated with significant transactions or projects.

Suction dredge—A machine using a centrifugal pump to draw up mud, sand, and silt through a suction tube.

Surface management agency (SMA)—This depicts federal land for the US, and classifies this land by its active federal surface managing agency.

Tentative Classification—For eligible, suitable, or designated WSRs, there are three types of tentative classifications for eligible river segments: wild, scenic, and recreational based on the built environment within the corridor with wild being the most primitive and recreational the most developed. The tentative classifications are based on the degree of human development along a segment, and they are used as a guide for future management activities.

Threatened and endangered species—Plant or animal species listed by the U.S. Fish and Wildlife Service or the National Oceanic and Atmospheric Administration-National Marine Fisheries Service under the Endangered Species Act as in danger of becoming either extinct or threatened, to the degree that their continued existence is in question.

Traditional cultural places (TCP)—Also commonly referred to as Traditional Cultural Properties; this term is used to include all properties of traditional religious, sacred, and cultural importance.

Traditional ecological knowledge—The evolving knowledge acquired by Indigenous and local peoples over hundreds or thousands of years through direct contact with the environment.

Ultramafic soils—Weathered products of lithologies, such as peridotite and serpentinite bedrock, consisting predominantly of ferromagnesian silicate minerals.

Vernal pool—A seasonal pool of water with no defined inlet or outlet, which, due to unique biogeochemistry, is habitat for many endemic and rare species of flora and fauna.

Vertebrate species—Any animal with a backbone or spinal column.

Visual resource inventory (VRI)—The inventory of visual resources using three inventory factors (scenic quality, sensitivity level, and distance zones) to establish VRI classes for landscapes.

Visual resource management (VRM)—The inventory and planning actions taken to identify visual resource values and to establish objectives for managing those values, and the management actions taken to achieve the VRM objectives.

Waveslope—The area of the beach that shows evidence of having been washed by waves during the last tidal cycle.

Wild and scenic river corridor—Unless otherwise noted in a river management plan, the wild and scenic river corridor generally extends for 0.25 miles from the ordinary high-water mark but is not to exceed 320 acres per mile.

Wilderness characteristics—The area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation; they may also include supplemental values. Lands with wilderness characteristics are those that have been inventoried and determined by the BLM to possess wilderness characteristics, as defined in Section 2(c) of the Wilderness Act.

Wildland fire—General term describing any nonstructural fire in the wild. It is categorized into two distinct types: wildfires (unplanned ignitions or prescribed fires that are declared wildfires) and prescribed fires (planned ignitions).

Wildland urban interface (WUI)—The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Describes an area on or next to private and public property, where mitigation actions can prevent damage or loss from wildfire.

Withdrawal—Areas of federal land that are closed to settlement, sale, location, mineral entry, and/or other forms of entry, for the purpose of limiting activities under those laws to maintain other public values in the area or to reserve it for a particular public purpose or program. Withdrawals are also a mechanism for transferring jurisdiction of federal lands from one department, bureau, or agency to another. There are four major categories for withdrawals: administrative, presidential proclamations, congressional withdrawals, and Federal Power Act or Federal Energy Regulatory Commission withdrawals.

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